



**Policy Recommendations Report for combining
Understanding by Design and Differentiated
Instruction for the 21st Century Classroom**

FINAL VERSION, November 2023



Co-funded by
the European Union

2021-1-IT02-KA220-HED-000032103

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Acknowledgements

We would like to thank 58 higher education teachers and staff from across Europe for their valuable feedback in helping shape this document.



Co-funded by
the European Union

2021-1-IT02-KA220-HED-000032103

Introduction

Abstract

This Policy Recommendations Report is one of the main result of the ERASMUS+ funded Project InDO. The report aims to set the basis for the integration of Understanding by Design (UbD) and Differentiated Instruction (DI) into current curricula at Higher Education Institutions. This integration can succeed through the adoption of respective pedagogical approaches, tools and processes as well as by following specific and relevant guidelines, which have been formulated throughout the project's lifetime.

The educational system, and more specifically higher education, can be significantly impacted in various ways from the adaptation and implementation of design and differentiation. Adhering to the practices, tools, and methods of the aforementioned learning approaches, students have an all-around learning experience, focusing more on their needs. In addition, through these processes institutions are being assisted in development, while the educational system in its entirety increases the quality of education.

Keywords: policy recommendations, Understanding by Design, Differentiated Instruction, Higher Education, educational system

Introduction to the Project

As the COVID-19 global outbreak has resulted in the need for a transformation of classrooms from their usual face-to-face setting to digital forms (e-classroom) it is vital that education keeps pace. Apart from that, it is evident that the traditional educational methods need refinement and the adaptation of different approaches that can keep up with the globalised environment of education. This includes challenges such as the ones mentioned in the project description of the InDo project, that “teachers have been called on to find ways to include those with different cognitive skills, assist learners from disadvantaged backgrounds and enable the integration of migrants and refugees with vastly different educational, cultural and linguistic backgrounds”.



The InDO project aims to build the capacities of educators in the deployment of Understanding by Design (UbD) and Differentiated Instruction (DI) as a structured approach to proactively cater for student diversity and inclusion.

The developed resources shall empower educators to put technological solutions at the service of pedagogy and boost their teaching performance. Furthermore, the project is in line with the Digital Education Action Plan 2021-2027, which encourages the educational systems to equip teachers and academic personnel with digital literacy, which is considered to be adequate to be incorporated to the class and extract all the possible potential from students, creating a learning environment with innovative practices, and user-friendly tools.

Introduction to the document

The main purpose of the Policy Recommendations Report is to present and analyse the aspects of policy recommendations in the framework of the InDO project, portraying elements of innovation. The main aim is to bridge the gap between policy and education as well as educators and the ability of the learners for inclusive classrooms.

The 8 suggested policy recommendations comprise all aspects of UbD and DI and attempt to cover the needs of higher education institutions by enhancing them with innovative teaching practices that maximise students' learning potentials. Moreover, this report includes an analysis of the background of hybrid learning in education institutions and of the necessity to incorporate UbD and DI to Higher Education Curricula, as well as a policy analysis which presents the priorities and tendencies in the European Union regarding inclusive practices and policies on Higher Education.

Therefore, the Policy Recommendation Report is not just a solely presentation of suggestions that should become policies within Higher Education. More than that, it is an overall attempt to fully explain the benefits of UbD and DI in inclusive teaching and learning, bringing forward the needs of educators to bring education closer to an inclusive classroom.



Methodology

To reach the goals set for the last deliverable of the InDO project and create the Policy Recommendation Report, we conducted a series of focus groups in all partnering countries in order to assess if and how the findings of our project are relevant to the participants as representatives of our target group and their organisations. Asking for feedback and suggestions on the proposed teaching and learning practices was regarded to be insightful, as the target group we agreed upon included representatives from academia such as managers, researchers, professors, and persons from research/innovation centres. The method of focus groups was very useful to gather insights and identify the needs, expectations, and solutions, through a group discussion, a fruitful environment for the exchange of opinions and views (cf. Morgan 1988 in Flick, 2018).

Considering the above, the researcher i.e. the moderator was responsible for creating such an environment, facilitating the participants to share their views in an open and collaborative way, and simultaneously guiding the discussion effectively, so that the group discussion will not lose its focus. Before the focus group, each moderator presented the InDO project, its objectives and results, as well as an overview of the specifics around the aim of the focus group. The methodology for the focus group was part of PR4, and included all the necessary information regarding the sequence, the questionnaire, and the agenda of the focus groups. The main outcomes of the focus group are integrated in the following chapters.



Background and Context

Diversity: Students and Hybrid Learning in Institutions

Societal developments and the increasing diversity of students in Europe

European societies are transforming due to demographic changes, technological developments, and climate change, to name just a few crucial factors. With regard to the population, all European countries are marked by the same demographic change in terms of an ageing society and population decline, while there is a significant disparity with regard to migration patterns. This is due to different immigration policies in the past and at the present day, but especially due to different intra-European migration patterns (Swiaczny 2014; Van Mol and de Valk 2016).

These developments have measurable repercussions on the student bodies at European universities, which are getting more and more diverse, albeit for different reasons: Universities in growing regions experience an increase of student numbers due to incoming migration, while in countries marked by outgoing migration, universities experience a decline in student numbers that makes them reach out and aiming at attracting new groups of people that would not consider attending universities as yet (Sursock 2015; Claeys-Kulik, Jørgensen, and Stöber 2019). Beyond this, the increase of diversity is also due to internationalisation strategies and increased mobility of student and university staff (Claeys-Kulik, Jørgensen, and Stöber 2019).

Another aspect of diversity relates to sexual orientation and gender identities. While some countries opt for the institutionalisation of a third gender category and for easing of gender transitions among other liberalising actions, other countries take restrictive measures on that front. Both practices are reactions to a growing visibility, increased awareness and public discourse about the diversity of sexual and gender identities (Council of Europe's Steering Committee on Anti-Discrimination, Diversity and Inclusion 2022; Claeys-Kulik, Jørgensen, and Stöber 2019).

All in all, universities report a growing diversity with regard to international enrolment, disabilities, age, socio-economic background, ethnicity, and entry qualifications (Sursock 2015). Higher education is expected to answer the needs of students with their diverse learning



biographies and learning objectives who allot varied meanings to Higher Education in their lives, by offering distinctive learning paths (Orr et al. 2019).

It is universities' responsibility to prepare a growing number of students to interact in a responsible way in an increasingly quickly changing world with more or less predictable and in particular with unpredictable challenges (Schulte, Cendon, and Makoe, n.d.). More so over given the increasing necessity of universities to widening participation as a response to social and economic needs (Sursock 2015) and the resulting increase of the number of students as well as the general trend that people spend an increasing part of their life-time time in education (Müller and Kogan 2010).

