



# Inclusive education and UDL: A comprehensive guide

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Your guide to create a meaningful education that supports and honors every student



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# Editor's notes

Diversity and inclusion have been among the most important strategic development goals at many institutions. Classrooms become increasingly diverse with students of different background, abilities, and needs, which highlights the need for an inclusive, equitable online learning environment where all students can reach their full potential.

However, cultivating a learning environment that supports and honors every student's differences can be challenging, especially considering the myriad aspects around diversity and inclusion in higher education namely policies, structures and processes, curriculum, assessment, and more.

Inclusive education, which involves the implementation of inclusive course design is then the key to create equitable, understanding learning environments. Discussions and guidelines have been developed surrounding this topic, yet this abundant information resource has left institutional leaders confused, wondering "where should I start?", and "how do I begin designing inclusive learning environments?", especially when diversity, equity, and inclusion (DEI) are becoming tumultuous topics recently in many areas worldwide.

To help institutions answer these questions, we put together this comprehensive guide, which concretely discusses the state of DEI in education, before going on to defines and outlines the key strategies for building inclusive education.

We hope this guide is appropriate for faculties who are already familiar with inclusive education and teaching, as well as those setting the first stone for an equitable online learning environment.

**The FeedbackFruits team**

# Chapter 1: The state of DEI in higher education

Inclusive education, the idea that all students—regardless of their abilities, backgrounds, or identities—should have equal access to quality education, has become a central theme in global educational discourse. It embodies the principles of diversity, equity, and inclusion (DEI) and seeks to ensure that every student, regardless of their backgrounds, abilities, learning needs, and more, is given the opportunity to thrive. However, the path to achieving equity and inclusivity in education is laden with challenges. As we look at the current state of DEI across the globe and contemplate the future of higher education, the question arises: Is inclusive education an achievable goal or merely an unrealistic dream?

## The state of DEI in higher education

### In the US: DEI comes under attack

The US has seen diversity, equity and inclusion initiatives come under sustained attack from the political right, with the introduction of anti-DEI laws that aim to fire the DEI supporters at colleges and universities; close down DEI offices; and increase curbs on research. This has caused DEI offices and associated programs to diminish while those that remain fear for their continued survival

Multiple institutions have eliminated faculty and staff with DEI roles, with [the University of Texas at Austin](#) estimated to have fired about 60 people from DEI-related jobs alone. The layoffs came days after a conservative state legislator warned state universities to comply with the law banning DEI offices on campus, known as Senate Bill 17 (SB 17). The University of Florida also eliminated its DEI staff after a similar state law passed there in 2023. At Texas A&M University, [a diversity war](#) broke out in the fall over SB 17.

According to the [DEI Legislation Tracker](#) created by the Chronicle of Higher Education, at least 82 bills attacking DEI in higher education have been filed in more than 20 states since 2023.

So why is DEI supporters facing such challenges in the US? In the article [“Why diversity programs fail?”](#) published by Harvard Business Review, Frank Dobbin and Alexandra

Kalev outlined a number of factors that contribute to the emerging negativity towards DEI.

These factors range from difficulty in interpreting the perceived benefit of diversity training programs, to poor implementation of the hiring process and grievance procedures that aim to promote DEI. It has also been said that DEI efforts “are discriminatory to those who may be left out amid efforts to boost representation of other groups”, paradoxical to the understanding of DEI as striving for greater accommodation of all groups. Lastly, critics have pointed out that such programs are costly to facilitate and that proving a direct return on investment can be elusive.

### In the EU: Determination to create an inclusive education

The EU; however, is more consistent in supporting the creation of inclusive education. Diversity, equity, and inclusion are embedded in the first principle of [European pillars of social rights](#):

“ Everyone has the right to quality and inclusive education, training and life-long learning in order to maintain and acquire skills that enable them to participate fully in society and manage successfully transitions in the labor market.”

Promoting equity, social cohesion and active citizenship is one of the strategic objectives for cooperation in education and training at the EU-level. This is largely driven by an increase in the number of refugees and the internationalization of higher education in Europe.

Multiple political movements to strengthen diversity and inclusiveness in higher education have been made throughout the past 10 years, starting with the Paris Declaration of EU member states in March 2015 on promoting citizenship and the common values of freedom, tolerance and non-discrimination through education. This is also reflected in the 2015 Yerevan Communiqué and the 2018 Paris Communiqué of the Bologna Process, in an attempt to strengthen the social dimension of higher education.

In 2017 the European Commission took up the topic in its renewed agenda for higher education, by strengthening the social dimension of European integration through the reinforcement of the European pillars of social rights.

According to a [European University Association report](#) based on a survey of 159 institutions from 36 European systems, diversity, equity and inclusion are part of the main strategy of most institutions, with allocation of specific personnel in charge of DEI initiatives, also research departments dedicated to producing evidence to support policy-making.



Diversity is a key concern for universities. It is a condition for excellence and for facing competition in various parts of universities' missions."

**MICHAEL MURPHY**

Professor, President of the European University Association

At [the University of Groningen \(RUG\)](#), diversity and inclusion are important components of the institution's strategic plan. The team is dedicated to [creating an environment](#) where students and staff members "feel respected and at home, regardless of any visible and invisible differences in background, experiences, perspectives, characteristics and identity". To achieve this strategic goal, the RUG team integrated DEI into their policies, developed dedicated teams and initiatives to promote inclusive education, and collaborates with edtech companies to develop tools to support creating a strong learning community. In their latest collaboration with FeedbackFruits, the [Group Formation tool](#) was developed to help create dynamic groups and increase student engagement.

## In Asia Pacific areas: Continuation of DEI efforts

The Asia-Pacific region presents a diverse landscape of DEI in higher education. Australia and New Zealand have made significant steps in promoting inclusion, particularly concerning indigenous populations and international students. These countries have implemented comprehensive DEI policies, including support services for marginalized students, curriculum reforms to include Indigenous perspectives, and efforts to close the achievement gap between different student groups.

Asia embodies an extraordinary range of ethnicities, religions, and languages. From the Indian subcontinent to Southeast Asia, from East Asia to the Middle East, the continent showcases remarkable variation in backgrounds, ethnicities, and cultures. However, the region is still in the early stages of implementing the DEI initiatives.

