EDUCATIONAL POLICIES IN THE CONTEXT OF CURRENT SOCIO-POLITICAL, CLIMATE AND TEHNOLOGICAL CHANGES

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Abstract: *What skills are needed to solve the complex equations that life forces us to solve, equations that have so few constants and so many variables? Any change is stressful. For a flexible mind stressful situations can become developmental challenges for evolution. For a rigid mind, however, stress is discouraging, it becomes a limit, a dead end. Whether we like it or not society evolves and education must evolve with society. The VUCA concept is more current than ever. We have no idea what the world will look like, we can only imagine scenarios. What we learn now may become irrelevant in a few years.*

Keywords: education, skills, information technology, the VUCA concept, the future

1. Introduction

Over the past few decades, we find numerous terms in the press and academic literature that refer to an ever-increasing inability to understand the world and cope with the things that are happening around us. Examples include uncertainty, turbulence, rapid change, dynamism, disruption, complexity, hyper-competition, high-speed markets. (https://www.studypool.com). Recent pandemic conditions have made new contributions to the organization of the education system. Therefore, school/ educational and learning activities demonstrate that efficiency is achieved through the involvement of the school and institutions that form an educational partnership designed to streamline learning and online. The concept of partnership involves elements of socio-economic status and involvement of public institutions in special situations such as those related to the pandemic (https:madalinaradulescu.ro).

For several years, the notion of "VUCA" has gained popularity as a term to cover the different dimensions of this "uncontrollable" environment. In various posts and articles, we read, for example, about a "VUCA world" and especially about "Leadership in a VUCA world". But what does it really mean to live and lead in a VUCA world?

2. The VUCA concept

V.U.C.A. is an acronym. It consists of the initials of the English words volatility (volatility), uncertainty (uncertainty), complexity (complexity) and ambiguity (ambiguity). There are a lot of explanations, including a Harvard Business Review article by Nathan Bennett and G. James Lemoine a long list of web pages where this concept is explained. However, a few clarifications need to be made (Bennet and Lemoine, 2014: 3).

Volatility refers to the speed of change in a field, industry, market or world in general. In economics it is associated with fluctuations in demand, turbulence and short time in markets and is well documented in the literature on the dynamism of industry (https:madalinaradulescu.ro). The more volatile the world is, the more and faster things change. That is, we are talking about the nature, speed, magnitude, volume and dynamics of change.

Uncertainty – uncertainty refers to the extent to which we can confidently predict the future. Some of the uncertainty is perceived and associated with people's inability to understand what is happening. Uncertainty, however, is also a more objective characteristic of an environment. The truly uncertain averages are those that do not allow any prediction, nor

on a statistical basis. The more uncertain the world is, the harder it is to predict. Bennet and Lemoine, 2014: 4).

Complexity - complexity refers to the number of factors to consider, their variety and the relationships between them. The more factors there are, the greater their variety and the more interconnected they are, the more complex the environment(https:madalinaradulescu.ro). Under conditions of high complexity, it is impossible to fully analyze the environment and reach rational conclusions. The more complex the world is, the harder it is to analyze. Bennet and Lemoine, 2014: 5).

Ambiguity – ambiguity refers to a lack of clarity about how to interpret something. A situation is ambiguous, for example, when the information is incomplete, contradictory or too inaccurate to draw clear conclusions. More generally, it refers to blurring and vague in ideas and terminology. The more ambiguous the world is, the harder it is to interpret (Bennet and Lemoine, 2014: 6).

In practice, the four terms are linked. The more complex and volatile a situation is, for example, the harder it will be to predict and therefore the more uncertain it will be. However, all four are distinct elements that make our environment – the world, a market, an industry – harder to understand and control. The distinct nature of these four elements can be further clarified by visualizing them(https:madalinaradulescu.ro).