Social inclusion is a topic of importance for most Higher Education institutions, however there is a significant gap between policies and actual measures taken (Gaebel and Zhang 2018). The core values of universities demand to embrace societal changes and challenges, contributing to social justice, inclusivity, accessibility, and open education, and to create a space where diversity in all regards is valued and adequately addressed. While current developments show that inclusion, equity and diversity are put on the agenda of many universities, there is still a need for raising the awareness for these topics as well as for systematically addressing all three issues in an interconnected way (Claeys-Kulik, Jørgensen, and Stöber 2019).

Technological developments and hybrid learning

Fast and profound developments in technologies are a central factor that coins the institutional and educational developments of universities (Sursock 2015; OECD 2022; 2019). Higher Education is expected to change and adapt due to new competence requirements, new didactical developments, and the use of new technologies (Orr et al. 2019). Universities' tasks that come along with such technological innovations are threefold: (1) considering technological innovations within research (as research about societal consequences but also in terms of making use of new technological tools and considering a growing amount of available information within research processes), (2) preparing students for a reflective, responsible and competent approach to and handling of technological solutions and the huge amount of available information, and (3) making sensible use of technological solutions within institutional processes and educational processes.



The advantages of using digital technologies in learning and teaching range from widening access, to allowing more flexibility with regard to learning paths, learning provisions, and the place/space of learning (Orr et al. 2019; OECD 2022; Sursock 2015). When integrating (new) technologies, it is crucial to find practical and strategic ways to making use of them in a way that contributes to improving Higher Education – instead of only reacting to or being driven by technological innovations. The main effect that is expected from ICT is a more flexible access to learning provisions and an increased effectiveness of classroom time (Sursock 2015).

The institution-wide implementation of digitally enhanced learning and teaching in European Higher Education institutions has increased in the last few years (Gaebel et al. 2021): While COVID-19 served as an accelerator for this development, some institutions will continue this path beyond the crises. Before COVID 19, the most common approach was blended learning as provision for regular students, while online learning addressed specific target groups such as mature learners. While there was no growth of online learning provisions between 2014 and 2020, the provision of MOOCs did increase and was used not only for international promotion but especially for the outreach to new groups of learners. In recent years, Higher Education institutions' understanding of the advantage and purpose of different modes of delivery has become clearer (Gaebel et al. 2021): They use it for revising teaching methods and for increasing the flexibility of learning and teaching and they plan to make digitalisation a strategic priority (Gaebel et al. 2021).

One trend that is coming along with technological innovation is the shift from teaching to learning being more adequate for keeping up with societal and technological change, including the provision of new content, different places for learning and a variety of ways to learn. Another trend is the mixing of realities from online to offline and local to global (European Commission 2023). New needed skills also include the need of skills to navigate the future in order to keep up with our fast changing world (European Commission 2023).

One profound change that comes along with the new requirements for teaching and learning concerns the role of teachers and the introduction of new learning agents (European Commission 2023; Gaebel and Zhang 2018). Next to full professors, a huge part of the teaching staff includes researchers, experts, practitioners, and students (Gaebel and Zhang 2018). The various groups of teaching staff stem from a wide range of backgrounds, have different qualification profiles and different responsibilities within learning processes. Yet, the most important requirement that qualifies them for teaching is teaching experience, a criterion that is



rarely formally defined (Gaebel and Zhang 2018). This is a clear sign of a need to focus on teachers' skills and competences so that all of the above-mentioned changes and challenges of our society and universities are facing today, can be addressed adequately.

Connection with EU Priorities

Both, social inclusion and equity as well as digitalisation are topics that have been increasingly addressed by policy papers on the European level in the last years.

Social inclusion, equity, diversity, and inclusiveness have been strengthened in European policy papers such as the Paris Declaration of EU member states (2015) as well as the Yerevan Communiqué (2015) and the Paris Communiqué (2018) as part of the Bologna Process. The policy papers draw a close connection between education and especially Higher Education and the core values of our European society such as freedom, tolerance, gender equality, equity, and an inclusive society. With seeing these topics as part of educations' central goals, the policies underline the importance of widening participation and access. The policy papers highlight competences that are needed to actively contribute to serving societal needs and to achieving personal endeavours. The agenda setting is similar on a global level. There, the UN Sustainable Development Goals sees social welfare as a key to sustainability and also underlines the close connection between education and the reduction of inequalities. (Gaebel and Zhang 2018; Claeys-Kulik, Jørgensen, and Stöber 2019)

As innovation emerges more likely from activities , European policies can do no more but foster them by supporting building structures and removing obstacles (Gaebel et al. 2021). This is why policy papers that address digitalisation such as the Rome Communiqué within the Bologna process (Bologna Process 2020), the European Education Area Communication (European Commission 2020a), and the Digital Education Action Plan 2021-2027 (European Commission 2020b) aim at enhancing and furthering technological advancements through collaboration and exchange (Gaebel et al. 2021). The central conclusion of the Digital Education Action Plan 2021-2027 is that “[d]igital technology, when deployed skilfully, equitably and effectively by educators, can fully support the agenda of high quality and inclusive education and training for all learners” (European Commission 2020b, 2). As digitalisation is evolving rapidly and increasingly influencing education and training , it is highly relevant to make skilful use of technological means and to enable learners to develop digital skills. Both requires actions on



structural and individual levels such as infrastructures, curricula, and teachers' skills (European Commission 2020b). With Digital Competences Frameworks, the European Commission wants to contribute to equipping European citizens with relevant digital skills. To that end, they have developed *DigComp 2.2 – The Digital Competence framework for citizens* (Vuorikari, Kluzer, and Punie 2022), *The European Framework for the Digital Competence of Educators: DigCompEdu* (Redecker and Punie 2017), and a *European Framework for Digitally Competent Educational Organisations – DigCompOrg* (European Commission n.d.).

Introduction to UbD and DI

Understanding by Design

Understanding by Design, also known as Backwards Design, is a framework for the design of a lesson plan – or of an entire course syllabus – based on the idea that, when defining learning objectives, it is of paramount importance to also immediately define assessment and feedback methods and tools. Only then is it appropriate to design the learning content, based on the choices already made with respect to assessment and feedback. In other words, teachers must determine *what evidence* they want to use *before* they plan *what they teach* and *how* (Wiggins & McTighe, 2005). This means a structuring of the instructional design process into three stages that focus on *desired results*, *needed evidence* and *learning plan* (Wiggins & McTighe, 2011).

Stage 1 - Setting the desired results

In the first stage of UdB, the focus is on big ideas, on the overall learning objectives and on the competences, skills and knowledge that a teacher wants a learner to acquire. A key question in Higher Education could sound like: *What do I want my students to learn in this class/unit/course? What will they keep with them after the class/unit/course is finished?*

This is perhaps the most intuitive part of UdB: we are all very easily convinced that good learning design is based on a clear focus on the learning objectives, so this point probably does not strike us as innovative. But it is also quite understandable that the focus on objectives could decrease and be less visible in a long and rich curriculum. So this stage is particularly relevant to attempting a consistent design and approach.