Across Asia, countries have signed and ratified the Convention on the Rights of Persons with Disabilities (UNCRPD) (United Nations, 2006) with its clear position of inclusive education as a right.

In the article [“Inclusive education in the Asia-Pacific region”](#), Levan Lim and Thana Thaver have identified several barriers to inclusive education, including:

- Excessively competitive school culture
- Cultural perceptions of disability
- Challenges with policies and resources
- Lack of professional training to support and promote inclusive practices
- Low capacity of mainstream institutions to address students of different backgrounds

Despite these obstacles, there is growing recognition across the region of the need to enhance DEI efforts. For example, [China](#) has been focusing on increasing access to higher education for students from rural areas and ethnic minorities, while India is working to improve access and equity for disadvantaged castes and tribes.

## What is the future of DEI?

Looking ahead, the future of DEI in higher education is likely to be shaped by ongoing societal changes, technological advancements, and evolving legal frameworks. And in no two regions will these changes look exactly the same. In the United States, affirmative action may be falling out of favor, with shifts emerging toward alternative methods of ensuring diversity, such as socioeconomic-based admissions criteria. Outside of hiring, updated teaching and learning guidelines such as UDL 3.0 aim to accommodate a wider variety of learners in the physical and digital classroom. These changes could lead to new approaches to achieving DEI goals while navigating the legal and political landscape.

In the European Union, the future of DEI is closely tied to broader social inclusion goals, particularly in the context of increasing migration and demographic changes. The EU is likely to continue its focus on internationalization and gender equality while also addressing the integration of refugees and immigrants into higher education. This may involve expanding language support, enhancing recognition of foreign qualifications, and creating more inclusive curricula. The aim of these updated teaching and learning practices is not only to cater to different groups' needs, but to increase the access to and quality of education for all sorts of learners, regardless of background.

The Asia-Pacific region is expected to continue expanding its higher education systems to accommodate growing demand, particularly from international students. This expansion presents opportunities to enhance DEI efforts by adopting innovative educational models, such as blended learning and online education, which can increase access for marginalized groups. Additionally, as more countries in the region recognize the importance of DEI, there may be greater collaboration between governments, institutions, and communities to develop inclusive policies and practices. While vast differences exist between regions in how these practices will be applied, the successful examples and best practices adopted by leading institutions will set the bar for others in terms of how traditional education can effectively be updated for the 21st century.

## How can we build a university for all?

### Why do we need to build a university for all?

Professor Michael Murphy, president of the European University Association (EUA), remarks on the role of empowering inclusive education:

“Universities cannot be exclusive at a time when society is evolving fast and awareness of dimensions of diversity grows – cultural, gender or sexual orientation. University values of openness and tolerance demand that we celebrate diversity and be inclusive.”

This sentiment speaks to the growing importance of educational institutions as a hub of social responsibility and involvement. Contributing to constructive discourse and offering innovative solutions to society's issues requires including and listening to a variety of voices, and therefore offers the best chance of finding workable solutions. Besides being beneficial for society at large, both universities and learners have much to gain from the skillset accompanying diversity in education.

“There is no such thing as a ‘typical’ student”. Students come to classes with diverse backgrounds, abilities, and needs. This is both true in a highly mixed international campus and in a seemingly-homogenous class of learners - diversity exists within all groups. Therefore, any institution that wishes to retain high levels of excellence needs to promote an equitable, inclusive learning environment that welcomes and supports every learner. The benefits of a positive learning community built upon empathy, understanding, and inclusion are worth the investment.

Higher education goes beyond just memorizing facts to get a degree. An inclusive learning environment presents students with plenty of opportunities to value a wide range of perspectives then critically reflect on their own beliefs and that of others to resolve conflicts through compromise and mutual understanding. Students are then able to develop several important cognitive skills which are key to employability, including:

- Emotional intelligence
- Critical thinking
- Collaboration and communication skills
- Workplace and community norms
- Conflict resolution

An inclusive learning environment welcomes and supports students and faculty of all backgrounds, fosters cross-cultural understanding, increases academic outcomes, empowers career readiness, and promotes equity in society. Higher education institutions are responsible for promoting inclusivity and equity in every aspect, from policy development, recruitment and admissions to curriculum development and assessment. In the following section, we will elaborate on the key principles for building an inclusive, accessible learning environment for every student.

## 6 principles to create an inclusive education

Input for this section is inspired by the [The Inclusive Higher Education Framework](#). This framework was created by the University of Hull, University of Derby, Keele University, Staffordshire University and York St John University with the aim to highlight the key areas and principles that contribute to inclusive practice across institutions.

### 1. Structure and processes

An inclusive institution will have processes and structures that make sure inclusive practices become part of the culture of the institution.

One of the first steps is addressing the systemic barriers that prevent access to education for certain groups of learners. This entails implementing targeted policies that provide financial support, mentorship, and outreach to underrepresented populations. For example, scholarship programs designed for students from

low-income backgrounds, ethnic minorities, and other marginalized groups can help reduce financial barriers to higher education.

Aside from policy development, professional development is also critical in empowering an inclusive education.

Both the teaching staff and faculty members need to be equipped with the skills and knowledge to support diverse learners, including training in culturally responsive teaching, understanding the needs of students with disabilities, and fostering an inclusive classroom climate. Institutions should invest in ongoing professional development opportunities to ensure that educators are prepared to meet the challenges of inclusive education.

## **2. Curriculum development**

An inclusive education requires its curriculum to be relevant to all students, making them feel engaged and motivated to study.

In inclusive education, the study program should be designed to allow every learner to reach their full potential. First of all, the study content should be reflective of diverse perspectives, histories, and cultures, ensuring that all students see themselves represented in their studies. This not only promotes inclusion but also enriches the learning experience for all students by exposing them to a wider range of viewpoints and knowledge.

Furthermore, institutions need to ensure flexible teaching approaches that adapt to the talents, capacities and ambitions of individual students. For making the most of their potential, there is support, reasonable adjustments and attention to early intervention.

An inclusive curriculum should also give students flexibility and autonomy in how they demonstrate their learning. For example, students can choose the essay topic that they are interested in to study in a module.

