

## THE NOVEL EDUCATIONAL MANAGEMENT IN RELATION TO UNIVERSAL DESIGN LEARNING

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### ABSTRACT

*In the context of current transformations and challenges, a new approach is being configured both to the educational process in its essence, and to educational management and leadership, which should facilitate sustainable growth through effective teaching and learning. The fundamental objective of this paper is to highlight the necessary strategies and changes in the field of educational management and leadership that would facilitate the effective a framework developed by the Center for Applied Special Technology called Universal Design for Learning (UDL). This approach claims to improve and optimize teaching and learning and offers educators a structure to eliminate barriers to learning by designing teaching, learning and assessment tools applicable to all students. In this paper, the author firstly analyzes global trends and evolution in education, emphasizing the role of information and communication technologies that profoundly change the educational landscape. Secondly, taking into account recent social and technological transformations, a new type of management is proposed based on the multitude of variables that influence the well-being of all actors involved in the educational process. The research methodology is based on scientific investigation in the specialized literature, through the analysis of numerous articles, studies, indices related to this field, published from 2020 till 2024 and indexed in international databases. A strategic development model for educational organizations, is proposed that aspires to ensure that all parties can participate in meaningful and challenging learning opportunities, ensuring that the challenging changes facing the educational system today will be met with success.*

**KEYWORDS:** *design, innovation, learning, management, well-being.*

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### 1. INTRODUCTION

Current social, economic and environmental transformations based on the development of digital technologies are reconfiguring the educational system. These challenges however, offer countless new opportunities especially in the educational area leading to more efficient and effective learning. The environment is very ambiguous and no safe predictions as to the outcome of these challenging times can be made. On the other hand, it is obvious that educators, students, administrators and schools must be open and prepared to face these challenges in a win-win perspective. Schools can prepare pupils for new forms of employment, which are far more sophisticated since future technologies are unknown and difficult to forecast and foresee.

In this era of rapid change higher education institutions, such as universities, acknowledge the challenge by embracing change and developing novel tools and valuable solutions.

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These approaches involve supporting students to develop new competences and values, focused on critical thinking, resilience, emotional intelligence, diversity and multiculturalism. In addition student well-being has been shown to create the premises for harmonious development, with a well-defined life purpose, oriented towards collaboration, concern for others, empathy and understanding. In an Artificial Intelligence (AI) world, where information and data sets appear to be limitless, it is necessary to update educational curricula and upgrade teaching-learning-assessment processes, within a new framework taking into account the radical transformation of knowledge acquisition employment perspectives.

In this context, educational management must acquire new frontiers and meaning in response to the profound transformations in the educational sphere, accepting innovations and putting the student and his well-being at the center of concerns. The joy of learning and the art of learning are central elements, key elements that cannot be achieved without adequate transformational management and leadership. Thus, the joy of learning (Rantala & Määttä, 2012) is based on a management that favors the following aspects: positive climate, play as a means of knowledge and a source of joy and creative energy, the experience of success, learning - a pleasant activity, the relevance of the contents, creativity and valorization, the voice of students as a continuous source of inspiration and an efficient mechanism of regulation and self-regulation for teachers interested in listening to it, etc.

## 2. CHALLENGES AND TRENDS

Societies are changing rapidly and profoundly, and a series of economic, social and climate challenges are transforming the world we live in.