Also, *knowing something* could mean different things: as an example, we could use the Structured Observation of Learning Outcomes (SOLO) taxonomy to distinguish between non-structured, structured and abstract, transferable knowledge.

Stage 2 - Defining the needed evidence

The second UbD stage is focused on identifying what evidence can be used to prove that learning has indeed taken place as hypothesised in the previous stage. Since this evidence must then be gathered, the role of the teacher is now to prepare performance tasks for the learners to make the learning visible and to communicate to the learner the degree of appropriation achieved. These tasks “require students to transfer (i.e. to apply) their learning to a new and authentic situation as a means of assessing their understanding. Other evidence, such as traditional quizzes, tests, observations, and work samples [...] help round out the picture of what students know and can do” (Tomlinson & McTighe, 2006, p. 29).

At this stage, rubrics can also be designed in order to provide students with accurate descriptors of their performance. Students should also be able to define their own learning goals.

Stage 3 - Designing the learning plan

At the third and last stage teachers must determine what to teach, how and in what order. At this point, not only are objectives clear, but also the way learning will be assessed, and tight alignment between learning activities and unit goals is needed. The main advantage of adopting this “backwards design” approach is that it makes it easier to be more efficient in the way learning content is designed, planned and presented.

Each learning activity will actually be connected to the ongoing assessment needed to monitor progress and provide students with feedback. At this stage it is also possible to integrate external resources, like Open Educational Resources (OER) into the learning plan, to present wider opportunities by keeping learning content design a bit more sustainable.



Differentiated instruction

There is no unique way of defining what Differentiated Instruction (DI) looks like, especially in Higher Education. The DI framework is mostly adopted in primary and secondary education, and helps teachers in being **responsive to** the different needs of their students.

Why should a teacher or a trainer aim for DI in Higher Education? The main reason is that differentiated learning experiences enable engagement with content that is aligned with individual needs and preferences, leading to high and deep levels of thinking and understanding. Those needs and preferences can also depend on many factors, like gender, cultural background, economic conditions or disability. What we all face everyday in teaching is the fact that the Higher Education class, be it large or small, is - like any class - ultimately *variable*.

Differentiated Instruction can be taken as a theoretical but also practical reference for developing our own strategies to address the variability mentioned at the beginning of this section, for it “focuses on whom we teach, where we teach, and how we teach” (Tomlinson & McTighe, 2006, p. 3) and “is predominantly (although not solely) an instructional design model” (*ibidem*). In this inclusive approach, teachers ensure effective learning for varied individuals through *processes* and *procedures*, adopting multiple strategies that are recommended as effective for the achievement of common goals for all students.

In the works of C.A. Tomlinson differentiation is possible and recommended on four different levels:

- *content*: a teacher can differentiate what they teach and what students learn, by selecting and proposing different topics and learning goals;
- *learning process*: also the process and activities students participate in can be differentiated, to maximise the relevance of the learning experience;
- *product*: students can be asked to develop different products and performances to demonstrate their learning;
- *learning environment*: teachers can adjust the classroom set-up, both face-to-face and online, thinking about ways to develop a flexible space for learning.



A HE teacher can work on each of these aspects by considering and varying your proposals according to the readiness, interests or learning profile of the students (Chamberlin & Powers, 2010).

Differentiated instruction “is not synonymous with individualised instruction” (Chamberlin & Powers, 2010, p. 114). First of all, the teacher does not have to vary methods, content and objectives *for each student*. The limitations of such an individualised approach are obvious: it would be time-consuming, labour-intensive and ultimately utopian, especially as the class size increases. Moreover, such individualisation would lead to the total fragmentation of learning objectives to follow and meet the needs of individual students. Rather, differentiated instruction makes can rely on other strategies: the use of flexible group work, for example, but also the management of space, time and materials according to identifiable 'subsets' in the class group. This makes possible and encourages sustainable forms of individualisation and adaptation.

Secondly, again according to Tomlinson (2001), the teacher does not need to differentiate his or her teaching *during each and every lesson*. A plenary, face-to-face lesson for the entire group of students is used in a targeted manner, for those aspects where it may be necessary. This can and must be evaluated on the basis of the needs of the students.

But there is a third important aspect: differentiated instruction must not result in an *unbalanced workload for students*. Students with greater difficulties or gaps need not work harder – or less – than students with higher abilities and possibilities. The activities proposed must be of an appropriate level for them and must include elements such as the use of critical thinking, with the aim of being sufficiently challenging to motivate, not too complex so as not to demotivate.



Empowering Diversity and Inclusivity in Higher Education: The InDO Approach

The InDO project strongly emphasises the critical importance of systematically incorporating inclusive and diverse methodologies into Higher Education curricula. Highlighting diversity and inclusivity is in line with the United Nations Sustainable Development Goal 1: “Leaving no one behind”, by maximising learners’ capacities across diverse backgrounds. This was addressed also in the focus groups that were conducted in support of this report, as participants in the Italian focus group pointed out the importance of getting to know students: it is something difficult to do for lack of time and resources and this aspect can benefit from well prepared inclusive contexts.

To achieve this, the project thoroughly evaluated theories and practices to eliminate biases and stereotypes. This was done with the purpose to show that all learners, regardless of their background, can be equally supported. The training material then is being tailored not just to meet labour market needs, but also to uphold social inclusion in all aspects, including gender and sexual orientation.

Our Open Educational Resources (O.E.R.) were undergoing a rigorous review process to remove any discriminatory language and pre-existing stereotypes. Moreover, HE teachers were being trained to effectively address and correct inappropriate comments or actions, fostering an environment of equality and respect.

Our training program for HE educators and staff is multifaceted:

- Building capacity: Enhancing the skillset of HE educators and staff.
- Incorporating inclusive material: Integrating more inclusive and diverse content into their programs.
- Developing new approaches: Enabling HE systems and trainers to adopt InDO as a strategy to maximise each learner's capacity.

For teachers, this means:

- Providing individualised instruction to help learners overcome challenges and progress at a pace suited to their learning needs.
- Guiding learners on relevant topics and skills for their job search.



- Adopting one-on-one instruction and guidance strategies where necessary, focusing less on lecturing and more on engaging students, especially those with fewer opportunities, in the learning process.

By doing so, we are not just enhancing the educational experience but are also playing a pivotal role in preparing a workforce that is diverse, inclusive, and equipped to meet the challenges of a rapidly changing world.



Policy Analysis

Inclusive practices and policies in EU Higher Education – Priorities and Tendencies

This section presents the central findings from a thorough literature review on inclusive practices and policies in Higher Education in the European Union and beyond.