## **3. Assessment and feedback**

Inclusive education requires effective design of assessment and feedback that are mindful of student anxieties and helps students identify their strengths and weaknesses to improve their performance. This involves:

- Offering diverse assessment methods to encourage all students to play to their strength
- Designing holistic feedback, marking criteria and rubric that are clear, fair, and transparent
- Providing timely support, clear guidance, and multiple opportunities for students to voice concerns and reduce anxieties around examination
- Issuing authentic opportunities for students to apply their learned knowledge and develop real-life skills

#### **4. Community and belonging**

Inclusive education should support a culture that fosters a strong sense of community, and belonging among the students, resulting in higher academic success. This comes with timely, efficient, and continuous student guidance and support in the forms of personal consultation, flexible curricula, part-time study, or childcare that institutions offer to students from various backgrounds.

To provide more opportunities for meaningful interactions and collaborations among the students, different programmes and student-led communities can be designed and promoted by the institutions.

Most importantly, to support a strong and inclusive learning environment, institutional hiring and admissions processes need to actively build a diverse community of staff and students.

#### **5. Pathways to success**

Inclusive institutions offer all students the opportunity to reach their full potential and success in their future career. This can be done by:

- Identifying and supporting 'At risk' students (e.g. those with low engagement), while providing resources for effective intervention
- Providing the teaching staff with sufficient support and resources to use technology to create inclusive learning environments
- Offering relevant support and personal development services regarding future career to all students

- Designing programmes are designed to offer all students opportunities to work with employers, develop personal networks and reflect on self development and career goals

## **6. Technology adoption**

Creating inclusive education requires the use of appropriate technology that supports the design and facilitation of authentic, accessible, and inclusive curriculum and assessment.

Finally, the use of technology and innovation can play a significant role in advancing inclusive education. Online learning platforms, assistive technologies, and adaptive learning tools can help overcome barriers to education for students with disabilities, those in remote areas, and others who may face challenges in accessing traditional educational resources. By embracing these technologies, institutions can create more flexible and accessible learning environments that accommodate the diverse needs of all students.

# Chapter 2: Inclusive teaching and inclusive course design

## What is inclusive teaching?

Inclusive teaching refers to pedagogy that strives to create a meaningful, relevant, and accessible learning environment for all students.

Inclusive teaching and course design aims to create an inclusive “classroom climate”, which: 1) Provides all means of support for students throughout their learning process; 2) Creates a sense of belonging and value for students of all backgrounds and identities, capacities, and experiences; and 3) Recognizes and addresses the differences among the learners while attempting to allow every student equal time and space to express themselves and their experiences.

“ The ideal classroom environment is one in which all students feel as if they belong and as if their points of view matter”

BARBARA GROSS DAVIS,  
Educator and author, [“Tools for teaching”](#)

UDL – Universal Design for Learning and inclusive teaching are sometimes used interchangeably, yet these are not the same.

According to Linda Lee, Director of Instructional Design at the Wharton School:

“ UDL refers to the structure of courses that provides the greatest degree of access and usability for the most people. It emphasizes the single design that is intended to work for everyone.”



**LINDA LEE**  
Director of Instructional Design, Wharton School

Inclusive course design borrows elements from UDL and takes it to the “digital age”. It welcomes the “*full range of human diversity and experience, ideally without the need for accommodation*”. Most importantly, the idea behind inclusive course design is to “provide access to a course for everyone without needing to make those accommodations on an individual basis.” It tries to be open and welcoming regardless of the learners’ needs, perspectives, behaviors, and locations. Linda gave a concrete definition of the approach:

“ Inclusive course design is the course design that intentionally cultivates a more equitable and inclusive learning experience.”

## Why does inclusive course design matter?

A sense of belonging, once created in the learning community, has been proven to be an important predictor of academic success and well-being not only for marginalized groups, but for all students.

An inclusive classroom accommodates students’ differences, draws relevant connections to their lives, and encourages them to hear from diverse perspectives. Such a positive learning environment critically enhances student motivation, engagement, and eventually, performance. As Susan A. Ambrose and her team remarked in the book “How learning works: 7 research-based principles for smart teaching”: “*Students are more motivated to engage in learning within a classroom climate that is supportive, and responsive to their needs and difficulties.*”

In the US, about 1 in 4 adults live with a disability, and many of those disabilities are not visible for institutions to recognize and tackle. In many institutions, classes (both offline and online) have become increasingly diverse, with students representing a varied profile regarding cultural, family, and financial background, as well as knowledge base, capacities, and emotional status. Linda Lee shared about the increasing need to address diversity and equity in higher education:

“ There is a wide range of diversity among the students at Wharton, students of color, international students, first year students, and women representing an increasing population across our degree program.”

For Linda, this variety constitutes learner variability, a well-established topic in education. “*This variability can lead to a wide range of barriers, a wide range of*

*circumstances that can make education more challenging for students.” - Linda Lee emphasized in [one of her presentations](#) at inspirED 2021.*

These barriers can be: lack of background knowledge, confusion about the next steps to take, lack of timely feedback, difficulty navigating social or emotional challenges, unfamiliarity with the terms, culture-irrelevant coursework, and technical or financial obstacles, to name but a few. Inclusive course design takes these barriers into consideration and designs the learning experience around that. In other words, the approach intentionally makes it easier for students to participate in the learning process, and take control of their own learning.

## The 4 principles of inclusive course design

Faculties can consider a variety of areas to promote inclusivity in online and hybrid classrooms, including the syllabus, choices in assigned reading, discussion expectations, and personal style. However, which areas should be tackled first?

This chapter presents the 4 principles that faculties should keep in mind when designing equitable digital courses, which are: Course policies, Course materials, Activities and Assessments, and Technology Use. Each principle is accompanied by detailed descriptions and recommendations for teaching strategies.

### Course policies

When crafting course policies, a degree of flexibility should be diffused throughout every aspect of the course, from technology use to attendance, deadlines and participation policies. Providing flexibility will increase the chances that students are going to succeed. Furthermore, acknowledging that difficulty and struggle are normal parts of the learning process, and at the same time emphasizing a growth mindset is vital to students' academic success.

