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Inclusive Didactic

UNIVERSAL DESIGN FOR LEARNING IN HIGHER EDUCATION

UDL GUIDELINES FOR PROMOTING INCLUSIVE
PEDAGOGY RESPONSIVE TO STUDENT DIVERSITY

A. Fiorucci, P. Auer, F. Bocci, B. De Angelis, S. Dell'Anna, E. Ghedin,
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[edited by]

Universal Design for Learning in Higher Education

UDL Guidelines for Promoting Inclusive Pedagogy
Responsive to Student Diversity





Italiadomani
PIANO NAZIONALE
DI RIPRESA E RESILIZIENZA

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D.A.N.T.E.-U: A Web-Based Platform for University Faculty Training on UDL

Andrea Fiorucci, Francesca Baccassino

(University of Salento)

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(University of Macerata)

1. The Formative and Generative Function of the Platform

The DANTE-U project has a dual objective: on one hand, to support university faculty in designing teaching experiences that align with the diversity of students' profiles and learning needs; on the other, to contribute to the development of an academic culture of inclusion, capable of translating into sustainable and shared practices. From this perspective, the D.A.N.T.E.-U platform, the project's main output (<https://dante-u.it/>), serves as both a pedagogical mediation tool and a transformative device, conceived not merely as a digital learning environment but as a cultural infrastructure supporting teaching professionalism.

The platform is based on a core principle: continuous, participatory, and reflective professional development, which values self-assessment and progressive improvement. It does not merely provide content or training modules, but aims to promote a professional learning practice grounded in critical reflection, peer comparison, and the experimentation of innovative teaching solutions. In this sense, D.A.N.T.E.-U serves a dual function: formative and generative. Formative, because it guides faculty in discovering and applying UDL principles (multiple means of representation, action and expression, and engagement), offering pathways for professional updating, self-training, and personalized progress monitoring; generative, because it fosters the production and sharing of resources, models, and good practices that enrich the collective teaching knowledge of participating universities and, in the long term, the national academic system as a whole.

Designed as a web-based e-learning environment, the platform features an ac-

cessible and responsive architecture, enabling smooth and immediate interaction without the need for additional software. This design reflects a deliberate pedagogical and political choice: to ensure universal accessibility and usability, so that every faculty member, regardless of digital skill level or access conditions, can benefit from the training tools. Following this inclusive logic, D.A.N.T.E.-U integrates self-assessment and progress-tracking functions, allowing users to monitor their learning journey and reflect on strategies applied in instructional design, using the tools included in this volume.

Simultaneously, the platform hosts a dynamic digital repository that collects teaching materials, tools, and practices organized according to UDL principles. This archive is not merely documentary; it functions as a living space for co-creation and dissemination of pedagogical knowledge. Faculty members can not only access selected and validated resources but also actively contribute, enriching the collective knowledge base with their own experiences, reflections, and tools. In this way, the platform becomes an open, cumulative ecosystem, continuously evolving through the contributions of the academic community, united in a shared commitment to building an inclusive and democratic university.

2. The Faculty Development Perspective

One of the distinctive features of D.A.N.T.E.-U lies in its role in supporting newly appointed faculty, who represent a crucial segment for transforming university teaching practices. The platform offers methodological support pathways that allow the translation of pedagogical research findings into effective operational strategies, facilitating the shift from theory to classroom action. This fosters the emergence of a new generation of faculty who are aware and capable of integrating universal design principles into the construction of learning experiences that embrace student diversity as a resource rather than a constraint.

The theoretical and operational structure of the platform revolves around a series of strategic objectives reflecting a progressive action-research logic. A particularly relevant aspect concerns its connection with Teaching and Learning Centers (TLCs), which are already well-established in numerous European and international universities. D.A.N.T.E.-U aims to engage in dialogue with these structures while guiding the creation of cross-university models for centers of teaching innovation, capable of fostering inter-institutional collaboration and the dissemination of evidence-based good practices. The ultimate goal is to build a

shared and scalable framework for university faculty development, serving as a lever for the continuous improvement of teaching and learning quality.