Higher Education Policies in EU

Higher Education policies encompass the regulations, rules, and directives that govern colleges and universities. These policies are put in place to ensure that the institution operates in compliance with educational authorities' laws and standards. What follows is an overview of some common policies found in Higher Education.

Promoting diversity and equal opportunities is a multifaceted endeavour that involves systemic approaches, policy documents and a focus on access, progress and success in education: it requires a systemic approach in universities aimed at facilitating the transition from higher education to the world of work in a European context (Siri, Leone, & Bencivenga, 2022). The development of a new approach to creating effective transparency of diversity in higher education systems, based on the theoretical and empirical literature on diversity in higher education, requires a comprehensive understanding of the conceptual, practical and methodological frameworks relevant to this endeavour (Van Vught, 2009). To create a supportive setting for students, guaranteeing their welfare, and access to resources, arrangements, and amenities, some European institutions have student support policies in place that cover health, safety, counselling, disability services, and student engagement. Financial assistance policies are provided by several European Higher Education institutions for students in need. The options available are scholarships, grants, work-study programs, and loans. The goal of financial aid policies is to increase access to Higher Education for European low-income students, providing support for their academic goals and reducing disparities. A systematic review found that needs-based grants do not systematically increase enrolment rates, but only lead to improvements if they provide enough money to cover unmet needs and/or include early engagement during high school. Nevertheless, need-based scholarships seem to improve the completion rates of disadvantaged students quite consistently. In contrast, the evidence suggests



that merit-based grants rarely improve outcomes for disadvantaged students. Finally, interventions that combine outreach and financial aid have shown promising results, although more research is needed on these mixed interventions (Herbaut & Geven, 2020).

The conduct of research in European higher education institutions includes research ethics, intellectual property, publication and funding. The idea of Responsible Research Practice can be approached at many levels, such as responsible assessment of research and researchers, the impact of open science and transparency on RRP, research on responsible mentoring, supervision and role modelling, the impact of education and training on RRP, reproducibility checking, and responsible and fair peer review. (Tijdink, Horbach, Nuijten, & O'Neill, 2021). Another very common issue that is the target of policy documents around Europe is academic integrity: depending on the maturity of existing policies and systems, different approaches should be adopted to promote more effective quality assurance and standards (Glendinning, 2014).

Finally, Educational programs are structured, delivered, and their content is determined by these policies. The learning outcomes, course requirements, credit system, and policies related to curriculum development are part of lifelong learning policies that are increasingly complemented by a common European approach, notably through the Bologna process and the Education and Training 2010 programme (Bjornavold & Le Mouillour, 2009).

Policy Recommendations

Higher education recommendations are suggestions, advice and guidance aimed at improving the quality, relevance and impact of higher education institutions and systems. They may be based on research, evidence, best practice, stakeholder consultation and policy analysis. They can address various challenges and opportunities facing higher education in the 21st century. These include digital transformation, skills development, equity and inclusion, sustainability and international cooperation.

By integrating culturally responsive teaching methods and materials, it is important to create an inclusive and welcoming environment for students from diverse backgrounds. By doing so, higher education can promote equity, create a sense of belonging and improve student outcomes (Sanger, 2020). Address the growing mental health challenges of students by providing comprehensive wellness programmes, counselling services and mental health resources on



campus. Improving student well-being can lead to improved academic performance (Handler et al., 2021).

Finally, another key issue is to enhance the learning experience and meet the diverse needs of students by integrating educational technology tools, online platforms and virtual learning environments. Research suggests that technology-enhanced teaching can improve student engagement, active learning and collaboration (Means et al., 2009).

Practices

Higher education practices refer to the methods, strategies and techniques used by teachers and institutions to design, deliver and assess teaching and learning. They may differ in pedagogy, content, format, duration and intensity. They may also represent different educational goals, values and philosophies. Evaluating and improving higher education practice can be done through research, evidence, feedback and innovation.

Active learning involves students in the learning process through discussion, group work, problem solving and practical experimentation. This approach motivates students to take responsibility for their learning, develops critical thinking skills and improves knowledge retention (Freeman et al., 2014). Blended learning combines traditional face-to-face teaching with online learning activities. Learners can be flexible, learn at their own pace and receive tailored instruction. Blended learning also encourages collaboration and interaction between students and teachers through online discussion forums and virtual classrooms (Garrison & Kanuka, 2004).

The flipped classroom model exposes students to pre-recorded lectures or other instructional materials before class, allowing for more interactive activities during class time. This approach encourages active learning, peer-to-peer collaboration and student engagement. Teachers can provide immediate feedback and address misconceptions during class discussions (Bishop & Verleger, 2013). The instructional approach of problem-based learning involves active student engagement in solving real-world problems. It involves the presentation of complex, open-ended challenges that require critical thinking, research and teamwork. PBL develops problem-solving skills, encourages self-directed learning and provides opportunities for interdisciplinary learning (Hung, 2013).



Digital platforms are used to deliver content and activities in online learning. Students who can't attend traditional classes in person have the flexibility to learn at their own pace. Collaboration in online learning is encouraged through virtual discussion forums, peer review and group projects. However, achieving student engagement and success requires careful instructional design and support (Means et al., 2009)

Design and Differentiated Instruction

Various aspects of the education system are significantly affected by design and differentiation in higher education. Their contribution helps students to have a better learning experience, supports the development of the institution and improves the overall quality of education.

Impact of Design and Differentiated in Higher Education

Dynamic and interactive learning environments can be created by incorporating design and differentiation into higher education classrooms. By implementing effective instructional design strategies, educators can develop engaging and personalised learning experiences that cater to students' diverse learning styles and abilities. This approach increases students' motivation, improves memory retention and develops critical thinking skills. Differentiated instruction also promotes deeper understanding of subject matter and empowers students to take control of their learning journey (Tomlinson, 2005).

Higher education institutions experience increased student engagement and success through design and differentiation strategies. Students are more likely to remain motivated and engaged in educational activities when institutions prioritise innovative design principles, such as aesthetically pleasing learning spaces, user-friendly technologies and flexible learning options. On the other hand, differentiated instruction provides students with personalised support and learning experiences based on their individual needs, abilities and interests. This could lead to higher student satisfaction, retention rates and overall success in higher education (Lu et al., 2018).

Higher education institutions can build a strong brand image and differentiate themselves from competitors by integrating effective design and differentiation strategies. Engaging learning environments are created by institutions that prioritise innovative design principles and tailored learning experiences that appeal to prospective students. This can have a positive impact on



student recruitment and help institutions extend their reach to a wider audience. In addition, institutions that prioritise design and differentiation can improve their standing in the education sector by enhancing their reputation (Costello et al., 2022).