One effective way to add flexibility into the curriculum is by crafting a diversity statement. A diversity statement is a paragraph or section in the curriculum that welcomes diverse perspectives, identities; offers support or academic services on campus; as well as signals the goal to cultivate a sense of belonging and value among all students. Introducing the diversity statement right from the start of the course demonstrates faculties' care and attention to students' differences, thus increasing their motivation and engagement.

## GOOD TO CHECK

- Check out [several examples of diversity statements](#) provided by Yale Center for Teaching and Learning.

Clearly articulated design of course objectives accompanied by transparent communication of these goals to the students can help create an equal learning environment, reduce opportunities for bias, encourage student motivation and engagement, and improve chances of success in the course.

Another way to develop inclusive course policies involves adjusting and adapting the participation requirements to address students from different backgrounds, geographical locations, and learning barriers. This can be done by having multiple deadlines for assignment submissions, or issuing asynchronous sessions so that students of different timezone can attend. Such flexibility in the curriculum certainly creates a motivating, positive learning environment for students.

Providing learner support is another essential component when drafting an inclusive course. Students need help both inside and outside the classroom, especially with using new tools, handling technical issues, and maintaining online connections in online/hybrid settings. That's why having resources available for learning support and encouraging students to use those is especially important for online learners who are not co-located with on-campus offices or do not have easy access to non-faculty staff.

## Course materials

Expanding course materials to reflect diversity in source and opinion prepares students for their personal and professional lives by mirroring our global community.

Course materials prove to be one of the areas that students, especially the economically disadvantaged, struggle with the most. The cost of required textbooks and technology can be a huge burden and a hindrance for students when learning. When looking to cut costs on the course materials, faculties can consider the following options:

- 1) See if relevant content can be found free online, via the Open Educational Resources;

- 2) Make content accessible through the LMSs and available regardless of geographical and time constraints.
- 3) Develop a full understanding of fair use and copyright policies. Usually, if only a small part of a book or resource is needed for the course, the library can actually make a digital copy available to the course.

It is also important to include a wide range of perspectives, experiences, and backgrounds in the course materials; at the same time ensure that these materials are culturally relevant to students. Here are some suggestions on how faculties can diversify the course content:

- 1) Utilize multimedia content in order to bring other voices into the room: Ted Talks, documentaries, podcasts, newspapers, websites, etc.
- 2) Elicit student voices with icebreakers/ warm-up activities that allow students to reflect on their experiences
- 3) Connect with different professional groups to provide examples and guest speakers for students
- 4) Present different ways in which students can interact with the course materials: creating an academic poster, storytelling, online forums/ discussions, podcast, etc.
- 5) Use a variety of names, settings, or cultural references in example scenarios or problems; as well as placing the learning assignments or activities in a variety of social, professional or cultural contexts.

## Using podcasts to increase student motivation and engagement



**Universiteit  
Leiden**  
The Netherlands

Instructors at Leiden University transformed their traditional lectures into an inclusive learning experience by letting students engage in multimedia course content enriched with questions and discussion points using FeedbackFruits Interactive Study Materials.

The flipped classroom model was utilized in this course. In preparation for each class, students read course materials, listened to the podcast, completed the questions and discussion points annotated within, and prepared a group assignment. The evaluations showed that technology-enhanced social annotation of the course content significantly increased students' comprehension and engagement.



“It was striking how well most students were prepared for our class discussions, in comparison to previous cohorts.”

**ASTRID VAN WEYENBERG**

Assistant Professor, Leiden University Center for the Arts in Society, the Netherlands

Read more about the [use case](#).

Furthermore, faculties need to be transparent about material selection and make sure to be clear with students the reason why the materials have been chosen. Supplementing the course materials with background information and multiple types of examples to facilitate learning is also important to represent different perspectives and backgrounds.

Aside from covering varied topics, perspectives, and contexts, the course materials need to be curated, and adjusted to address learner preferences. Some recommendations to produce accessible content are:

- 1) Using captioned videos to support international students and learners with a slower learning pace
- 2) Ensuring that the course materials can be accessed by a screen reader
- 3) Vary the types of course materials (documents, audios, or videos) to cater for other learning preferences
- 4) [Optimize all images](#) used in the course by adding descriptions, or adjusting for best quality and size.

## Activities and Assessments

When it comes to planning activities and assessments, offering students a choice if possible is the first on the list, as it helps increase engagement. Incorporating opportunities for multi-layer feedback, group work, and meaningful interactions should also be the core when designing inclusive learning activities and evaluation practices. Group formation and organization also plays a critical role in promoting students' belonging and a sense of ownership. So what are the ways in which faculties can design activities and assessments that recognize the diversity of learners' abilities and experiences?

Universal Design for Learning (UDL) has long been trusted as a great pedagogical approach to design learning experiences that are physically and cognitively accessible to everyone. Developed in the early 1990s as a model for addressing student diverse learning needs, the UDL framework can be applied to course or single-class session designs, and its focus on creating accessibility regarding content representation, learning actions and expression, and classroom engagement.

*We have dedicated a full chapter on Universal Design for Learning and the strategies to incorporate this approach into learning activities, assessment, and feedback in online/hybrid classrooms. (Go to chapter 3)*

Personalized learning is also an effective method to curate, and implement inclusive learning activities and assessments. In this approach, students can take ownership of their own learning by constructing their own educational pathway, from learning goals and activities to assessment.

#### GOOD TO CHECK

- [Differentiated and Personalized learning: Best strategies for implementation in hybrid classrooms](#)
- [How to create personalized learning spaces](#)

You can also check the Appendix for further resources on activities and assessment practices to be used in inclusive course design.

### Technology use

Regarding technology use, instructors need to be “thoughtful and selective” when choosing the tools to use in courses. This is because *“everytime you ask your students to learn a new tool, that adds up to the emotional cognitive overload, so be thoughtful and selective about what you choose”* - explained Linda. Furthermore, technology use policies can have a tremendous impact on students’ participation in classes. In general, think about using technology at all levels of the course, about what you choose to use in

class and what you expect students to do with this technology. Here are some strategies to generate accessible technology use for each and every student:

### Provide support regarding Internet access and digital device supply

In online and hybrid classrooms, students attend lessons from different parts of the world, and they will have varying levels of access to both Internet and technology devices (i.e., laptop, computers, webcam) or relevant softwares.