**Table 1. Challenges of the world we live in**

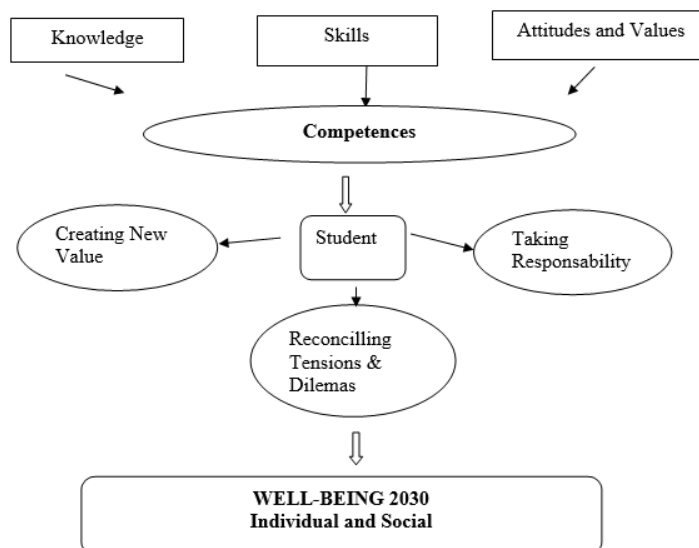
<b>Economic Challenges</b>	<p>Scientific and technological advancements are transforming our world in a substantial way. These innovations inevitably introduce significant concerns in the economic and financial sphere, such as the appearance of new products and consumables, world trade, economic inequality, geopolitical changes, employment, job satisfaction, etc.</p> <p>In light of these developments, new economic, financial and institutional models are emerging that promise better collaboration between governments, the private sectors and international organizations aiming at developing comprehensive frameworks that guide the ethical and equitable integration of emerging technologies.</p>
<b>Social Challenges</b>	<p>Continued growth of global population leads to migration, urbanization, and growing social and cultural diversity. These impact countries and communities in an unprecedented way.</p> <p>Living standards are changing and inequalities are widening in many parts of the world. Populist rhetoric and policies, local and international conflicts, instability, terrorism, threats arising from of international conflict and actual war, vote abstention and apathy, are eroding the limited trust in national governments, which seem incapable of adapting to social and cultural diversity. In addition inequalities in living standards, quality of life and life expectancy, exacerbate further the social inequalities facing our societies.</p>
<b>Environmental Challenges</b>	<p>Resource depletion and climate change impose further impacts on the environment at a local as well as global level.</p>

*Source:* Adapted from OECD (2018, p.3)

Global changes of an economic, social and environmental nature (see Table 1) require profound transformations at every level of governance. Learning models and educational management tools can ensure that these transformations lead to a better life for everybody on our planet, by preparing

students for life, developing their knowledge, skills, competencies, attitudes and values for sustainable development.

Suggestive is the "learning compass" (OECD, 2018), developed by OECD experts, which shows how young people can navigate their lives and their world (Figure 1).



**Figure 1. The OECD Learning Framework 2030**

*Source:* Adapted from OECD (2018, p.32)

By creating well-being on multiple levels, students are able to be part of and develop in a world that changes rapidly and unpredictably.

## 2.1 Educational trends

Many studies have highlighted the evolution of education over the years from education 1.0 to education 5.0. The goal of the latest form of education has always been to use cutting-edge technology to aid the learning process and improve student engagement.

**Table 2. From Education1.0 to Education 5.0**

Education1.0	Education 2.0	Education 3.0	Education 4.0	Education 5.0
<ul style="list-style-type: none"> <li>– Rote learning;</li> <li>– Classroom teaching;</li> <li>– One-size-fits-all;</li> <li>– Lack of technology;</li> <li>– Passive learning.</li> </ul>	<ul style="list-style-type: none"> <li>– Limited use of technology in the classroom;</li> <li>– Limited active learning and collaborative learning;</li> <li>– Engagement in learning activities;</li> <li>– Blended Learning;</li> <li>– Encourages creativity through technology.</li> </ul>	<ul style="list-style-type: none"> <li>– Full integration of technology;</li> <li>– Stronger emphasis on active and collaborative learning;</li> <li>– Flipped classroom approach;</li> <li>– Student-centered learning;</li> <li>– Proactive learning;</li> </ul>	<ul style="list-style-type: none"> <li>– Technology as a foundation for education;</li> <li>– Artificial intelligence-based learning;</li> <li>– Limited support for personalized learning;</li> <li>– Immersive student experience;</li> <li>– Distance learning through the Internet of Things.</li> </ul>	<ul style="list-style-type: none"> <li>– Focus on personalized learning;</li> <li>– Collaborative learning;</li> <li>– Adaptive learning;</li> <li>– Technology at its core;</li> <li>– Learning analytics;</li> <li>– Student and teacher privacy;</li> <li>– Low latency applications.</li> </ul>

*Source:* Adapted from Ahmad et.al. (2023, p.5)

Education 5.0 is a futuristic term that aims to integrate advanced ICT technologies into the education system to enhance the learning experience and remove barriers to an individual's education. Thus, one of the fundamental goals of Education 5.0 is to promote personalized learning, collaboration, and well-being through the use of digital tools such as AI, virtual reality, and IoT. In

addition, Education 5.0 focuses on developing 21st century skills such as critical thinking, creativity, and problem-solving rather than just rote learning, and adds immersive experiences to classrooms using augmented reality and mixed reality applications. The ultimate goal of Education 5.0 is to create a more efficient, equitable, and inclusive education system that can adapt to the changing needs of society in the fifth industrial revolution.