The overall quality of higher education can be significantly improved through design and differentiation. Institutions can promote higher academic standards by using innovative learning technologies, interactive learning materials and personalised teaching strategies to facilitate meaningful learning experiences. In addition, differentiated instruction helps to effectively address the diverse needs and learning styles of students, promoting inclusivity and equity in education. A commitment to continuous improvement and quality education is evident in institutions that prioritise design and differentiation (Tomlinson et al., 2016).

The impact of design and differentiation on higher education is significant. They improve student learning, support institutional growth and student enrolment, and enhance the overall quality of education. Higher education institutions can promote academic success by implementing differentiated teaching strategies and using innovative design principles to create engaging learning environments that empower students.

Benefits of Design and Differentiation in Higher Education

To increase student engagement and motivation, higher education should integrate the principles of design and differentiation. Designing learning materials and activities that match students' interests, preferences and learning styles can increase their participation in the learning process. What's more, by implementing differentiated teaching that takes into account the different needs and abilities of students, it is possible to avoid disengagement and ensure that all students are challenged at an appropriate level (Henriksen et al., 2017).

Deep learning can be promoted by emphasising meaningful and authentic tasks in the design of instruction. Teachers can promote critical thinking, problem solving and higher order cognitive skills by designing tasks that require students to apply their knowledge and skills to real-world projects or complex problems (Fook et al., 2010). The use of differentiated instruction can also help students deepen their understanding by allowing them to engage with content at their own pace and level of complexity (Tomlinson, 2005).

Higher education can meet the individual needs of students through design and differentiation. Educators can accommodate students' diverse interests, backgrounds and prior knowledge



through flexible learning pathways and personalised learning experiences. Responding to different preferences can be achieved through differentiation by providing content in different modalities and allowing students to demonstrate their understanding in different formats (Baron et al., 2019).

Inclusive higher education can be achieved by applying the principles of design and differentiation. Educators can create inclusive learning environments that take into account the diverse needs and abilities of students with disabilities, learners from different cultures and those with different learning styles. In addition, differentiated instruction promotes equity by enabling every student to succeed, regardless of their starting point or academic background (Baron et al., 2019).

Policies of Design and Differentiation in Higher Education

Policies on the design and differentiation of higher education vary from institution to institution and from country to country. Nevertheless, some important themes emerge from these policies. These are some examples of policies related to design and differentiation in higher education:

To ensure the quality of their educational programmes, many higher education institutions have established policies. Guidelines for course design and delivery and mechanisms for improving the quality of teaching and learning are often included in these policies. The Higher Learning Commission in the United States has established criteria and procedures for quality assurance in higher education (Higher Learning Commission, 2021).

Some policies aim to promote innovative teaching and learning practices in higher education. These policies recognise the importance of design in creating engaging and effective learning experiences for students. The 2019 National Strategy for Regional, Rural and Remote Education in Australia emphasises the use of innovative teaching practices and digital technologies to support students in rural and regional areas (Australian Government Department of Education, 2019).

Policies related to design and differentiation in higher education address issues of access and equity to provide equal opportunities for all students. These policies could include measures to support those from under-represented groups, people with disabilities or students from disadvantaged backgrounds. The European Higher Education Area promotes inclusive education



and encourages its member countries to develop policies to ensure equal access and participation in higher education (European Higher Education Area, 2018).

A comparative glance - US, China, South America, Australia

This section describes the results from a comparative analysis of policies in Higher Education from Europe with other continents.

Comparative policies in Higher Education between Europe and Australia

The challenges and opportunities of globalisation and competition have been addressed by Higher Education institutions and systems in Australia and Europe. The analysis covers different internationalisation policies, rationales, and practices, including student mobility, transnational education, quality assurance, and regional cooperation. The implications of these developments for the future of Higher Education in both regions are also discussed. The article highlights how Australia and Europe share comparable approaches to improve their competitiveness and appeal in the worldwide Higher Education sector, yet they encounter diverse limitations and prospects based on their historical, cultural, and political backgrounds. The article proposes that both areas must balance their global aspirations with their local circumstances and promote greater communication and partnership, both internally and with other regions (de Wit & Adams, 2010).

The Australian education system's main features, challenges, and performance are summarised in the article, particularly concerning equity, quality, and outcomes. The analysis is conducted on the policy levers that support improvement in six key areas: students, institutions, systems, governance, funding, and evaluation. Additionally, it showcases innovative policies and practices either implemented or in development in Australia. Australia's education system is high-performing and inclusive, but the article highlights challenges such as reducing socio-economic background's impact on student achievement, improving vocational education and training quality and relevance and ensuring sufficient funding for education. The recommendation for Australia is to keep pursuing its reform agenda and evaluate policies and practices to ensure they are effective and efficient (OECD, 2013).



Comparative policies in Higher Education between Europe and China

The article presents an introduction to a special issue on China-Europe Higher Education cooperation. The overview covers the historical, political, and economic contexts of this cooperation, along with the main opportunities and challenges faced by both sides. The article covers important themes and developments in Higher Education collaboration between China and Europe. The following are encompassed: student movement, shared curricula, quality control, regional partnership, and creative thought. According to the article, Higher Education cooperation between China and Europe has grown significantly over the past few decades. Despite progress, risks and obstacles remain, such as quality issues, cultural disparities, and political strain. The article proposes that both sides should improve their mutual understanding, trust, and communication, and strive for more equitable and lasting partnerships that can be advantageous to both regions and the globe (Cai, 2019).

Using a meta-frontier approach based on data envelopment analysis, the productivity of 20 Chinese and 20 European “elite” universities is compared in the article. From 2010 to 2015, the productivity change, technical efficiency change, and technological change of these universities are measured. Additionally, the impact of contextual factors on university productivity is analyzed, including research funding, academic staff, student enrolment, and international ranking. According to the article, Chinese universities have shown more improvement in productivity than European universities, primarily because of technological advancements. The research concludes that funding for research and academic staff boosts productivity, while student enrolment and international ranking have the opposite effect. According to the article, Chinese and European universities have varying strengths and weaknesses in their productivity. Their competitiveness and quality can be improved by exchanging knowledge (Agasisti et al., 2021).

From 2010 to 2019, China's international Higher Education policies were examined and executed in the article. The paper utilises the theoretical perspectives of cultural politics and institutional logic to analyse the relationship between Chinese policies, Higher Education institutions' practices, and macro-societal orders. China's international Higher Education policies are highlighted in the article, which shows tensions and contradictions between national interests and global engagement, academic excellence and social responsibility, and centralization and decentralisation. The article discusses how China's global Higher Education



policies reflect multiple logics. Domestic and foreign factors both play a role in influencing these policies. The policies elicit diverse responses from Higher Education institutions based on their institutional traits and approaches. The article proposes that China's global Higher Education policies should be more consistent, adaptable, and inclusive to adapt to the evolving global climate and the distinct needs of Higher Education organisations (Qi, 2022).

