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Inclusive Didactic

UNIVERSAL DESIGN FOR LEARNING IN HIGHER EDUCATION

UDL GUIDELINES FOR PROMOTING INCLUSIVE PEDAGOGY RESPONSIVE TO STUDENT DIVERSITY

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Universal Design for Learning in Higher Education

UDL Guidelines for Promoting Inclusive Pedagogy Responsive to Student Diversity

Pensa MultiMedia

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To the young talents of the project,
whose enthusiasm and forward-looking vision
have inspired new horizons of knowledge
for a university of the future
one that welcomes, transforms, and enables growth and flourishing.

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Universal Design for Learning as a driver of inclusive transformation in Higher Education: toward New Cultures of Difference

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(University of Salento)

1. UDL in Higher education

Although Universal Design for Learning (UDL) was originally conceived and primarily implemented in school settings, in recent years an increasingly extensive and consolidated body of scientific literature has progressively extended its application and theoretical reflection to the university context. At the core of UDL principles lies an epistemological and interpretative approach based on openness to the personalization and diversification of teaching and learning processes. This approach manifests not only in methodological and procedural tools but also in attitudes and representations aimed at promoting a transformation of the university from an elitist and selective environment into a welcoming, democratic, and accessible context for an increasingly heterogeneous and diverse student population.

Although still slow and partial, the dissemination of UDL research and experimentation in higher education appears closely linked to the now unavoidable need to rethink the university itself—not as a self-contained, static, and self-referential institution, but as a dynamic ecosystem capable of engaging with the profound sociocultural changes that characterize contemporary societies. These transformations, made possible in part by the democratization of culture and education, have revealed the presence in university classrooms of a multiplicity of learning needs, sociocultural backgrounds, and conditions of access to knowledge, which require inclusive, flexible, conscious, and diversity-respecting instructional design.

Alongside this cultural openness, structural and organizational resistances per-

sist and slow down widespread adoption: the complexity of the university setting, characterized by often non-institutionalized course design timelines and a high degree of faculty autonomy, combined with the rapid pace of educational processes and the absence of shared models for instructional innovation, makes systemic implementation of UDL principles more difficult. This highlights the urgency of directing transformative interventions in higher education toward a strategic investment in faculty development, fostering training and mentoring processes aimed both at current faculty and, especially, at the next generation of academics.

Within this perspective, the DANTE-U Project of Relevant National Interest, of which these guidelines represent one of the most significant outcomes, has placed particular emphasis on the university context, identifying three main areas of challenge and innovation:

– valuing UDL in universities as an educational response to the growing diversity of the student population, which can no longer be reduced to the "standard" or "average" student;
– adopting UDL as a perspective capable of improving the quality of teaching and learning processes, promoting a reflective and inclusive approach for both students and faculty;
– applying UDL in the context of faculty development, understood as a strategic lever for professional growth and cultural transformation within the university.

These three thematic cores thus constitute the main areas of focus for providing a meaningful framework and interpretative horizon within which to situate the actions and project outcomes presented in the following sections.

2. The fragility of the average Student Model: from the norm to human variability in learning

For a long time, inclusion was interpreted within the boundaries of a predominantly compensatory paradigm, aimed at implementing simplification measures and corrective strategies to enable learners with special educational needs to approximate a normative educational model, ideally embodied by the "average/standard student." However, from a UDL interpretative perspective, it becomes

evident that such a view is not only reductive but also profoundly inadequate for understanding the complexity of contemporary learning contexts. UDL overturns the "deficit-oriented" logic, recognizing difference not as a deviation to be contained or corrected, but as a generative resource that, if properly valued, can drive innovation and quality for the entire academic community.

Given that UDL builds its theoretical architecture on the proactive and intentional design of flexible, dynamic, and universally accessible learning environments, it is clear that this perspective allows for overcoming the persistent notion of homogeneity among student profiles, ensuring equal opportunities for participation and academic success regardless of learners' biographical, cognitive, and experiential characteristics. In this sense, interindividual variability is no longer considered an exception to manage, but a constitutive condition of every educational process (Rose & Meyer, 2006; Fornauf & Dangora Erickson, 2020).