To address this, faculties can develop and share help resources on how to turn a phone into a WiFi hotspot; troubleshoot connectivity issues, access online course materials, or make use of various online free services and resources from the institution or outside. Laptops lending and free software download services are also essential components of accessible technology use.

### Understand students' needs and attitude towards technology access, and use

Faculties can survey students about their existing problems regarding technology use to help shape the course design process. While it may not be possible to accommodate all needs, these insights allow faculties to think of every way possible to make the learning experience smooth for students.

Surveys should also be conducted upon learners' attitude towards using different tools during the courses. This helps faculties measure the impact of technology-enhanced curriculum, make timely adjustments to the curriculum, and address pressing issues raised by students.

## Create personalized learning experiences with technology-enhanced peer review



Dr. Mathias Magdowski, research assistant at Otto-von-Guericke-University Magdeburg has been using FeedbackFruits Peer Review to optimize the peer feedback process in his engineering courses.

To assess the impact of the tool, he conducted a 7-question survey with 28 students, focusing on their satisfaction with using the tool, and how they thought the tool influenced their learning and skills. The key findings and his survey are summarized in an infographic, which can be accessed via [this link](#).

Teaching and learning should be a constant process of implementation, reflection, and improvement, where instructors facilitate, reflect on the success and failures of the courses via feedback from colleagues and students to iterate and make appropriate adjustments.

So how can these 4 principles be applied in real classroom contexts? And what are the outcomes of Inclusive Course Design? These questions were then addressed in [the use case shared by Linda](#), in which she and her team successfully implemented Inclusive Course Design in the course Wharton 101.

### GOOD TO CHECK

We drew inspiration and foundation for this chapter from several sources, namely:

- Linda Lee's presentation – "Engagement that lasts: Best strategies for inclusive course design"
- The '[Guide for inclusive teaching at Columbia University](#)', which compiles 5 principles of inclusive pedagogy
- The '[Designing and teaching and inclusive course](#)' ebook by the Wiley University Services, which identifies 8 key areas of focus when designing inclusive courses

# Chapter 3: Universal Design for Learning (UDL)

## What is Universal Design for Learning (UDL)?

When it comes to the definition of Universal Design for Learning (UDL), [Lillian Nave](#), UDL coordinator and host of the [Think UDL](#) podcast, and [Linda Lee](#), Director of Instructional Design from The Wharton School each provided an excellent summary of the framework, which captured the essence of this framework.

For Lillian,

“ Universal Design for Learning is a design principle based on neuroscience that allows for multiple means of engagement.

And according to Linda,

“ UDL is tied to the idea that we want to make whatever we're building as useful as possible to as many as possible.”

You can find Lillian's in-depth sharing on UDL in [the 5th episode](#) of the Learning Experience Lab podcast. And you can rewatch [Linda's presentation](#) on UDL to understand how to apply the model in course design.

One of the reasons that UDL has become so ubiquitous is that it operates upon two key principles, which are: 1) addressing learner variability, and 2) reducing the barriers to learning.

Both physical and online classrooms have become increasingly diverse, with students representing a varied profile regarding cultural, family, and financial background, as well as knowledge base, capacities, and emotional status. Such a variety constitutes what we classify as learner variability, a well-established topic in education. However, it was not until the COVID outbreak that many educators realized and acknowledged just how much learner variability can affect students' learning experiences.

*“This variability can lead to a wide range of barriers, a wide range of circumstances that can make education more challenging for students.”* - Linda Lee, remarked in her presentation - Developing Inclusive Educational Experiences with Universal Design for Learning.

These barriers can be: lack of background knowledge, confusion about the next steps to take, lack of timely feedback, difficulty navigating social or emotional challenges, unfamiliarity with the terms, culture-irrelevant coursework, and technical or financial obstacles, to name but a few.

So how can learner variability be addressed, learning barriers reduced, and courses be made more accessible, while still having enough time to teach and set up courses?

The Universal Design for Learning (UDL) framework is designed to accommodate learner variability and reduce learning barriers, making courses more accessible and inclusive. According to UDL, educators should consider using multiple means to address three main factors: 1) learners’ interests and motivation (the Why), 2) teaching and delivery methods (the What), and 3) ways of knowledge demonstration (the How). That is, faculties need to ensure students know why they are learning what they're learning, provide students with accessible materials, and present multiple means of assessment.

Launched in 2020, the UDL Guidelines have been a dynamic tool to empower inclusive education. On July 30th, 2024, CAST updated and introduced the UDL Guidelines 3.0 as a response to the need to addressing “critical barriers rooted in biases and systems of exclusion”.

A very brief overview of the UDL framework is outlined in the table below. You can also visit the CAST website for a super-detailed and comprehensive guide to UDL.

<b>Multiple means of Engagement</b> <i>The WHY of learning</i>	<b>Multiple means of Representation</b> <i>The WHAT of learning</i>	<b>Multiple means of Action and Expression</b> <i>The HOW of learning</i>
<ul style="list-style-type: none"> <li>• Activate learner's interest</li> <li>• Provide individual choice and autonomy</li> <li>• Vary demands to challenge learners</li> </ul>	<ul style="list-style-type: none"> <li>• Options for perception</li> <li>• Provide multiple ways to access information and acquire knowledge</li> <li>• Activate or supply background knowledge</li> </ul>	<ul style="list-style-type: none"> <li>• Vary the ways students express what they know</li> <li>• Provide multiple media for communication, construction, and composition</li> </ul>

So how can faculties leverage the UDL guidelines to create an inclusive, equitable online learning environment that support and value every learner? Below you can find a comprehensive list of inclusive strategies to optimize, and implement the UDL framework into learning activities, assessment and feedback.

## 50 inclusive teaching strategies: A comprehensive list

Creating inclusive education requires different strategies regarding curriculum design, assessment, and more. We put together this comprehensive list to help you create a learning environment that honors every learner, based on the Universal Design Learning (UDL) framework.