Comparative policies in Higher Education between Europe and USA

Governance: Governance of Higher Education pertains to the regulation, coordination, and management of institutions and systems by structures, processes, and actors (Jungblut & Dobbins, 2023), (Crăciun, 2018).

The Bologna Process, the European Higher Education Area, and the European Research Area have influenced governance reforms in Higher Education in Europe, to achieve greater convergence, transparency, and mobility across national systems.

Higher Education governance in the US is decentralised and differs between states and institutions, with public and private actors playing a role. Accreditation agencies are crucial in ensuring quality and accountability as the federal government has a restricted role in regulating and funding Higher Education.

In Canada, the responsibility of Higher Education governance lies with the provinces, however, there is greater cooperation and coordination among provinces and territories through intergovernmental agreements and associations.

Finance: Higher Education finance involves funding sources, allocation, and mechanisms for institutions and systems (Jungblut & Dobbins, 2023), (Crăciun, 2018).

The global financial crisis, austerity measures, and demographic changes have impacted Higher Education finance in Europe, resulting in decreased public funding, higher tuition fees and student debt, and a greater dependence on private and external funding.

Higher Education finance in the US is marked by decreasing state appropriations, increasing tuition costs, and growing reliance on private donors, endowments, and grants. Nonetheless, there is considerable disparity among states and institutions regarding funding levels, sources, and models.



Public funding from provincial governments in Canada is the primary source of finance for Higher Education, including tuition fees and financial assistance to students. Nevertheless, funding formulas, tuition policies, and student aid programs differ across provinces.

Framing: Policymakers, stakeholders, and the public interpret Higher Education issues through Higher Education framing (Jungblut & Dobbins, 2023), (Crăciun, 2018).

European Higher Education system has been shaped by European integration, Lisbon and Europe 2020 Strategies, which view Higher Education as an engine for economic growth, social harmony, and global competitiveness.

The American Dream narrative, the Higher Education Act, and the College Scorecard have all influenced the way Higher Education is viewed in the US, emphasising its role as a means of achieving personal opportunity, social mobility, and civic engagement.

Canada's view of Higher Education is influenced by its identity, Official Languages Act, and Truth and Reconciliation Commission. The perception of Higher Education as a way of promoting diversity, bilingualism, and reconciliation has been encouraged by these.

Intermediary Organisations and Interest Groups: Intermediary organisations and interest groups in Higher Education are those that influence and advocate for policies and practices across various levels and sectors (Jungblut & Dobbins, 2023), (Crăciun, 2018).

The intermediary organisations and interest groups for Higher Education in Europe comprise supranational, national, and institutional bodies.

Higher Education intermediary organisations and interest groups in the US consist of federal bodies (like the Department of Education, the National Science Foundation, and the American Council on Education), state bodies (like boards, commissions, associations, and unions), and institutional bodies (like presidents, provosts, faculty, and students).

In Canada, various organisations and groups are involved in Higher Education, including intergovernmental bodies like the Council of Ministers of Education and the Association of Universities and Colleges of Canada, provincial bodies such as ministries, councils, associations, and unions, and institutional bodies like presidents, vice-presidents, faculty, and students.



Policy Recommendations

Policy Recommendation 1: Implement a blended approach of Understanding by Design (UbD) and Differentiated Instruction for training programmes and professional development for teachers

Implementing a thorough Understanding by Design (UbD) training programme has the potential to equip teachers with precise frameworks for curriculum development. Investing in such teacher training allows to elevate educational standards by enabling educators to create advanced, goal-focused courses. Such well-structured courses can enhance education fundamentally. Furthermore, this approach can lead to an improvement in the quality of instruction, ultimately fostering a more competitive and flourishing education system on a global scale.

Education authorities, managers, and HEIs can play a pivotal role in the implementation of UbD programmes for teachers. To this end, it is necessary to make available financial resources and space for teachers to be part of specialised programmes and workshops. Such investments will definitely pay off, given the expectable long-term benefits. Effective teaching methods and variable instructional means, and ultimately will lead to better educational outcomes and maximised student achievements and overall satisfaction. This again, will lead to an increased reputation and prestige of the educational institutions. Teaching is often intuitive at HEI but with a solid education philosophy behind it (such as UbD) the results may be multiplied manifold. Society at large will benefit as we see higher education graduates flourish from a better education experience.

Prioritising Differentiated Instruction professional development reinforces our commitment to inclusivity and student-centred education. It recognizes the diverse learning needs of our student population and demonstrates our dedication to providing every student with a tailored educational experience. This policy aligns with international standards for inclusive education, enhancing the reputation of our education system.

Supporting Differentiated Instruction professional development may necessitate resource allocation and partnerships with training providers. However, the long-term benefits include a more inclusive education system, increased student engagement, and improved learning



outcomes. This can attract more students to our institutions, contributing to their growth and sustainability.

Policy Recommendation 2: Reinforce Teacher programs

Teaching is a continuous learning process for all those involved in education, teachers, students, etc. As education is one of the most fundamental pillars of society, there needs to be a continuous and nuanced investment in the preparation of teachers entering the education system. These programmes should include a holistic approach that incorporates the latest pedagogical research and tools to unlock the potential of each student in the classroom.

Following these programs, teachers will get equipped with a skillset and toolkit to create, develop, and transfer knowledge according to the needs of their students. Some of the benefits of implementing teacher preparation programs are the improvement of student learning, the alignment of education with the current student needs, and the revival of in class lessons, which were affected by the global pandemic, for almost three years. Education for a long time became more like a procedural process, without focusing on the elements of teaching and learning, with very little interactivity. The recommendation above works as a mid-term and long-term solution to enhance teaching with the most effective pedagogical approaches and by making education not a procedure, but an interpersonal pedagogical system. The use of a big idea per lecture will help students grasp the message of the lecturer with greater ease, with greater retention, for example, and is a basis of UbD. Learning how to work backward - from big idea backward to learning outcomes (so essential), assessments (tests/exams, group and individual assignments, etc.), activities (in class and at home) and lessons (where occurring traditionally takes place). Good teaching requires a degree of planning and teachers need to be taught how to plan. While to a degree interesting classes emerge, given the specific student audience, formal planning is still necessary, and is a learned competence - through teacher programmes - - which need an investment - time and money.



Policy Recommendation 3: Integrate latest technological achievements into the curriculum

We are living and experiencing the digital age, where technology and its subcategories are occupying a large part of our daily life, regardless of age. Despite technology being a necessity and an enrichment, it can also contain dangers and risks, especially when students and other parts of society do not know how to use and utilise it.

In light of the above, this recommendation entails that technology should be part of the curriculum, as it is crucial for students to learn how to be prepared for the future, and how to utilize it, while maintaining personal and societal safety. Integrating technology into the curriculum can be helpful for students' own personal future, in terms of studies and employment, but also generally in life. Especially for employment, digital literacy is crucial, as new professions are being created, which mostly are related to technology.