This approach becomes particularly significant when considered in light of the historically documented transformation of the university student population. As noted by Choy (2002), for a long time, university students shared common characteristics: direct access to higher education after a linear and successful school trajectory, origins in privileged socioeconomic contexts, stable residence in the university city, and full-time dedication to studies. Mass access to tertiary education and profound social, political, and economic transformations in the postwar period, however, have substantially altered this profile: students without privileged backgrounds have progressively become the norm (Devlin, 2010; Ogren, 2003).

The term non-traditional student, although conceptually fluid and contextually variable (Bell, 2012), is now widely used in the literature to refer to students who do not identify with the traits of the traditional student. This interpretative category is complex and multidimensional, encompassing a plurality of biographical, social, and educational conditions that significantly influence learning trajectories, participation processes, and the sense of belonging to the academic environment.

Among the main dimensions defining this category, the literature identifies: being first-generation (Thomas & Quinn, 2007; Romito, 2021), the need to balance work and study (Callender, 2008; Triventi, 2014), age over 25 (Christie, 2009; Norris, 2011), and residential status, which may involve commuting or living with family (Jarvis, 2005; Hauschildt et al., 2021).

Within the DANTE-U project, these key dimensions of non-traditionality were considered to interpret the various trajectories through which students experience and give meaning to university life:

- *Parenthood*. The dimension of parenthood challenges universities to accommodate and support students who experience maternity, paternity, or pregnancy during their studies. Such experiences affect time management, attendance, and continuity of learning, making the reconciliation of family responsibilities and academic commitments a crucial domain for inclusive and flexible policy design.
- *Work.* The student-worker condition represents one of the most common forms of non-traditionality, as it introduces variables related to the type and stability of employment, contractual arrangements, and time compatibility between work and study. Balancing these spheres generates complex dynamics that influence learning rhythms, participation in academic activities, and overall student well-being, requiring universities to adopt organizational and pedagogical models that promote flexibility, recognition of prior skills, and continuity in study paths.
- *Socio-linguistic-cultural disadvantage.* The socioeconomic, cultural, and linguistic level of the family of origin represents another axis of student diversity. Educational and cultural capital inequalities intersect with national or international origin, creating situations of disadvantage that may affect access, retention, and academic success. Added to these are language barriers, which can limit comprehension of disciplinary content, active classroom participation, and full inclusion in academic dynamics. Universities are thus called to develop support and mediation mechanisms that value diverse backgrounds and uphold the right to equitable study conditions.
- *Special educational and learning needs.* An additional layer of complexity concerns the presence of special educational needs, including disabilities or specific learning and attention disorders. These situations may involve varying degrees of emotional and relational vulnerability, alongside the potential use of assistive technologies for communication, mobility, or personal autonomy. Universities are therefore tasked not only with providing compensatory or technical support measures but also with fostering a culture of widespread accessibility, aimed at removing educational and organizational barriers and recognizing diverse ways of learning, participating, and representing oneself in the academic context.
- *Double enrollment.* Concurrent enrollment in multiple academic programs—such as different undergraduate degrees, postgraduate programs, doctoral studies, or artistic and musical institutions—represents another form of non-traditionality. This reflects complex educational choices and a high degree

of study and organizational commitment but may also expose students to overload and fragmentation of experience. Understanding these dynamics allows insight into the relationship between multidirectional learning, the sustainability of commitments, and personal efficacy perception.

– *Student-athletes.* Student-athletes represent a particular type of non-traditional students, as they must reconcile dual pathways of sporting and academic development, involving specific temporal, logistical, and psychological constraints. The dual career requires universities to provide recognition and support mechanisms that ensure compatibility between athletic commitments and higher education, promoting flexible organizational models, personalized pathways, and assessment sensitive to their needs.
– *Caregiving.* Student caregivers, defined as those engaged in ongoing or periodic care of family members, constitute an emerging variable in university inclusion, as it has significant implications for time management, attendance, individual study, and participation in extracurricular or international mobility experiences. This highlights the importance of academic policies attentive to role reconciliation and students' psycho-social well-being.
– *Commuting and off-campus status.* Commuting or living off-campus profoundly affects the quality of university life, presenting economic, logistical, and relational challenges that impact daily organization, time management, and integration into the academic community. Access to adequate housing, cost sustainability, and cohabitation dynamics influence not only retention but also students' sense of belonging and emotional stability.

