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The Creative and Reflective Professor in the Global Pandemic of Covid - Innovative Learning Design for Present and Future

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Abstract: The paper aims at addressing how the transition from classical to digital education has been due to the global pandemic of covid, the speed with which the teachers have identified the most effective methods of adaptation to translate the process into a new form of teaching- learning-evaluation, with its limits or advantages, as well as what the school will become after the pandemic crises. Teachers have reinvented themselves, and digital teaching has brought the most innovative techniques and learning methods, which, of course, outline a new profile of the modern teacher, forced to change the rules during the game, sometimes reaching unsuspected performance. Also, the extensive studies and research done so far on education systems reveal essential issues that could be considered starting points for what could become the educational path in the future. Thus, this paper talk about a reconsideration of the concept of *universal learning design* through the diversity of innovative techniques and methods valued and adapted to the current context.

Keywords: creativity; innovation; transition; digital teaching

Introduction

After more than a year of pandemic crisis, we can objectively analyze what happened in the Romanian education system, but not only. We were all, at some point, in a state of uncertainty, fear, anger because we did not understand what was happening, then a state of shock and again uncertainty, helplessness. However, at the same time, there was a continuous desire to do something practical to help overcome the difficult times we went through.

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Now we can transpose through the critical eye what would have been perhaps the most appropriate manifestations of each of us, as teachers or parents, in the difficult period during the pandemic crisis.

All reference systems were changed, and survival seemed to be the essential goal of each of us. As it was called, isolation and social distancing were the only ways to approach our situation.

The digital infrastructure has not been and is not yet available to all students and teachers, which has led to significant discrepancies during the isolation. However, educators everywhere have done everything in their power to ensure that students do not lag behind in learning.

What has happened in Education Systems? How has the Way of Teaching Changed?

Despite the difficulties they went through, teachers discovered that this experience also has a positive side, even working in a virtual environment, adapting online education to the demands of the future, and thus discovering new ways of transmitting messages, a new level of education. The concept of teaching has completely changed, including teachers being involved in continuous training to develop or improve digital skills.

There were many hours of training, seminars on electronic platforms, and everything that was once just a wish is becoming a reality. They have all discovered with amazement how many things can be done remotely, of course, often with tenfold effort, many hours of work, and multiple challenges to find solutions to complex problems to encourage innovative thinking, creative skills, and entrepreneurship.

The Creative and Reflective Professor

In all this amalgam of information and uncertainty, the teacher proved once again, if necessary, that he was able to overcome critical moments and reinvent himself, becoming an information carrier in nothingness. However, we were not prepared for this. We have all seen countless examples of teachers worldwide who have found unique ways to reach their students, even in the virtual world, but not only to convey information but with the desire to make students understand and apply what they have learned. The creativity of teachers did not take long to appear. Thus, by joining

forces and global solidarity, educational platforms, tools, and applications were created, offered free of charge, which proved to be very useful for the education system during the pandemic, but can be used successfully in the future.

Just as quickly, ***the professor*** found the energy to make the best use of these unconventional resources, for which, we must admit, the vast majority of them did not have these very well-developed skills.

Distance learning in crisis[1]*-emergency remote teaching* (ERT) has become a common way of learning for many students worldwide, respectively in the states that closed schools and came as a response to a crisis, rather than being planned or organized for distance education. That is why it is necessary to distinguish between making online learning based on a planned teaching strategy. In contrast, distance learning mainly refers to using technology to carry out teaching activities designed to be done in the classroom.

The concern for online learning has contributed to the development of many high-performance systems, with recognized results in education being one of the significant objectives of many education systems. However, their implementation was lengthy, and no one would have thought that such an unforeseen situation would arise, which could be challenging to manage.

Online education, including online teaching and learning, has been studied for decades. Numerous research studies, theories, models, standards, and evaluation criteria focus on quality online learning, online teaching, and online course design. We know from research that effective online learning results from careful design and instructional planning, using a systematic model for design and development.

Remote emergency teaching was a momentary solution, but it does not correspond to the classic online design. However, it is essential to remember that during this period, open educational resources and strategies were created very useful for traditional activities that can be combined with those mediated by technology, respectively, blended learning, both for synchronous or asynchronous learning, mixed or hybrid.

[1] https://edtechmagazine.com/higher/article/2020/05/emergency-remote-teaching-rigorous-online-learning-perfcon

A Possible Innovative Model of Didactic Design

A possible effective model to be applied in this context could be *Universal design for learning* by using technology and adapting strategies to the context of online or hybrid learning.