Policy Recommendation 4: Supportive Learning Environments - equal opportunities for all!

Implementing supportive learning environments reinforces our commitment to equity in education. It ensures that all students, regardless of their background or needs, have equal opportunities for learning and for learning success. This aligns with international standards for inclusive education and at the same time can strengthen the reputation of higher education institutions..

Implementing support and inclusive learning environments may require investments in upgrading facilities and staff, which can support the additional needs. However, the long-term benefits include a more equitable education system, reduced dropout rates, and increased student satisfaction. This can lead to improved recruitment and retention of students, positively impacting institutional revenues.



All students learn differently and have different preferred learning styles. By employing a compendium of pedagogies in class, such as that developed within the InDO project, we may reach and establish empathy with more learners and in a more productive way.

Policy Recommendation 5: Assess Teacher Preparedness for Differentiation

Assessing teacher preparedness for Differentiated Instruction helps to ensure that all educators are equipped to address the diverse needs of students effectively. This aligns with the goal of providing a high-quality education system that meets the evolving needs of student populations.

Developing assessment tools and offering targeted professional development may require collaboration with other educational institutions. However, this investment ensures that teachers have the necessary skills to implement Differentiated Instruction successfully. It also contributes to the overall quality of education within our jurisdiction, attracting students and their families to our institutions.

Policy Recommendation 6: Encourage Collaboration among Teachers

Promoting teacher collaboration corresponds to a vision of a dynamic and innovative education system. It supports the exchange of best practices and enhances the quality of education delivery, ultimately making our education system more competitive on a global scale.

Creating opportunities for teacher collaboration may involve setting up platforms and schedules for regular meetings. Fostering such a culture of continuous improvement within education institutions leads to more effective teaching methods, increased student engagement, and



improved learning outcomes. This can attract students and enhance the reputation of higher education institutions.

Policy Recommendation 7: Monitor and Evaluate Implementation

Establishing a monitoring and evaluation system contributes to accountability and ensures that implemented policies and procedures have the intended impact on student outcomes. It also enables making data-informed policy adjustments in response to changing educational needs.

Setting up a monitoring and evaluation system may require resources for data collection and analysis. However, this investment ensures that education policies are effective and can be adjusted as needed in order to achieve desired outcomes. It also enhances the capacity to showcase the positive impact of such policies to other stakeholders, including students, parents, and funding partners.



Implementation Strategies

The InDO project created 4 project results, all of which can be interconnected, creating a concrete and innovative set of educational practices. The objective of the Policy Recommendations is to gather the mandates that the previous deliverables have developed, and be enhanced from the research and findings of the: a) the UbD and DI online course, b) a compendium of experiential laboratory and Benchmarking for “Pedagogies for Innovative Classrooms”, and c) the InDO App. All previous deliverables follow a linear process of understanding the educational processes and resources of Understanding by Design and Differentiated Instruction, focusing on how these two methods can be incorporated to the classrooms, differentiating education as is now.

Regarding the Compendium of Pedagogies, the partnership initiated a rigorous literature review to connect each teaching practice to the core principles of Understanding by Design and Differentiated Instruction. Overall, the teaching practices that can be incorporated into UbD and DI enhance the Policy Recommendations, as they improve the quality of instruction (PR1), and by adhering to the wide spectrum that the Compendium covers, teacher are able to craft different and innovative teaching programs (PR2). Furthermore, the utilisation of short educational videos to encourage the discussion of a topic, and other technological tools that enhance the educational process, add value to PR4 which combines technological achievements with the curriculum.

The above are some examples of how the Compendium of Pedagogies can enhance and further promote the Policy Recommendations. In the broader context, the synthesis of Understanding by Design and Differentiated Instruction isn't just a methodological shift; it's a paradigm shift. The interconnectedness of the Intellectual Outputs forms a narrative thread, weaving together not only disparate elements of the project but also the potential for a holistic transformation in educational practices. The InDO project, with its meticulous approach and deliberate integration of innovative methodologies, stands poised to contribute significantly to the evolution of educational practices and policies.

In the intricate tapestry of the InDO project, the interplay between intellectual outputs and policy recommendations emerges as a choreographed dance, and at the heart of this choreography lies the integration of Understanding by Design (UbD) and Differentiated



Instruction (DI) online courses. As we navigate through the various policy recommendations, the resonance with these courses becomes increasingly apparent, harmonising with the overarching goal of ushering in a new era of innovative and inclusive educational practices.

At the forefront of the policy recommendations is the call to implement UbD to teachers. This recommendation stands not merely as a directive but as a strategic move towards redefining the very foundation of instructional design. The UbD online course seamlessly aligns with this vision, offering educators a comprehensive training ground to delve into the intricacies of curriculum development. Through detailed outlines and goal-oriented courses, teachers equipped with UbD principles become architects of transformative educational experiences. The course, functioning as both a guide and catalyst, empowers educators to navigate the complex landscape of educational standards, ultimately enhancing the quality of instruction.

Building on this foundation, the call to reinforce teacher programs echoes with a commitment to continuous learning. The UbD and DI online courses, acting as conduits for ongoing teacher development, offer a nuanced investment in preparing educators to meet the dynamic demands of the education system. These courses transcend the traditional boundaries of pedagogy, incorporating the latest research approaches and tools. The result is a skillset and toolkit that empowers teachers to not only transfer knowledge but to do so with an acute awareness of individual student needs. As the global education landscape transforms, these teacher programs become instrumental in reviving in-class lessons and steering education away from procedural processes towards a vibrant, interpersonal pedagogical system.

The call for professional development in Differentiated Instruction aligns seamlessly with the principles embedded in the DI online course. Analysis for policymakers underscores the commitment to inclusivity and student-centred education, recognizing the diverse learning needs of students. The online course serves as a dynamic platform for educators to engage in professional development, offering tailored approaches to address varied learning styles. Education authorities and managers, recognizing the long-term benefits, are encouraged to forge resource allocations and partnerships to support this endeavour. The result is not merely an inclusive education system but an elevated reputation on the global stage, aligned with international standards.

Policy Recommendation 3, urging the integration of technological achievements with the curriculum, finds its technological ally in the UbD and DI online courses. In a world dominated



by digital advancements, these courses not only incorporate technology into the teaching process but actively cultivate digital literacy. By intertwining technology with the curriculum, the courses bridge the gap between theoretical knowledge and practical application, preparing students for a future where technology is omnipresent. The digital tools embedded in these courses become vehicles for imparting not just subject-specific knowledge but also essential skills for navigating the digital landscape responsibly.