Although the literature has documented the specific challenges faced by such students—from institutional barriers related to schedules and bureaucratic procedures, to situational barriers of an economic or organizational nature, and dispositional barriers linked to self-perception as learners (Bell, 2012)—universities still tend to structure themselves around an implicitly normative model favoring linear trajectories, thereby excluding or marginalizing non-standard biographical paths. Consequently, non-traditional students are often forced to negotiate their academic identity within frameworks that inhibit their potential, favoring passive adaptation rather than authentic expression and recognition of prior competencies.

However, adopting the UDL paradigm as a transformative framework reframes differences not as obstacles but as real-world data upon which to build inclusive learning environments. A university that seeks to overcome the rigidity of lec-

ture-based instruction and the standardization of pathways, structuring itself as an open, flexible context oriented toward the development of expert learners - autonomous, strategic, self-regulated, and intrinsically motivated - would be able to synergistically value both traditional and non-traditional students. This approach promotes not only equity but also educational excellence, as recognizing diversity becomes an enabling mechanism that allows all students to demonstrate high-level competencies along trajectories that, although sometimes non-linear, remain profoundly meaningful.

Ultimately, when student variability is acknowledged as a structural rather than exceptional condition, the integration of UDL and inclusive education extends beyond meeting the needs of the most vulnerable, emerging instead as a systemic strategy to ensure equity, well-being, and the development of human potential in all its forms, with particular attention to biographical profiles that, precisely because they diverge from the norm, are paradigmatic and transformative of contemporary complexity.

3. UDL: Principles and Guidelines

Based on contributions from cognitive neuroscience and developmental psychology, the UDL approach has gradually established itself in contemporary education as one of the most innovative and promising theoretical-practical models, due both to its conceptual robustness, grounded in empirical evidence, and to its capacity to promote widespread, transversal, and systemic educational interventions capable of impacting the entire instructional architecture (Murawski & Scott, 2021).

Inspired by the logic of architectural universal design, this approach pursues a dual objective: 1) on one hand, to support the development of "expert learners", who are not only able to acquire and process information, but also to transform it into functional, applicable, and transferable knowledge through metacognitive, reflective, and self-regulated processes; 2) on the other hand, to encourage educators to critically reconsider their pedagogical practice, guiding them toward the intentional construction of learning environments that, from the very design phase, incorporate multiple means of content representation, active student engagement, and diverse modes of knowledge expression.The theoretical framework of UDL, structured as a highly flexible and networked system, unfolds across three core principles, nine guidelines, and numerous practical recommendations,

recently reorganized (Figure 1 – CAST, 2024). It functions as a pedagogical matrix capable of supporting, in a systemic way, the creation of educational contexts in which interindividual variability is considered a structural starting point for re-thinking the entire teaching design.