### **3. UNIVERSAL DESIGN FOR LEARNING (UDL)**

#### **3.1 Investigations in the specialized literature**

There is a wide consensus on the fact that education systems are vulnerable to the rapid and magnitude of changes facing education today. This is exasperated even further when considering that the demand for education and re-education grows exponentially making straining resources and opportunities for the provision of equity in education. In this respect many approaches have been proposed globally addressing these basic challenges (Walton & Osman, 2022). The concept of Universal Design for Learning (UDL), first developed in the USA in the 1990s, has proven to be a reliable and effective methodology that can adapt readily to different educational environments providing a basis on which teachers and educational institutions can achieve valuable and socially acceptable educational results.

The name and main idea of "UDL" was created by the well-known paradigm of Universal Design (UD), originating from the field of architecture and industrial design. The phrase was originally coined by architect Ronald Mace and later referred to "products, environments, programs, and services" (National Disability Authority, 2009). The basic idea behind UD was the fact that it is more convenient to create environments which are initially accessible, rather than modifying and reforming them at a later stage (Preiser & Smith 2010). UDL and other frameworks such as Universal Design for Instruction (Scott, 2018) represent adaptations and reconceptualizations of UD basic principles in the field of education in general.

Like many strategies designed to address learning differences, UDL begins with an individualized approach to educational needs. It is widely accepted that inclusive education requires differentiated approaches to teaching the entire class so that individual differences among learners can be accommodated. Meyer et al. (2014) developed the UDL approach, while acknowledging that in the traditional education system, students encounter obstacles that limit their accessibility to the curriculum and the possibility of expressing their knowledge. In addition they observed that when students were interested and willing to learn, they realized that they were stigmatized not because of something they could not do but because the educational environment became a barrier to their successful learning. Zhong (2012) confirmed that classical methods, applied in a traditional school, build learning barriers for a large number of students, and not only the students with Special Educational Needs (SEN), but also for the students without such needs. Other authors, such as Mangiatordi and Serenelli (2013), show that implementing UDL in education is a promising solution to minimize learning barriers.

In the current context, the concept of successful learning has acquired a much broader meaning, going beyond the actual knowledge gained. Meyer et al. (2014) emphasize that learning the content helps the student to develop critical thinking, increase analytical perspectives, thus creating the conditions for students to become expert. García-Campos et al. (2020) emphasize that the UDL strategy is favorable for performance improvement, deep and emotionally based decisions. Following the teacher's efforts to create opportunities for constant reflection on their own learning, the involvement of students in their own learning is promoted. This, according to García-Campos, leads to the development of "motivation, practice, reflection, self-efficacy, self-regulation, self-determination, executive functioning, understanding and situational awareness" on the part of the students (Meyer et al., 2014).

The researchers further state that educational programs are even more successful when prioritizing the individuality of students, an essential component of the UDL approach. Following this approach, searching to discover the individual needs and attributes of every learner, will highlight the barriers within the educational environment that prevent certain learners from achieving their established goals. García-Campos et al. (2020) consider that UDL is a approach based on eliminating barriers to students and, suggested direct and implicit methods that can be applied in very different learning situations.

Thus, the UDL approach also influences the learning environment in such a way as to successfully allow each student, regardless of their abilities and difficulties, to participate fully in the learning process acting as a driving force for optimal development, both for the individual, as well as the group to which they belong. In this process the attitude of students transforms from a passive recipient of learning content into an active learner, managing their own learning process and building their own knowledge base, and acting responsibly and creatively facing up to various problems in cooperation with others. In this way they become capable of controlling, planning, organizing their learning outcomes while achieving high educational value in the process.

For teachers, on the other hand, the benefits are seen in the remodeling of their pedagogical thinking and activity under the influence of the changes observed in students. In other words, the change from the traditionally understood role of teacher to one that becomes moderator and facilitator, creating optimal conditions for the teaching-learning process in a diversified group of students, can be achieved, as confirmed by the available sources in the literature (Capp, 2017; Scott, 2018). It is obvious that by implementing UDL in educational establishments will provide students and teachers with an excellent opportunity to modify their accepted routines in the teaching and learning process. Numerous studies (Rao et al., 2020; Katz, 2013; Capp, 2017) show that implementing UDL in teaching training programs has led to very good student outcomes within the US educational system (Smith et al., 2019).