Starting from the concept of **universal learning design**[1], which brings is a set of guiding principles used in the design of curriculum and lessons in the early stages so that the most significant number of students can learn most effectively and deeply. The design process leads to flexible materials and lessons that all students can use. Fewer changes need to be made at the time of training, as the curriculum has already been designed to be flexible.

Thus, didactic design involves a path based on learning activities that meet the needs of each student, with diverse learning experiences, to suit each, thus increasing the chances of school success, each student finding his learning path.

This approach to learning involves combining three principles that relate to:

1. Multiple modes of content representation (WHAT): learning is impossible if the information is imperceptible to the learner and is problematic when presented in formats that require extraordinary effort or assistance. To reduce barriers to learning is essential to ensure that crucial information is equally perceptible to all learners:

• providing the same information in different ways (visual, auditory, or tactile);

• providing information in a format that allows the user to adjust (for example, text that can be enlarged, sounds that can be amplified, etc.), allowing the student to choose the way of presentation or the route that suits him best. Good to decode and transfer the message in its own space of knowledge and action.

2. Multiple modes of action (HOW): a varied didactic strategy that allows the student various types of interaction with the learning content and multiple possibilities to demonstrate that he has learned. For example, a textbook in a printed format offers limited means of study. Educational software similarly offers only limited means of navigation. Therefore, it is essential to provide materials that all students can interact it. It is also essential to diversify the teaching strategy and combine deductive and inductive reasoning in different learning contexts and collaborative activities.

[1] https://www.cast.org/impact/universal-design-for-learning.

3. Multiple ways of motivating (WHY): providing appropriate challenges that lead to increased motivation.

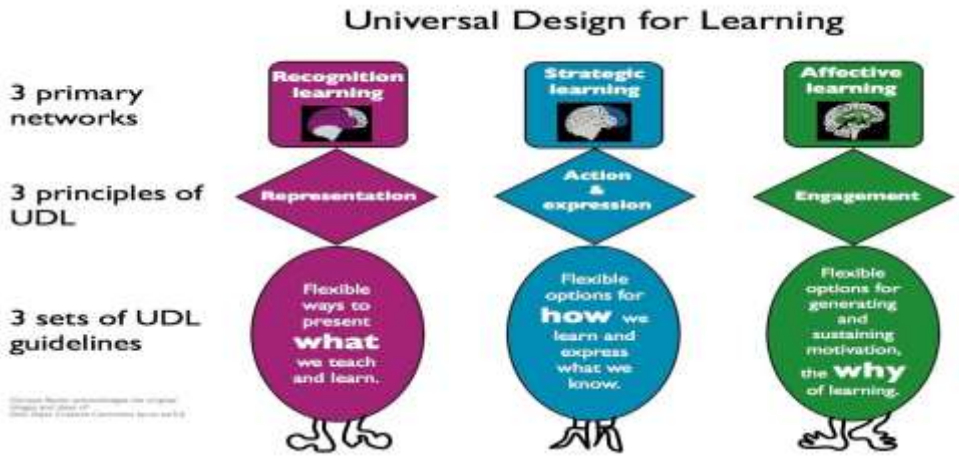

Figure 1. https://www.flickr.com/photos/36224492@N06/8973962812/in/photostream/
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UDL is a helpful framework for guiding online educational practices that:

A. offers flexibility in the way information is presented, students respond or demonstrate knowledge and skills as well as in the way they are involved in learning activities;

B. reduces barriers to training, provides adequate support, advocacy and challenges, and maintains high expectations for all students, including those with disabilities (Dalton, 2017).

Therefore, there is a need for effective instructional design models adapted to different learning contexts and to respond to complex learning problems (Branch & Dousay, 2015).

Thus, teaching is designed to be flexible and varied, using a wide range of means to achieve learning outcomes, including accessible technology for students with CES. Learning is designed to motivate/involve the student, to consider points of interest of his needs in the context of the course.

Within the UDL, can also identify recommendations for carrying out learning activities with digital support:

- providing digital content in an accessible format;
- storing information in the cloud and on shared sites;
- diversification of teaching strategy, type of resources, forms of organization;
- preparation of visual support (ppt, presentation, etc.);
- integration, as much as possible, of relevant films, educational software, interactive lesson sequences;
- use of various evaluation methods;
- keeping the user interface in a simple form;
- use of open resources and free software;
- avoiding overloads and creating the well-being of students;
- encouraging multiple ways of communication;
- grouping, as much as possible, the pupils/students according to their access and technical preferences;
- use of questions, quizzes, various tools, and interactive applications offered by educational platforms;
- supporting and encouraging the elaboration of digital content generated by pupils/students;
- motivating and involving pupils in learning activities.