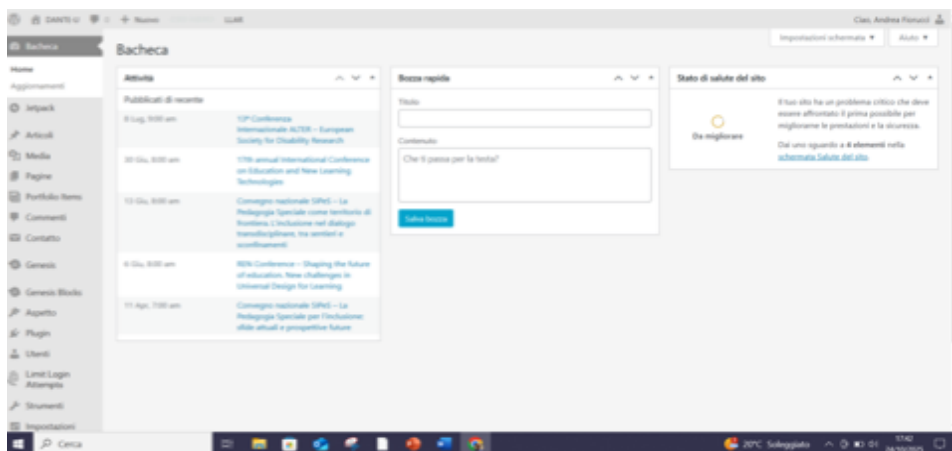
From a broader perspective, the platform is not limited to providing technical or methodological training; it seeks to generate cultural change within the academic community. In line with the epistemological framework of UDL, the platform intends to promote the creation of a reflective and competent university community, populated by students and faculty capable of self-regulation, collaboration, and awareness of teaching-learning processes.

For students, this could translate into expanded learning opportunities for non-traditional populations, reduced inequalities in access and participation, increased satisfaction, and improved learning outcomes. For faculty, the platform offers the opportunity to develop a critical awareness of their teaching practices, acquire advanced skills in the inclusive use of digital technologies, and enhance their ability to guide students through personalized learning pathways, in accordance with universal design principles.

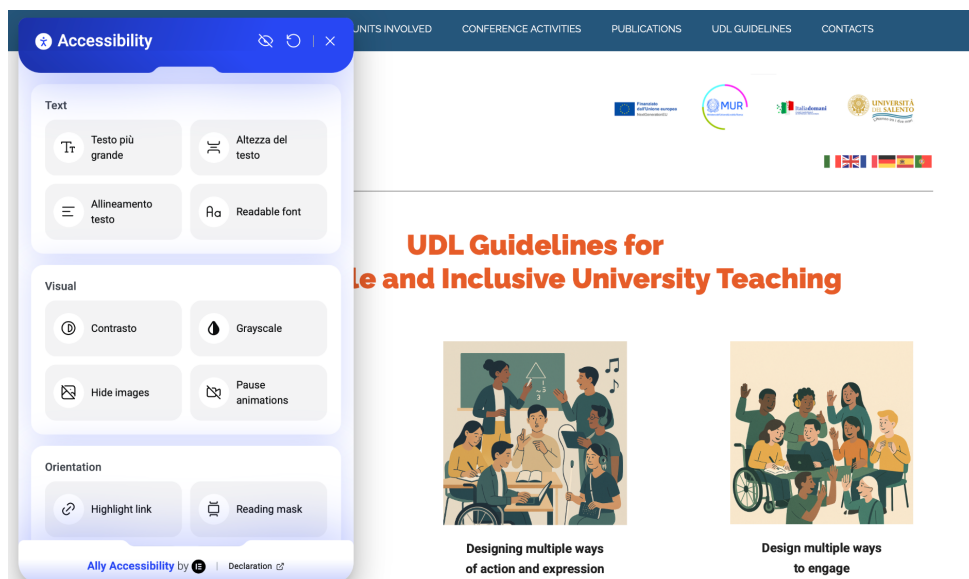
In conclusion, D.A.N.T.E.-U is configured as a pedagogical innovation laboratory that combines research, training and technology in a transformative perspective. It is not merely a technological product but a process of collective cultural construction.

3. Platform Architecture and Content

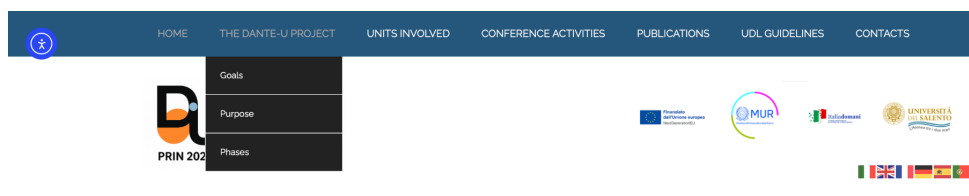
The platform was conceived as a digital environment built on a WordPress LMS, designed to embrace and enhance the principle of accessibility in all its forms. From its very foundation, it has been developed to ensure a truly inclusive experience, capable of adapting to the diverse needs of its users.



Every aspect, from layout to navigation, has been carefully designed to ensure high readability, compatibility with screen readers, and particular attention to different modes of visual perception. The platform also includes the possibility of simultaneous translation of content into multiple languages, thereby enabling broad and intercultural accessibility.