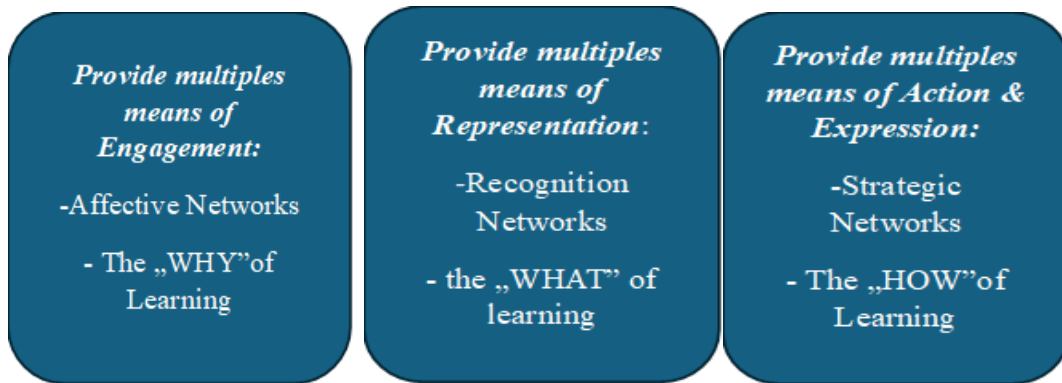
### **3.2 UDL Description**

Drawing on research in the fields of education, cognitive psychology, and neuroscience, the UDL framework provides educators with a structure for removing barriers to learning when designing teaching, learning, and assessment for all students. The UDL framework has also had a key influence on understanding issues related to inclusive education.

UDL supports variability through three key principles which can be summarized as follows:

- Choice in *why* to learn and engage with learning (multiple means of engagement).
- Choice in *what* to learn (multiple means of representation).
- Choice in *how* to learn and express learning (multiple means of action and expression).

The framework presents three key principles to guide curriculum design (Figure 2):

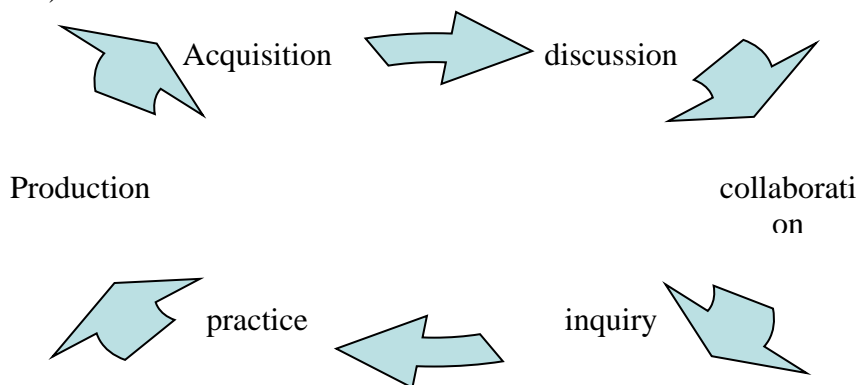


**Figure 2. Key principles**

Source: Adapted from Gormley et al. (2022, p.18)

Within these three key principles, the guidelines are provided, and comprehensive checkpoints support the design of learning activities.

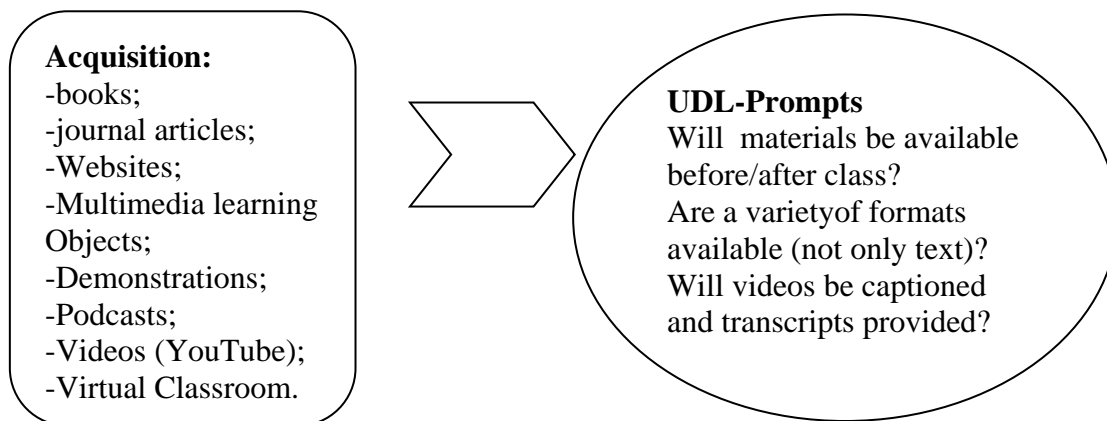
Defining and reflecting on educational values is a challenging process in itself, but putting values into practice is where the real work begins. It requires supporting staff to understand and apply the principles in practice and to have an open and inclusive approach through the ABC Learning Design (ABC LD) method. The ABC LD process provides a practical opportunity to promote a philosophy of inclusive education as staff collaborate to design and redesign curriculum into modules and programs. The process also provides an opportunity to raise awareness of the UDL framework by incorporating its principles into ABC. There is a certain natural “harmony” between UDL and ABC, as both frameworks involve increased variability for learners. ABC draws on Laurillard’s (2012) Conversational Framework to encourage the use of a range of learning activities across six identified types of learning: acquisition, discussion, collaboration, inquiry, practice, and production (figure 3).