The advocacy for supportive learning environments, encapsulated in Policy Recommendation 4, aligns with the fundamental ethos of the UbD and DI online courses. These courses, accessible through online platforms, inherently foster supportive learning environments by providing flexible, inclusive, and accessible educational experiences. The online format ensures that students, regardless of their background or needs, have an equal opportunity to succeed. By reducing barriers to learning, these courses contribute to a more equitable education system, directly addressing the long-term benefits outlined in the policy recommendation.

Policy Recommendation 5 delves into assessing teacher preparedness for differentiation, and the UbD and DI online courses emerge as instrumental tools for this purpose. Through the development of assessment tools and targeted professional development, these courses contribute to ensuring that teachers are equipped with the necessary skills for successful implementation. The collaboration with educational institutions for the creation of these tools is facilitated seamlessly through the online medium, fostering a culture of ongoing improvement and contributing to the overall quality of education.

Encouraging collaboration among teachers, as highlighted in Policy Recommendation 6, is a natural extension of the ethos embedded in the UbD and DI online courses. These courses not only provide individualised professional development but also create a shared foundation of knowledge. The collaborative potential is enhanced by leveraging online platforms, enabling educators to share best practices, exchange insights, and collectively contribute to the evolution of effective teaching methods. The result is a dynamic and innovative education system that stands competitively on the global stage.

Policy Recommendation 7, emphasising the need to monitor and evaluate implementation, aligns seamlessly with the structured nature of the UbD and DI online courses. These courses inherently incorporate mechanisms for assessment and evaluation, providing a continuous feedback loop for educators and policymakers alike. The online format allows for real-time data



collection and analysis, supporting evidence-based decision-making and ensuring that education policies remain effective and adaptable to changing needs.

In conclusion, the connectivity between the Understanding by Design and Differentiated Instruction online courses and the policy recommendations is not a mere alignment of strategies; it's a relationship that amplifies the transformative potential of each element. Together, they form a dynamic synergy, propelling the InDO project towards its envisioned future of innovative, inclusive, and effective educational practices.

Main points arising from the Focus Groups implemented in the participating Countries.

In our journey to refine and enhance educational methodologies, we conducted a series of focus groups across the participating countries, each contributing unique insights into the effectiveness and applicability of our project initiatives. From Portugal (with inputs from Iran, Brazil, and Portugal) the Netherlands, Greece, and Italy, these discussions brought together educators, policy makers, and academic professionals to delve into the outcomes of our project. Their feedback not only highlights the diverse educational needs and teaching styles across different cultures but also underscores the universal importance of innovation, inclusivity, and student-centered learning in Higher Education. This chapter aims to present the key findings from these focus groups, offering a global perspective on the implementation and impact of our educational strategies.

Key findings:

- Participants expressed appreciation for the effectiveness of the training sessions and educational resources provided. They particularly valued the practicality and applicability of these tools across various educational settings. These findings can be correlated with Policy Recommendation 1 and its training programme that has the potential to equip teachers with precise frameworks for curriculum development
- A trend of **passive learning** among students was observed, with a heavy reliance on teachers to lead classroom activities. Policy Recommendation 2 is supported by this view of reinforcing teacher programmes, and for the preparation of teachers entering the education system.



- A predominant use of **lecture-based teaching methods**, with minimal student participation, was reported. Another aspect of Policy Recommendation 2, which predominantly allows the development of the skillset of teachers.
- Suggestions included the adoption of **problem-based learning**, where real-world problems are solved in class, **bridging the gap between academia and industry**. Again, this view is being covered by PR2, through the recommendation of an interpersonal pedagogical system.
- The need for clear **definitions and understanding** of key concepts like inclusivity and diversity within the project framework was highlighted. Evolving students populations require a level of preparedness by the teachers, as PR5 recommends. Therefore, assessing how prepared the teachers are to differentiation, it can help with the different needs of students.
- Emphasis on **integrating technology**, such as AI and VR/AR, into curriculums and including global collaboration projects to address evolving educational trends. PR3 acknowledges and suggests the integration of the latest technological achievements in education, providing the necessary environment for both the teachers and students to understand how to utilise technology.
- Positive feedback on the **user-friendliness and adaptability of educational materials**, making them suitable for various educational contexts.
- The necessity of aligning **policies with educational objectives** and ensuring flexibility in teaching methodologies to meet learner needs.
- The **potential for applying** these educational strategies **to vocational education (transferability)**, particularly in the context of recent reforms focusing on skill and competence goals.
- Discussion on the importance of **interactive teaching methods**, including co-creating exam questions with students for a more engaging learning experience. A combined approach of PR2 and PR5 can be viewed here, not only explaining the need to reinforce teacher programmes to student needs, but also prepare them for the notion of differentiation among the student population.
- The need for personal **support, mentoring, and didactical** reflection in addition to digital tools to enhance the learning experience.



- **Recommendations for institutional support**, including the establishment of groups for **sharing innovative** teaching methods, and the provision of necessary technological and spatial infrastructure. Collaboration among teachers (PR6) should definitely foster the exchange of best practices among them, strengthening the educational system. Furthermore, to assess and develop how these programmes are being implemented and how students react to them, it is important to monitor their implementation, providing accountability and adaptability, as PR7 suggests.

The focus group feedback from participating countries converges on several key points: a widespread appreciation for the effectiveness and adaptability of the provided training and educational resources, a need for more interactive and engaging teaching methods to counter passive learning trends, and the importance of integrating innovative approaches like problem-based learning. There's a consistent call for clear definitions of inclusivity and diversity in education, alongside the integration of advanced technologies to keep pace with evolving educational trends. The feedback also underscores the necessity of institutional support and policy alignment to facilitate the implementation of these strategies, emphasizing the importance of mentoring and didactical reflection to enhance the learning experience. Overall, these insights highlight a global consensus on the need for more dynamic, inclusive, and technologically integrated educational approaches.



Conclusions

The policy recommendations of the InDO project lay the groundwork for a comprehensive transformation in education, with a focal point on implementing Understanding by Design (UbD) and Differentiated Instruction (DI) through online courses. The call to implement UbD to teachers marks a strategic shift towards redefining instructional design, utilizing the UbD online course as a catalyst for meticulously outlined curricula and elevated instructional standards.

The subsequent reinforcement of teacher programs, intricately linked with ongoing professional development through UbD and DI online courses, becomes a commitment to fostering a skilled and adaptable teaching force, breathing life into in-class lessons, and steering education towards an interpersonal pedagogical system. Differentiated Instruction professional development, coupled with the DI online course, aligns with a commitment to inclusivity, offering tailored approaches that span from a more inclusive education system to an enhanced global reputation. Advocating for the integration of technological achievements with the curriculum, Policy Recommendation 4 finds resonance in the UbD and DI online courses, cultivating digital literacy and ensuring students are prepared for the demands of the digital age. In essence, these policy recommendations, intricately intertwined with the online courses, paint a vision of a dynamic, inclusive, and technologically savvy educational landscape with far-reaching impacts on both the national and global stage.



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