The platform is not merely a space that gathers information about the project—its objectives, purposes, and development phases—but also a place that narrates the collective work of the research group, fostering dialogue among the five participating universities and showcasing the richness of the research and dissemination activities carried out throughout the project. Each section is designed not only to highlight the results but also to convey the sense of an academic community that shares practices, tools, and reflections on inclusion.



UDL Guidelines for Accessible and Inclusive University Teaching



Designing multiple ways of representation



Designing multiple ways of action and expression



Design multiple ways to engage

At the core of the platform lie the UDL (Universal Design for Learning) Guidelines, in the updated 2024 version developed by CAST. Here, a tripartite structure takes shape, reflecting the three foundational principles of UDL. For each principle, the corresponding guidelines are presented alongside interpretative reflections that highlight their significance and potential application within the university context. Each guideline is accompanied by practical suggestions for faculty members—serving as prompts and sources of inspiration for designing courses, communicating content, assessing learning, and interacting with students in more equitable and accessible ways.

UDL Guidelines for Accessible and Inclusive University Teaching



Designing multiple ways of representation

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Designing multiple ways of action and expression

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Design multiple ways to engage

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The platform's purpose is not to impose a single or prescriptive model, but rather to propose an open and flexible framework—one that can be adapted to different disciplinary fields and institutional contexts. Each faculty member and academic environment can find in this space a pathway to follow or reinterpret according to their own needs, within a perspective of ongoing evolution and experimentation.

What brings the platform to life are also its in-depth materials: textual and multimedia resources, scholarly articles, examples of teaching practices, questionnaires, digital tools, and software for inclusive design. This is a dynamic and evolving repository, conceived to offer both faculty and students not only information, but also opportunities for reflection, dialogue, and research.

Designing Multiple Means of Action and Expression

The principle of action and expression emphasizes the importance of **recognizing each student's different learning styles**, allowing them to freely choose the means of expression that best suits their preferences and cognitive and learning styles. In the university setting, this involves **co-constructing accessible and inclusive environments**, supported by universal technologies and tools that help students express what they know. **Information and communication technologies (ICT)** are today essential not only for promoting access to learning, but also and above all for increasing student inclusion, participation, and motivation. By considering student diversity in terms of cognitive styles, interests, and modes of expression, ICT can facilitate **equitable teaching**, enhancing the individual skills already possessed by students.



Design Options for Interaction

This sub-principle focuses on designing flexible modes of interaction that foster personal expression and accessibility to content. Learning spaces, whether physical or digital, must be designed to accommodate diverse forms of interaction and foster inclusive community relationships. Offering choices within learning experiences fosters student motivation and autonomy, valuing their individual resources.

CONSIDERATIONS

You are here: [Home](#) / [Interaction Options](#)

Interaction options

Student interaction methods vary based on context and teacher requests; therefore, teaching methods must be flexible, open to peer and teacher interaction, encouraging personal expression and accessible content. Learning spaces, whether physical or digital, must be designed to accommodate different forms of interaction and foster inclusive community relationships. Offering choices within learning experiences fosters student motivation and autonomy, valuing their individual resources.

4.1 Vary and respect response, navigation and movement methods

4.2 Optimize access to accessible materials and universal and accessible technologies and tools

U di:

Examples:

- **Co-design workshop with students** : At the beginning of the semester, the instructor gathers students' needs and preferences regarding materials, study methods, and communication, using the information they gather to tailor the course.
- **Diversification of assessment methods** : Students are offered the possibility of choosing between different forms of final exam (essay, presentation, podcast, concept map, multimedia project, or simulation), all assessed according to equivalent quality criteria.

Resources

Risorse:

- App di realtà aumentata:
- <https://www.jig.com/>, ideale per studenti STEM, design industriale, medicina. 
- <https://edu.assemblrworld.com/>, ideale per docenti universitari, presentazioni interattive, storytelling accademico.
ASSEMBLR | EDU
- <https://www.geogebra.org/>, matematica, ingegneria, architettura  GeoGebra Software |
- <https://human.biodigital.com/>, ideale per medicina, fisioterapia, scienze motorie, infermieristica. 
- Video, software per presentazioni: <https://www.canva.com/>, genial.ly, <https://prezi.com/>. 
- Strumenti per la creazione di podcast: podcasters.spotify.com, <https://www.audacityteam.org/>, <https://podcastle.ai/>. 

In this way, the platform takes shape as a true ecosystem of inclusion, where technology meets pedagogy and research engages in dialogue with practice. It is not merely a repository, but an open, interactive, and shared space that evolves alongside the community that inhabits it.