Why do we need models?

Methodological models are helpful for practitioners because they represent a conceptualization of reality that can often be too complex and thus quickly identify generic aspects, which can be applied in several similar contexts. Also, didactic design models are often the result of rigorous research, and then their use can lead to educational performance and can sometimes be adapted or improved.

However, didactic design is a complex process, which involves a creative and reflective approach of the teacher to be practical and attractive to students.

Models are just some general principles that it is good for the teacher to follow during teaching. Still, the originality of the design lies in their flexibility and adaptation to a given context and more.

What Will the Return to School Look Like during the COVID -19 Pandemic?

Education, as it was before the COVID 19 pandemic, will never be the same again. Now is the time for governments and international organizations to find the most effective strategies to provide children, especially the vulnerable, with access to education and not only to reopen schools, but to have better schools and better teachers.

The answers to this question support children, parents and parents through recommendations and practical solutions provided by UNICEF[1] on communication with parents, recommendations for school medical staff, effective communication in the school environment, strategies for adolescents during the pandemic, etc.

International institutions are also concerned with increasing the resilience of education systems so that they are more flexible, adapted to all children, by using appropriate teaching strategies for possible crisis situations.

In line with Sustainable Development Goal 4, UNICEF[2] is committed to promoting quality, inclusive and equitable education for every child by 2030, without exception. UNICEF has a long and solid experience of supporting governments in Europe and Central Asia to strengthen education systems, making them more resilient to meet the challenge of providing quality education for ALL children.

UNICEF has worked with governments and schools to:

• inclusive education practices and policies;

• implementation of competency-based school programs;

• skills development;

[1] https://www.unicef.org/romania/what-does-return-school-during-covid-19-pandemic-look
[2]https://www.unicef.org/romania/media/2836/file/Crearea%20unor%20sisteme%20de%20educaţie%20reziliente%20în%20contextul%20pandemiei%20de%20COVID-19.pdf

• quality learning and education;

• ensuring the efficiency of teachers, their training, and professional development;

• improving evaluation practices and systems;

• supporting children who do not go to school to resume their education, preventing school dropout

for marginalized and vulnerable children, especially children with disabilities, Roma and other children from ethnic minorities, and migrant and refugee children.

This experience, especially in evaluating flexible learning, including educational design, providing modules for recovery, and integrating socio-emotional support into educational activities, has proved helpful in the context of the challenges posed by COVID-19.

What is the Digital Education Action Plan?

The Digital Education Action Plan (2021-2027)[1] is a renewed European Union (EU) policy initiative to support the sustainable and effective adaptation of EU Member States' education and training systems to the digital age.

Digital Education Action Plan:

▪ provides a long-term strategic vision for high-quality, inclusive, and accessible European digital education;

▪ addresses the challenges and opportunities created by the COVID-19 pandemic, which has led to the unprecedented use of technology for education and training purposes;

▪ seeks to strengthen cooperation at the EU level in the field of digital education and emphasizes the importance of cross-sectoral collaboration to adapt instruction to the digital age;

▪ presents opportunities, including better quality and quantity of teaching notions related to digital technologies, support for digitization and pedagogical;

[1] https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan_ro

The European Union has also funded and made available to students and teachers Online learning resources during the coronavirus pandemic: EU-funded projects and online tools for learners, teachers, and educators during the COVID-19 pandemic, made available EU-funded projects.[1]

Considerable efforts by teachers worldwide have also materialized in a set of tools for school principals, and teaching and support staff have been helpful during the pandemic. It is still in its second edition, *Teacher Support to return to school*. *A toolkit for school principals* - was developed with several members of the Teacher Task Force network.

The Romanian Ministry of Education has initiated the Strategy for digitizing education - SMART-Edu (to generate a Modern, Accessible School, based on Digital Resources and Technologies - "SMART-Edu"). This Strategy aims to be anchored in European initiatives and programs, supporting the role of digital technology in the development of education and training systems. Directions for the action of the SMART-Edu Strategy[2]:

• Development of digital skills at all levels of cross-curricular education, through specialized disciplines, through formal and non-formal activities;

• Supporting initial and continuing digital training of teachers;

• Improving the digital infrastructure to reduce connectivity gaps (internet connection, creation of internal networks, equipment, technical support);

• Stimulating educational units and institutions for educational offers with digital specializations and qualifications appropriate to the professions of the future;

• Development of digital educational tools, encouraging innovation to adapt creative, interactive, student-centered educational solutions;

• Creating attractive Open Educational Resources;

• Development and multiplication of public-private partnerships through participation in digital networks, including with European and international bodies;

[1] https://www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---sro-budapest/documents/instructionalmaterial/wcms_765781.pdf

[2] https://www.smart.edu.ro/home.