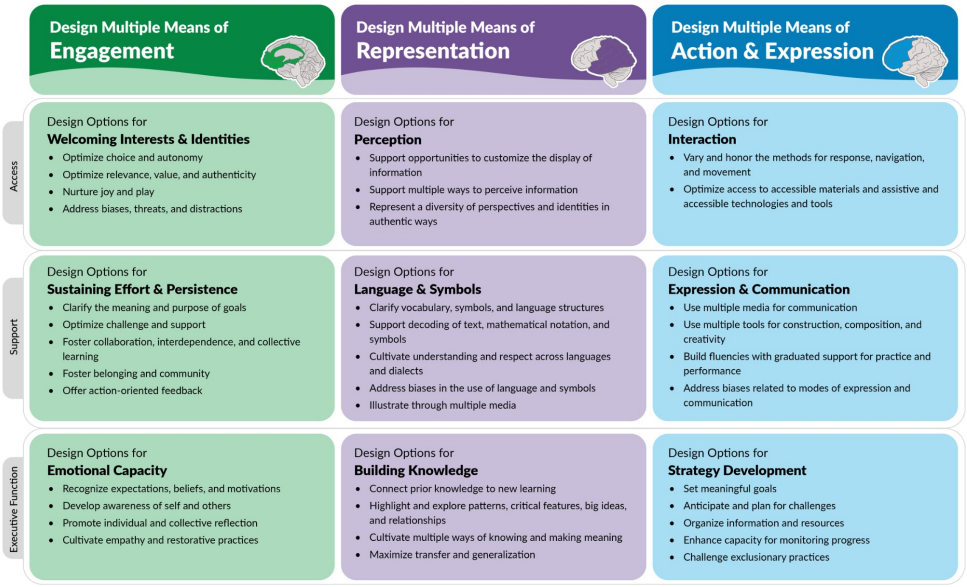

Figure 1. Universal Design for Learning Guidelines, Version 3.0 [graphic organizer]. Lynnfield, MA: Author

Within this framework, UDL proves particularly effective for both traditional and non-traditional students. Through its openness to flexibility, choice, and the intentional modulation of learning pathways, UDL provides students with the opportunity to express their competencies in creative, divergent, and self-reflective ways, while simultaneously strengthening their sense of agency and active engagement in educational processes.

Although UDL is not designed as a sector-specific model nor as a methodology intended for particular categories of students, but rather as a universalistic and aspirational approach aimed at valuing diversity in all its forms, for explanatory and instructional purposes we will, in the following sections, explore how the three guiding principles of the UDL framework, together with their sub-principles that articulate the corresponding guidelines, can be operationalized to enhance

the student learning experience, promoting personalized, challenging learning embedded within authentically inclusive relational contexts.

3.1 The Principle of Engagement

Promoting motivation and a sense of belonging among university students through informed choices and personalized challenges effectively summarizes the first UDL principle, articulated with particular attention to the needs of non-traditional students.

In the university context, engaging non-traditional students represents a critical challenge for creating truly inclusive learning environments. Students who are parents, workers, commuters, caregivers, athletes, enrolled in multiple programs, or coming from socio-culturally disadvantaged backgrounds navigate pathways characterized by complex biographical and organizational demands, which profoundly affect motivation, sense of belonging, and participation.

In light of this, UDL encourages the design of learning environments and pathways that, through the intentional deployment of differentiated and adaptable strategies, can foster interest, sustain long-term engagement, and promote self-regulation—all essential elements for deep and self-determined learning.

Through the three guidelines that articulate the Engagement principle, as outlined below, an operational framework emerges in which every student can be recognized and valued in their uniqueness, supported in becoming an expert, strategic, and determined learner.

– **Designing options to welcome interests and identities**

Recognizing and valuing the multiplicity of student identities and interests is essential for promoting authentic engagement in higher education. Traditional students, often more aligned with institutional temporal and organizational models, require pathways that acknowledge the variety of their cognitive, motivational, and cultural styles. Conversely, non-traditional students bring professional, familial, linguistic, or biographical experiences that, when properly integrated into the learning process, can constitute valuable educational and relational resources.

Designing options to welcome interests and identities therefore means creating environments in which each student can see themselves reflected in the con-

tent and activities, fostering authentic learning and a sense of belonging. This entails teaching that is open to the pluralism of languages and perspectives, where participation stems not from adherence to a single model but from the opportunity to bring one's own history, competencies, and meanings into the academic sphere.

– **Designing options to support effort and perseverance**

The Engagement principle requires instructional design to include strategies aimed at maintaining motivation over time, supporting the effort and perseverance of students with diverse educational trajectories and life circumstances. For traditional students, this may involve offering challenging tasks, constructive feedback, and clear progression pathways that generate satisfaction and a sense of competence. For non-traditional students, supporting perseverance is even more complex, as extra-academic variables (work, caregiving, commuting, financial vulnerability) may threaten continuity in engagement.