**Figure 3. Types of learning**

Source: Adapted from Gormley et.al. (2022, p. 25)

ABC allows program and module teams to quickly develop a storyboard that visualizes the learner journey based on their activities throughout the study. The method is non-prescriptive and builds on participants’ existing practice, but can be used to identify opportunities for blended learning, review assessment and feedback, and align the program with broader institutional priorities. We can exemplify the relationship between the acquisition process and UDL. (figure 4)



**Figure 4. Acquisition activities**

*Source:* Adapted from Gormley et. al. (2022, p. 31)

It is necessary to develop a strategic plan that includes the following objectives:

- ✓ Providing a transformative student experience – Our commitment to our students is that they will be well-prepared to flourish in the world beyond the university: in their personal lives, in civic society, and in the rapidly evolving workplace;
- ✓ Promoting a reputation for high-class research - the complexity of the major research challenges facing the world is essential to achieving significant and sustained progress through international collaboration;
- ✓ Generating new income – developing activities that bring value and facilitate obtaining new financial resources;
- ✓ Developing a coherent, connected, integrated university;
- ✓ Valorization of human resources; - Recognizing the considerable increase in the size and complexity of the world we live in, human resources through knowledge-based skills, gain even greater importance;
- ✓ Developing a Global University - As part of the commitment to developing talented graduates who can flourish around the world, it is imperative to introduce new opportunities for students to have a global experience during their studies;
- ✓ Cultivating a culture for creativity across the university – This involves exploring the possibilities that arise at the intersections of creative arts and technological innovation;
- ✓ Incorporating Sustainability as a key policy instrument of the university – This reflects not only the university's commitment to act responsibly, but also being an exemplary organization to both students and the society,
- ✓ Developing active engagement with communities - The University is actively involved in the life of society, and connections with stakeholders should be approached from the perspective of the managerial synapse, eliminating the conception of the university as an ivory tower.

It is therefore necessary to promote strategic management at the level of all educational organizations with clear and realistic objectives that facilitate the creation and development of an innovative learning environment adapted to current educational needs. Also, the field of educational leadership must be rebuilt to focus primarily on transforming schools and learning environments, which requires a fundamental rethinking of school institutions and authorities, a rethinking that recognizes the centrality of culture, politics, and ethics. (Senge, 2016, p.375).

## 4. CONCLUSIONS

We are witnessing rapid and complex transformations in the educational arena driven by the challenges facing our world of today, leading us to rethink the entire educational process from curriculum design to teaching strategies addressing the current context. Education today and tomorrow must integrate cutting-edge technologies, including artificial intelligence, virtual reality and data analytics in order to maintain its societal value and responsibilities. In this respect, it is obvious that its main objective must be to provide personalized and adaptable learning experiences that help students to thrive in an ever-changing digital landscape. Technology is crucial to enabling distance learning, personalized learning paths and data-driven analysis of student performance and thus it is imperative to provide a basis on which students will ensure and develop the skills needed to succeed in an interconnected world. Changes in the teaching-learning process are therefore required to make schools a more inclusive and conducive environment for the individual and group development of students with diverse educational needs. This leads to the development of competencies, skills and values that will allow students to better prepare for adult life in a rapidly changing world. This demand is not new and is not just a demand but refers to the reform of the educational process.

From this perspective, educational management and leadership are changing and transforming by acquiring a more pronounced human dimension and at the same time an intelligent integration of digital technology. Transformational leaders promote a culture of continuous improvement and empowerment in educational institutions. They prioritize agility, adaptability and alignment of these institutions with the demands of the digital age.

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