### Learning activities

#### MULTIPLE MEANS OF ENGAGEMENT

1. Create and distribute surveys to generate insightful students' information (background, needs, strengths, weaknesses) that can help personalize the curriculum.
2. Organize an introduction session to make sure students are presented with detailed explanations of the courses, as well as multiple choices in terms of content, learning tools, rewards and recognition, assessments, task requirements, and more.
3. Vary activities and student materials so that they are personalized to different learners' needs such as distance, adult, or carer learners, culturally and socially relevant, appropriate to different ages and abilities, relevant to different racial, cultural, ethnic, and gender groups
4. Design learning activities that invite active engagement and responses right from beginning (e.g. flipped classroom, team-based learning)  
**Example:** [Flipped classroom learning journey](#), [Team-based learning journey](#)
5. Create activities or learning spaces where learners are motivated through connections to their identities, sense of self, and communities.
6. Incorporate storytelling activities
7. Incorporate deadline reminders and extensions (calendars, schedules, visible timers, notifications, etc.) to help students' keep track of their learning.
8. Design an self introduction activity (online discussion or face-to-face) where students can share their wishes, concerns, biases, and distractions they may be experiencing before the courses  
**Read more:** [Self introduction | Discussion assignment](#)
9. Use student surveys to create dynamic, inclusive student groups that promote meaningful collaborations and interactions.  
**Read more:**

[Collaborative problem solving learning journey](#)

[Creating effective student group](#)

10. Involve students in developing course objectives, activities, and assessments
11. Create course surveys to invite students' reflection and evaluation of course content and activities
12. Provide constructive, timely prompts to support and guide students throughout the learning process.

**Read more:** [Prompt-based open discussion](#)

13. Use AI to provide personalized, timely support for students.

## MULTIPLE MEANS OF REPRESENTATION

1. Offer students with different options to complete assignments: oral presentation, research paper, group projects, or making a podcast, etc.
2. Create authentic learning activities that require students to engage with real world situations: finding solutions to a real problem; interviewing experts in the field; or creating a research poster to present in a simulative online conference.  
**Example:** [Authentic group project learning journey](#)
3. Make use of authentic learning strategies (problem-based learning, team-based learning, etc.) where students need to use knowledge and skills to solve novel and relevant problems, or make sense of complex ideas in creative ways.
4. Curate different ways in which students can interact with the study materials, by using [social annotation](#), [online discussion forums](#), or [interactive quizzes](#). These methods can be supported by plenty of pedagogical technology.

**Example:**

[Pre-class preparation on a document](#)

[Pre-class preparation on a video](#)

[Pre-class preparation on an audio](#)

5. Provide information, and knowledge in multiple modalities, such as written documents, audio and video; and in [formats accessible to all learners](#) (e.g., adding subtitles, including alternative texts to images, increasing text size or brightness).

6. Create and distribute supporting materials (e.g., glossaries, illustrations), background information, and multiple types of examples to facilitate knowledge transfer, and reduce learning barriers
7. Include transcripts to videos, either directly or via pdf
8. Involve students in developing course resources
9. Supply assignment instructions with multimedia resources so that students can better understand the requirements and contexts of the tasks.
10. Follow accessibility standards (NIMAS, DAISY, etc.) when creating digital text
11. Incorporate a range of authors with various identities, including (but not limited to) gender, race, different abilities, nationality, and socio-economic background in the study materials.

### MULTIPLE MEANS OF ACTION AND EXPRESSIONS

1. Offer students with different options to showcase their performance such as: oral presentation, research paper, group projects, making a podcast, etc.  
**Example:**  
[Collaborative thesis writing](#)  
[Authentic group project](#)
2. Incorporate different communication methods for meaningful interactions (e.g. online discussion boards, email, and video conferencing options).
3. Give students autonomy to plan, set goals, and be intentional about the way they approach a task
4. Provide model examples (templates, well-performed assignments) that learners can refer to for content organization and assignment
5. Use study portfolio to allow students to showcase their work and progress in a holistic and diverse manner  
*Use case: The teaching team at Leiden University implemented the portfolio approach to help students take ownership and gain more insights into their personal growth. This portfolio will be a collection of all students' work and their received feedback which they can reflect on and create a showcase of to later share with future employers. Read more on how the Leiden team designed and facilitated the portfolio project [here](#).*

6. Use multiple pedagogical tools (e.g. interactive discussion platforms, peer review, ) to allow learners to showcase their performance at their best.

## Assessment and feedback

### MULTIPLE MEANS OF ENGAGEMENT

1. Provide clear explanations to learners on the importance of feedback on their learning.
2. Organize a session to clarify the rationale behind an assessment and answer students's questions
3. Create self and collective feedback activities where students critically reflect on their performance individually and collaboratively to understand their learning progress.  
**Read more:** [Social learning through feedback](#)
4. Create opportunities for multimedia feedback by using different methods like anchored feedback, screencast, graphic markup, holistic audio-video commentary, or starting an online discussion.  
**Read more:** [Feedback and UDL](#)
5. Create opportunities for multi-layer feedback (self, peer, group and teacher feedback), which are timely, constructive, and specific to help students identify areas of improvement and work towards the learning goals.  
**Read more:** [Multi-layer feedback on collaborative writing](#)
6. Provide positive, constructive feedback to make learners feel motivated to improve their performance.  
**Read more:** [Feedback and lifelong learning](#)
7. Leverage AI technology to provide personalized support and guidance in feedback delivery.  
**Read more:** [Automated feedback coach: AI tutor for better feedback skills](#)

## MULTIPLE MEANS OF REPRESENTATION

1. Present students with multiple ways to present their final product. These can be a research paper, group presentation, or self-produced podcast.

*Use case: Christina Wesolek - lecturer at University of Delaware, implemented problem-based learning with the aid of technology in her physics course. In this course, students worked together in groups of 4-6 for semester projects, and in groups of 2-3 for lab work. They then completed self and peer evaluations. These anonymous peer evaluations were a space to give feedback on all group dynamics related to PBL, semester projects, lab work, and any other group topics. [Read more](#).*

2. Issue peer or group assessment to initiate interactions, and encourage students to learn from each other.

**Example:**

[Group evaluation activity](#)

[Collaborative learning journey](#)

3. Make use of authentic assessments to let students connect the course content with their own backgrounds, and develop employability skills.