Designing options to support effort thus entails the adoption of flexible and adaptable tools, such as intermediate goals, personalized pathways, asynchronous modes, and formal recognition of acquired competencies. The combination of proportionate challenges and adaptive supports helps sustain motivation, fostering resilience and self-efficacy. In this perspective, perseverance is no longer understood as mere resistance to effort but as conscious and self-determined participation in a growth trajectory aligned with one's possibilities and aspirations.

– **Designing options for the regulation of emotions**

University learning is deeply intertwined with the emotional dimension, which influences the quality of engagement, self-confidence, and the capacity for self-regulation. Traditional students often experience anxieties related to performance, judgment, and peer comparison, whereas non-traditional students face more complex emotional dynamics, linked to the reconciliation of roles, isolation, feelings of inadequacy, or difficulties readapting to formal learning contexts.

Designing options for emotional regulation entails recognizing the centrality of affective experience and providing support tools that help channel emotional energy toward learning. Strategies such as formative feedback, metacognitive reflection moments, community-building practices, and the conscious use of communication technologies can facilitate the creation of a climate of trust and psychological safety.

3.2 The Principle of Representation

Within the UDL framework, the principle of Representation is based on the assumption that each student accesses, processes, and internalizes information differently, influenced by a multitude of cognitive, affective, cultural, and biographical factors that shape their individual learning style. This perspective is particularly relevant for non-traditional students, whose educational experiences are often characterized by heterogeneous trajectories, interruptions, skills acquired in non-formal or professional contexts, and life circumstances that profoundly impact the accessibility and meaningfulness of academic content.

For this student population, truly inclusive instructional design cannot be limited to material simplification or mere technical accessibility; it must encompass multiple representation strategies, integrating verbal, visual, graphic, auditory, and digital codes into a coherent and stimulating framework. The goal is to make content not only available but also cognitively and culturally accessible, allowing each student to relate to the languages and forms of university knowledge.

For example, working students, parents, commuters, caregivers, or those from socio-linguistically disadvantaged backgrounds require flexible representation pathways that accommodate different learning times and modes: multimodal materials available asynchronously, accessible video lectures, visual summaries and concept maps, interactive digital tools, and customizable audio or textual resources. These tools help overcome the rigidity of traditional transmissive models and enable participatory and self-directed learning, in which students can construct meaning based on their own experiential background.

Through the three guidelines that articulate the Representation principle, both traditional and non-traditional students can be supported in authentic learning, promoting equitable access, deep understanding, and the transformation of knowledge into generative competence, allowing each student to become an active and aware participant in their university education.

– **Designing options for perception**

No meaningful learning can occur if information is not perceivable clearly and in ways that align with students' characteristics, schedules, and life circumstances. This is particularly important for non-traditional students, who often need to manage learning in fragmented contexts due to work, family responsibilities, or logistical constraints. They therefore require flexible, multimodal, and adjustable instructional materials.

Providing perceptual options means offering multiple pathways to access content: adaptable digital texts, subtitled videos, downloadable podcasts, accessible slides, and materials in audio or visual formats, with possibilities for customization (text size, contrast, playback speed). Such solutions reduce cognitive load and enable students to integrate learning into their daily routines.

– **Designing options for language and symbols**

Language and symbols are primary mediators of academic knowledge, but they can also constitute significant barriers to comprehension and inclusion. For instance, non-traditional students from diverse socio-linguistic and cultural backgrounds may struggle with specialized terminology, disciplinary codes, or the communicative conventions of the academic environment.

Designing options for language and symbols involves deconstructing the rigidity of academic discourse, making content more accessible without diminishing its substance. This includes the use of disciplinary glossaries, concept maps, infographics, visual schemas, subtitles, translations, and spaces for linguistic clarification and dialogue. The integration of multimodal channels (textual, visual, symbolic, digital) helps students navigate meaning, reinforcing understanding through parallel and complementary codes. For non-traditional students, this approach promotes cultural access to knowledge, enhances a sense of belonging, and reduces the symbolic distance between academic knowledge and life experience. Language thus shifts from a potential tool of exclusion to a vehicle for cognitive equity, capable of embracing diverse learning pathways and identities.