• Exchange of good practices on local educational platforms, national e-learning, respectively on international platforms (SELFIE, e-Twinning, etc.);

• Encouraging and promoting initiatives on online security, data protection, cyber hygiene, IT ethics;

• Development of the strategic forecasting framework for the green economy and adaptation to future trades.

The research report carried out at the end of last year, within the Department for Teaching Staff Training at *Danubius* University Galati (Stanciu & Popa, 2020), highlighted concrete aspects, the real problem of online learning that teachers currently face, and the factors they consider vulnerable for this form of education. One of the essential aspects is changing teachers' mentality to overcome commonplaces and an openness to the new. Teachers should continuously define and enrich the content through a flexible and open design, adaptable to anything. The student must develop the ability to explore and analyze these contents collaboratively, thus building a new teacher-student relationship. We, therefore, recommend that, in the next period, these issues summarized in the research reports be identified by the teachers as practitioners. It should be a starting point for the measures taken by the governing bodies and those with authority in education to remedy these discrepancies, solve system problems and improve educational activities by developing unitary educational strategies and policies based on studies and research results.

Conclusions. What do we have to do now?

The creative and reflective professor has reinvented himself in the pandemic context and will continue to identify the most appropriate teaching models, transposed into a new, genuinely innovative form, using all the open educational resources created during the pandemic. Now is the time to rewrite, reconsider and readjust pedagogical approaches, and professionals in education sciences, as we have already seen, the results of extensive research will place in a new paradigm teaching-learning-assessment strategy, both from a theoretical perspective and practical- applicative.

The school of the future will need this reconfiguration of the educational path, keeping the positive aspects and the experiences of good practice that have proved to be helpful, so that:

▪ learning activities (Grossek & Crăciun, 2020) to be carried out using various means of representation that offer students different ways of expression, action, and involvement;

▪ the selection of the appropriate technologies and media should be made considering the following factors:

▪ characteristics and needs of students;

▪ preferred teaching strategy, in terms of methods and learning outcomes;

▪ pedagogical and presentation requirements of the discipline, in terms of content and skills;

▪ the technical and time resources we have.

▪ the design of learning activities should focus on the design of flexible, inclusive, and student-centered learning environments.

▪ digital technology and applications to be used in various ways, as teaching tools

▪ digital technology and applications can support or transform students' learning activities.

▪ evaluating the technology or application from the perspective of how can use it in the classroom

▪ the design of technology-mediated activities must be done considering simultaneously the teaching content, the systematic aspects of the teaching activity, and the characteristics of the chosen technology.

The priority in terms of pupils/students must remain in the foreground, and the aspects that have been highlighted, especially in the mentioned documents[1], are the following:

• decisions on student progress and examinations;

• modification of school calendars;

[1]https://www.unicef.org/romania/media/2836/file/Crearea%20unor%20sisteme%20de%20educaţie%20rezilient.

• supporting parents in planning and integrating home education;

• mobilizing education experts to create guidance and training packages for teachers;

• providing IT devices and internet access for the most marginalized students.

• medium-term - Assessment of educational gaps;

• adaptation of the school curriculum;

• development of online educational environments and mixed educational approaches;

• professional development and support of teachers and school staff;

• educational support programs for students;

• recommendations for schools on recovery and assessment practices;

• managing the workload of teachers.

• long-term - Integration of socio-emotional skills in the curriculum, teaching and study practices, as well as school planning and school ethos;

• reducing the digital divide;

• transformation of pedagogical practices, including the use of mixed education;

• assessing the impact of school closures in 2020 on education.

The topic is of interest for the current and future period, both in academia and science, but also for school communities, because online schooling has become a reality, which we all had to face, both those who had skills in using technologies, but also for other actors, parents, students, etc.

Thus, the COVID 19 pandemic context has shown us the degree of digitalization of societies, even the most developed ones. Still, at the same time, it has opened a new perspective on the realistic approach we all need to take on the need to use digital educational resources in all forms of education (formal, non-formal, and informal) and last but not least, lifelong learning.

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