**Example:**

[Authentic assessment learning journey](#)

4. Break down the assessments into manageable steps so that students can receive feedback and reflect on their progress.
5. Create plenty of opportunities for [frequent and timely feedback](#) by incorporating feedback moments throughout the course with detailed feedback rubrics to guide students. [This article](#) provides a clear guide on how to design effective feedback rubric.

*Use case: In an online marketing course of 400 students, instructors at Boston University issued a Peer Review assignment after each live session, which was called 'FeedbackFruits Executive Memo submission'. For this, students wrote an executive memo, then provided feedback on each other's work based on a 3-criteria rubric.*

6. Provide personalized, timely feedback with the help of AI technology

**Example:**

[AI-assisted writing assignment](#)

[Instant AI feedback on students' essays](#)

7. Leverage AI to design different assessment and feedback activities.

**Example:** [Practical activities to leverage AI for engagement and skills development](#)

## MULTIPLE MEANS OF ACTION AND EXPRESSIONS

1. Create low-stake assessments for students to practice before presenting the final performance (i.e. short quizzes as a way to summarize key concepts and assess learning)

**Example:** [Low stakes knowledge check](#)

2. Incorporate self-reflection moment: adding a reflection step at the end of the assignment, or create a separate activity for this purpose

**Example:**

[Self assessment on skills | Reflection moments](#)

[Self assessment learning journey](#)

3. Use different methods to deliver self, peer, and group feedback (video reviews, multimedia annotations, essay, etc.)
4. Combine both formative and summative assessment to both measure student progress and final achievement. Explore more strategies to balance these two assessment practices in [this article](#).
5. Offer students multiple ways to provide feedback, not just limit to text-based comments. Many tools allow for [creating visual or audio feedback](#) (screen-capture, or audio/video recording of comments), which have been well-received by students.
6. Design holistic assessment and feedback rubrics to help learners monitor their own progress effectively and to use that information to guide their own effort and practice.

**Example:** [Assessment and feedback rubric templates](#)

# Appendix

## A. Inclusive education resources

### 1. Inclusive course design rubrics

- a. [The California Community Colleges](#), the largest higher education system in the US, greatly values the role of course design in promoting equitable online learning. That's why the [CVC-OEI Course Design Rubric](#) was published to ensure faculties can craft the most engaging, inclusive, and equitable online courses. This rubric highlights 4 main aspects of course design and how institutions can optimize each of these: Content presentation, Interaction, Assessment, and Accessibility. The first 3 elements are rated according to a 3-point indicator, namely: Incomplete, Aligned, and Additional Exemplary; while the last one – Accessibility is evaluated as either Incomplete or Aligned.
- b. [The Peralta Equity Rubric](#) is a research-based course (re)design evaluation instrument created by Peralta Community College district to help teachers design inclusive, and equitable online learning experiences. It is suggested that this rubric is used in tandem with the CVC-OEI framework.

### 2. [Inclusive pedagogy toolkit](#) – Georgia University

The Center for New Designs in Learning and Scholarship (CNDLS) at Georgetown University creates a holistic inventory on inclusive course design. This guide covers every aspect of curriculum development, from content, pedagogy, assessment, climate, power, and mentorship. Each aspect is accompanied by detailed strategies, reasonings, and practical suggestions.

### 3. [UDL Guidelines](#) from CAST

The website of CAST – the creator of the UDL framework is the place to go when you just get started with this approach. Here you can find:

- A full, updated guidelines of the framework

- A downloadable version of the helpful UDL Guidelines graphic organizer
- A FAQ about the goals, development, organization, and use of the Guidelines.
- A summary of the research evidence used to develop the Guidelines.

#### 4. [Think UDL](#) podcast

Host Lillian Nave investigates the what, why, and how of UDL with her guests, who are designing and implementing strategies in postsecondary settings with learner variability in mind. (Both audio and transcripts are provided.)

Some of our favorite episodes are:

- [Reflecting On A Starfish Difference with Joe Houghton](#)
- [UDL's High Impact Teaching Blueprint with Erin Leif and Lizzie Knight](#)

#### 5. [Novak Education](#)

Novak Education is an organization renowned for designing and delivering high-quality, evidence-based professional development on Universal Design for Learning (UDL), multi-tiered systems of support (MTSS), evidence-based tiered interventions, inclusive practices, and effective leadership practices. On their website you can find plenty of resources on applying UDL in any class setting: from blog posts, infographics, cheat sheets, to books.

## B. The inclusive education checklist: A framework to create a university for all

The inclusive education checklist provides a framework to help you and your institution to create an authentic, inclusive education for all learners, regardless of their backgrounds and needs.

The checklist covers 6 key areas (structure and processes, curriculum design and delivery, assessment and feedback, community and belonging, pathways to success, technology adoption). Technology adoption is separated into a individual table since this category covers more points.

We compiled this checklist based on the following resources:

- [The Inclusive Higher Education Framework](#), created by the University of Hull, University of Derby, Keele University, Staffordshire University and York St John University, aims to highlight the key areas and principles that contribute to inclusive practice across institutions.
- [The Rubric for E-Learning Tool Evaluation](#) presents a framework, with criteria and levels of achievement, to assess the suitability of an e-learning tool for their learners' needs and for their own learning outcomes and classroom context.
- [The CVC-OEI Course Design Rubric](#) was published to ensure faculties can craft the most engaging, inclusive, and equitable online courses. This rubric highlights 4 main aspects of course design and how institutions can optimize each of these: Content presentation, Interaction, Assessment, and Accessibility.
- [The Peralta Equity Rubric](#) is a research-based course (re)design evaluation instrument created by Peralta Community College district to help teachers design inclusive, and equitable online learning experiences.