– **Designing options for knowledge construction**

Perceptual and linguistic accessibility is only the entry point to university learning; the true educational goal is to guide students in active, personal knowledge construction, where content is understood, processed, and transferred to meaningful contexts.

For non-traditional students, this process is often influenced by prior experiences, professional skills, and social or familial roles that shape their perception of knowledge. Inclusive instructional design must recognize and leverage these non-formal and informal knowledge assets, transforming them into a springboard for academic learning.

Approaches such as active learning, problem-based learning, service learning, and the use of authentic cases enable the connection of theory to experience, strengthening motivation and self-efficacy. The university thus becomes a gener-

ative environment, where academic and experiential knowledge intertwine, allowing each student to construct meanings aligned with their personal biographical trajectory.

3.3 The Principle of Action and Expression

This principle is grounded in the recognition of interindividual variability in how students engage with learning environments, tackle cognitive challenges, and translate acquired knowledge into communicable forms. It explicitly refers to the activation of the brain's strategic networks, which are responsible for organization, planning, and the execution of actions, and therefore for the operational expression of learning.

This perspective is particularly relevant for non-traditional students, who bring a variety of experiences, skills, and communicative habits developed in professional, familial, or social contexts outside the academic sphere. For these students, the challenge often lies not in understanding content, but in translating knowledge and skills into forms of expression compatible with university codes and timelines. Standardized assessment practices, predominantly based on written output or oral presentation, risk penalizing these "alternative" forms of competence, rendering talents and situated learning less visible.

The UDL approach therefore encourages the multiplication of expressive and communicative pathways, giving each student the opportunity to choose the channel that aligns best with their cognitive and biographical identity. Working students or caregivers, for example, may find it easier to demonstrate competencies through applied projects, case studies, simulations, or multimedia narratives, leveraging their professional and relational experiences, while students from sociolinguistically diverse backgrounds may benefit from visual or performative assessment modes, emphasizing conceptual clarity and authenticity over mastery of specialized language.

– **Designing options for interaction**

In the university context, designing options for interaction is essential to ensure that all students—traditional and non-traditional alike—can not only acquire knowledge but also actively participate in knowledge construction, expressing competencies, experiences, and individual perspectives. For non-traditional students, who often balance academic study with work, family, or caregiving respon-

sibilities, interaction cannot be conceived as a singular, synchronous experience; instead, it must take the form of a flexible, dialogic ecosystem that adapts to diverse schedules, spaces, and life rhythms.

In this perspective, the intentional and critical integration of digital technologies is not merely a technical support but a lever for participation. Accessible e-learning platforms, asynchronous discussion forums, collaborative tools (such as Padlet, Miro, or Google Workspace), and immersive simulation environments enable students to interact with content, peers and faculties in personalized ways, fostering active, reflective, and co-constructed learning.

For working or commuting students, asynchronous access to resources and the ability to contribute via personalized digital outputs (videos, presentations, audio comments, or visual notes) expands participation and valorizes diverse expressive languages. Similarly, for students from heterogeneous socio-linguistic contexts, technology can serve as a mediating channel, reducing communication barriers and strengthening a sense of belonging and visibility. In this vision, interaction is not merely a means of exchange but a constitutive dimension of student subjectivity, a space where each individual can engage their skills, identity, and professional or cultural expertise to build community.

– **Designing options for expression and communication**

Designing options for expression and communication addresses the need to ensure equitable opportunities to represent and share knowledge, through multiple and complementary tools capable of valuing the diversity of cognitive and communicative profiles.

For non-traditional students, often bringing professional, relational, and intercultural experiences, the opportunity to express competencies via alternative communicative forms is a key factor in motivation and success. Alongside academic writing and oral discussion, it is crucial to provide multimodal channels such as podcasts, video presentations, infographics, digital learning artifacts, reflective portfolios, or collaborative projects. These tools not only broaden expressive possibilities but also allow students to translate personal experience into academic knowledge, strengthening the connection between theoretical knowledge and lived practice.

– **Designing options to develop strategies**

Within the UDL framework, fostering executive functions—the ability to plan, monitor, adapt strategies, and self-regulate—is a central dimension of the

Action and Expression principle. For non-traditional students, who often manage complex roles and responsibilities, these skills are essential to maintaining motivation, organizing study, and sustaining active participation over time. Instructional design should therefore provide tools and practices that facilitate self-regulation and strategic learning management: digital planners, shared study maps, digital portfolios, progress monitoring systems, and frequent formative feedback. These resources help students maintain direction in their learning trajectory, develop metacognitive awareness, and cultivate a growth mindset (Dweck, 2006).

For students dealing with commuting, caregiving, or work responsibilities, such tools allow effort to be distributed over time, preventing dropout and fostering resilience. In this perspective, faculties assumes the role of a strategic facilitator, who not only transmits knowledge but also guides students in constructing effective learning routines, managing cognitive load, and self-assessing their strategies.

In this sense, the UDL principle does not merely diversify modes of expression but aims to develop strategic, self-regulated learners capable of acting intentionally on their learning. For non-traditional students, this translates into transforming fragmented experiences into a coherent, goal-oriented pathway, where flexibility is paired with effectiveness and competence emerges as a form of personal and professional self-determination.

4. UDL as a Faculty Development approach

Socio-economic changes over recent decades have profoundly impacted the composition of the university student body, driving an irreversible shift from elite environments to global and diverse learning contexts inhabited by a wide range of traditional and non-traditional students, characterized by heterogeneous social and cultural backgrounds. These shifts manifest in complex subjective experiences and diverse life circumstances (e.g., parenting, employment, caregiving, disability). Consequently, as previously discussed, the university—historically perceived as an impregnable bastion of knowledge, or, as described in the literature, "as an instrument of social inequality and reproduction" (Stentiford & Koutsouris, 2022, p.1)—cannot avoid fully embracing its educational responsibility, reconsidering rules, content, methods, and course structures to better align with the unique life situations, disadvantages, or vulnerabilities of its students.

No longer a *turris eburnea* separated from its context (Bombardelli, 2016), the entire academic community must adapt to such variability. As early as 1998, UNESCO, through the *World Declaration on Higher Education for the Twenty-First Century*, emphasized the crucial role of universities in shaping potential pathways for change and development through diversified educational models and organizational, administrative, and pedagogical flexibility. Such approaches are essential to ensuring, on a basis of equity, access to higher education, persistence in studies, and active participation in academic life for every student (Coyne et al., 2012). In contrast, standardized, rigid, and conventional educational offerings—modeled on an "average" student archetype—fail to guarantee either quality or engagement, instead posing risk factors for failure, dropout, and exclusion.

Universities must therefore promote faculty development, supporting faculties in acquiring pedagogical, methodological, and digital teaching competencies, while also incentivizing processes and systems for evaluating teaching performance. Pedagogical-methodological contributions are crucial for driving such change (Serbati & Felisatti, 2022). Faculty development, often operationalized through Teaching and Learning Centers (TLCs), provides both the epistemological framework and organizational context for this transformation.

Recognized as an effective catalyst for change (Murawski & Scott, 2021), UDL aligns perfectly with a proactive and flexible pedagogical framework, where the universality of methodological proposals ensures recognition of differences and genuine accessibility in learning processes. Despite many faculties acknowledging the value of inclusive teaching strategies, the literature highlights a significant gap between theoretical awareness and practical application of UDL methodologies (Gawronski et al., 2016; LaRocco & Wilken, 2013; Lombardi et al., 2015; West et al., 2016).