Criteria	Yes	No	Maybe
<b>Structure and processes</b>			
An inclusive institution will have processes and structures that make sure inclusive practice become part of the culture of the institution.			
Institutional philosophy or mission statements in support of inclusion are developed			

Academics, Professional services teams and students are supported and encouraged to work together to achieve inclusivity.			
Consistent terminology and ways of working are encouraged to be used across the institution to minimize 'mixed messages' where possible			
All study materials are designed to comply with digital accessibility standards (e.g. closed captions, alt-text for images)			
All teaching spaces and facilities are accessible to those with physical disabilities (e.g. step-free access, hearing loops installed, microphones etc)			
<b>Curriculum design and delivery</b>			
An inclusive education requires its curriculum to be relevant to all students, making them feel engaged and motivated to study.			
Students are actively involved in curriculum design, development, and delivery			
Programmes actively consider students' different entry levels and provide timely interventions to ensure all learners have the necessary knowledge and skills to start			
The curriculum offer plenty of opportunities for students to test relevant pre-existing knowledge before introducing new content			
Curriculum design processes enable staff to highlight diverse demographic groups( (e.g. LGBTQIA+/Black/Asian/Disabled researchers, authors, or policy makers)			
Curriculum design supports personalized learning, enabling students to focus on relevant topics of personal interest.			
Teaching staff and students can work together to review teaching materials, and pro-actively point out any language that is not clear and consistent			

The teaching resources are available in appropriate accessible formats in advance of scheduled teaching sessions wherever possible.			
Teaching staff are encouraged to adopt an active, authentic, and accessible teaching approach that accommodates every student			
The curriculum design adopts an authentic and active approach (by using strategies like team-based learning, collaborative learning, problem-based learning, etc.), giving students opportunities to apply their knowledge and skills in real-life situations.			
<b>Assessment and feedback</b>			
Inclusive education requires effective design of assessment and feedback that are mindful of student anxieties and helps students identify their strengths and weaknesses to improve their performance.			
Study programmes are designed to offer students a diversity of assessment modes (formative, summative, low-stakes, high-stakes, etc.)			
Assessments are clearly explained to students through documentation and in-class activities in transparent, consistent, and clear manner.			
Assessments are designed to flexibly address students diverse needs (e.g. students can choose among different formats to demonstrate their learning)			
Grading schemes are designed to clearly linked to the learning outcomes or competencies. This ensures the grading is appropriate and consistent with assessment design			
The teaching staff are supported to provide constructive, focussed, timely, and formative feedback that actively pointing out areas of improvement for students.			
The teaching staff are aware of student anxieties around assessment and feedback, and actively create a supportive culture around assessment, provide clear guidance, and			

offer opportunities for students to voice concerns			
<b>Community and belonging</b>			
Inclusive education should supports a culture that foster a strong sense of community, and belonging among the students, resulting in higher academic success			
All students have access to appropriate support services, while the teaching staff can effectively signpost students to these services where required			
Institutional hiring and admissions processes actively build a diverse community of staff and students			
Programmes are designed to provide opportunities for students to interact socially within structured activities, and student-led communities are supported and encouraged			
All students are encouraged to actively engage in institutional communities and act upon feedback provided through formal and informal channels			
Opportunities are designed to raise students' awareness upon diversity, equity, and inclusive, and to encourage open discourse about students' personal experience and differences			
<b>Pathways to success:</b>			
Inclusive institutions offer all students opportunity to reach their full potential and success in their future career.			
The institution identifies and supports 'At risk' students are systematically identify and supported (e.g. those with low engagement), while providing resources for effective intervention			
Structured tools and resources are provided to support student self-management, self-belief, and aspiration.			
The teaching staff is provided sufficient support to adopt the tools and resources to empower skills development.			

Relevant support and personal development services are provided for all students.			
Teaching staff are trained and supported encouraged to signpost these personal development opportunities to their learners.			
Sufficient career guidance and related schemes are accessible to all students.			
The teaching staff is supported in relating these guidance to the personal ambitions of students			
Programmes are designed to offer all students opportunities to work with employers, develop personal networks and reflect on self development and career goals			
Appropriate external mentorship programmes, networking and self-development opportunities are accessible to all students.			
<b>Technology adoption:</b>			
Creating inclusive education requires the use of appropriate technology that supports the design and facilitation of authentic, accessible, and inclusive curriculum and assessment.			
Ensure the technology can scale to accommodate different class sizes and institutional needs.			
The tool has a user-friendly interface and it is easy for instructors and students to become skillful within a personalized and intuitive manner.			
Campus-based technical support and /or help documentation is readily available and aids users in troubleshooting tasks or solving problems experienced; or, the tool provider offers a robust support platform			
The tool allows users to communicate through different channels (audio, visual, textual) and allows for non-sequential, flexible/adaptive engagement with material			
The tool meets the accessibility guidelines (e.g. local			

accessibility legislation and/or W3C WCAG 2.0 standards)			
The tool is designed to address the needs of diverse users, their various literacies, and capabilities, thereby widening opportunities for participation in learning			
Proper use of the tool does not require equipment beyond what is typically available to instructors and students			
Support for multiple languages and dialects. Availability of sign language support, captioning, and text-to-speech functionalities.			
Use of the tool does not require the creation of an external account or additional login, such that no personal user information is collected and shared.			
Users maintain ownership and copyright of their intellectual property/data; the user can keep data private and decide how data is to be shared			
Users can archive, save, or import and export content or activity data in a variety of formats			
The tool has the capacity to support a community of learning through both asynchronous and synchronous opportunities for communication, interactivity, and transfer of meaning between users			
Instructors can control learner anonymity; the tool provides technical solutions for holding learners accountable for their actions			
The tool can support student-initiated interaction to accommodate a variety of communication styles			
Through the tool, learners can regularly receive formative, real-time, and personalized feedback on learning			
The tool supports the design of holistic, authentic assessment practices			
The technology can easily, flexibly integrate with existing			

curricula and teaching methods, and adapt the content to different educational levels and subjects.			
The tool has easy-to-use features that would significantly improve an instructor's ability to be present with learners via active management, monitoring, engagement, and feedback			
The technology is adaptable to its environment: easily customized to suit the classroom context and targeted learning outcomes			
The technology allows teaching staff to monitor learners' performance on a variety of responsive measures. These measures can be accessed through a user-friendly dashboard			

# Let's drive educational transformation together

In the journey to transform pedagogy, FeedbackFruits wishes to be the institutions' sidekick, and to equip our heroes with the best pedagogical solutions to address your educational challenges and cultivate a quality learning community



Looking for suggestions about inclusive education?

Our specialists can help you find the right strategy and tool to support your use case

[GET IN TOUCH WITH US](#)