Limited implementation of UDL is attributed to several challenges, including insufficient knowledge of UDL among faculty, lack of adequate training, and scarce resources for integrating inclusive strategies into university teaching (Dallas et al., 2016). Structural and institutional factors further affect adoption: insufficient support from the university, lack of suitable instructional materials, and limited time to redesign curricula for inclusivity are significant barriers (Lombardi et al., 2011; Lombardi & Murray, 2011; Raue & Lewis, 2011).

Despite this persistent gap between inclusive principles and transformative practices, literature identifies UDL adoption, combined with conscious use of accessible technologies, as a strategic lever for change. A crucial variable is faculty training, both pre-service and in-service, in inclusive education and UDL—an

essential condition to translate inclusion principles into sustainable, systemic teaching practices. Traditional academic training often focuses on disciplinary knowledge and research skills, frequently overlooking the "hot and invisible" pedagogical and relational dimensions of teaching. In this context, faculty development emerges as a key driver of teaching innovation and inclusion (De Rossi & Fedeli, 2022), contributing not only to higher teaching quality but, above all, to the creation of student-centered, inclusive learning environments.

Systematic, continuous faculty development—conceived as a foundational element—becomes a strategic lever for activating cultural and organizational change in academic institutions. This integrated training approach rests on three interdependent dimensions: pedagogy, personal and professional development of faculty, and the evolution of the academic organization as a whole (De Rossi & Fedeli, 2022; Lewis, 1996; Lotti & Lampugnani, 2020).

For inclusion to become a defining feature of the university's identity and mission, institutions must take active and distributed responsibility in designing and implementing structured educational policies that create accessible learning environments for all students. In recent years, there has been growing international interest in designing, implementing, and evaluating programs specifically aimed at including non-traditional students (Cunningham, 2013; Garrison-Wade, 2012; Getzel, 2008; Madriaga et al., 2010; Redpath et al., 2013). Literature analysis identifies three key directions confirming the strategic value of faculty development for promoting genuinely inclusive university environments:

1. *Being informed: awareness is the first step toward inclusion.* Faculty must possess updated knowledge of non-traditional students' rights and relevant curricular adaptation policies. Inclusion cannot rely solely on individual goodwill; it requires awareness of the legal and institutional framework governing inclusive policies. Well-informed faculties capable of recognizing and applying necessary curriculum adjustments help dismantle structural and cultural barriers (Fuller, Bradley & Healey, 2004).
2. *Being trained: developing professional skills to design flexible and inclusive teaching.* Training must translate into operational competence. Effective programs not only transfer knowledge but also cultivate practical skills and an inclusive mindset. Faculties who participate in UDL or inclusive education courses report acquiring tools to adapt programs, design accessible environments, and respond confidently to student needs. Importantly, these adaptations benefit the entire student population, not only non-traditional students, underscoring

the universalistic nature of inclusive teaching (Gorard et al., 2006; Pliner & Johnson, 2004). Several authors therefore advocate for mandatory inclusion training for all university faculty (Morina et al., 2015). However, in practice, faculties who most need such training are often the least involved, as these programs remain largely optional. Universities must reconsider training policies, integrating inclusion content into initial teacher education and designing interventions capable of engaging a broad, diverse audience.

3. *Being aware: training as a means of transforming attitudes.* Well-structured training has a profound impact on faculties' attitudes toward students. Research shows that increased sensitivity to non-traditional students' needs correlates with improved teaching practices, educational relationships, and professional engagement (Davies & Houghton, 2013; Lombardi, Murray & Gerdes, 2011; Murray & Gerdes, 2011; Schelly, Davies & Spooner, 2011). Emotional aspects of educational relationships are also central: in one study, students highlighted faculty availability, care, and positive attitudes as critical to their academic success (Stein, 2014). These findings reinforce the idea that, alongside effective methodologies, students need to feel welcomed and recognized as active participants in the educational process.

In conclusion, faculty development represents not only an opportunity for professional growth but a strategic investment to transform institutional culture. Awareness campaigns, mandatory training policies, and targeted inclusion programs can create a virtuous ecosystem in which knowledge, competence, and awareness integrate to foster a truly inclusive, accessible, and student-centered university-leaving no one behind.

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