As illustrated in the picture below, in a purely volatile (but not uncertain, complex and ambiguous) world, there are a lot of rapid but predictable changes. On the other hand, in a purely uncertain (but not volatile, complex and ambiguous) world, it is hard to say how things are evolving(https:madalinaradulescu.ro). And in a purely complex world (but not volatile, uncertain, and ambiguous), things are hard to handle and understand. Finally, in a purely ambiguous (but not volatile, uncertain, and complex) world, it is hard to discern things. This concept perfectly describes the world in which we operate today, including (if not especially) in Romania:

- ☐ unstable world with an exponential pace of development;
- ☐ full of interdependencies between many factors in a global context;
- ☐ characterized by little clarity about what is right and what is not, it is difficult to discern between multiple options and their potential results.

The notion of VUCA has been widely applied in the field of leadership and business and to a lesser extent in educational policy reviews. The outbreak of the covid outbreak in early 2020 and the long-lasting global effects have significantly expanded the implications and concreteness of this term for the millions of people whose lives have been completely transformed in a few days. This also affected students, teachers and all those involved in education (Bennet and Lemoine, 2014:5). All over the world schools and institutions of higher education or closed and suddenly switched to online teaching and learning. Since the beginning of the century, we have been living in a turbulent and rapidly changing world and this tends to become the so-called "new normal". In addition to the coronavirus pandemic, we are facing climate change and environmental disasters, the rapid evolution of technology, demographic growth, immigration, the revival of nationalist politics and the rise of inequality. We are also facing what seemed unimaginable – war.

3. How do we prepare young people to venture into this V.U.C.A. world, not to simply survive but to understand it, to occupy a critical position about it, and ultimately work to change it for the better?

Volatility can be counteracted with **vision.**

Vision acts as a real compass, undisturbed by any fluctuation, called to cope with volatility. Let's think, for example, how similarly, people always want to listen to music while solutions have evolved from gramophone and CD players to online streaming services. Processes and products change, needs remain the same.

Uncertainty can be countered with **understanding.**

Knowledge is the key to uncertainty. It is necessary to harmonize talents, convert anxiety into resistance. Collecting, interpreting and sharing information with others is essential. To be effective in a VUCA environment, people must learn to look and listen beyond their area of expertise, and develop and demonstrate collaborative skills. There is little chance of understanding the complexity of turbulence from your own perspective.

Complexity can be clearly **counteracted clarity.**

Leaders know how to focus on what matters and is really important. Complexity disappears when you focus on a few things with great impact. Einstein said, "If I had an hour to solve a problem, I would spend 55 minutes thinking about the problem and 5 minutes thinking about the solution." Cause and effect influence must be discovered and analyzed (https:madalinaradulescu.ro). „Mistakes are made in the world of VUCA because there are many things to research, many ideas to experiment with; their effect can be minimized, then measured and used courageously to obtain better information that reduces complexity, but also uncertainty and ambiguity" (Bennet and Lemoine, 2014: 5).

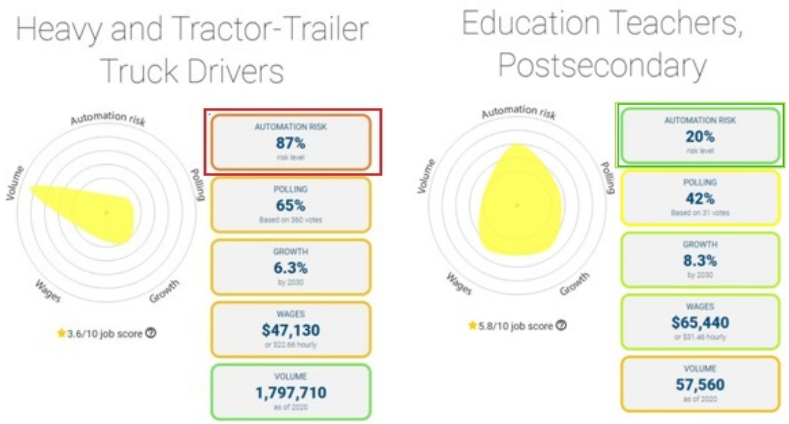
The VUCA world demands reinvention, qualification and retraining every day. Most teachers never thought of teaching online before March 2020; nowadays they are proficient in online teaching (https:madalinaradulescu.ro). Strength training and resistance can change the game during volatility, uncertainty, complexity and ambiguity. If we want to succeed in our personal and professional lives, we need to know the real meaning and characteristics of the following key terms: ***vision, understanding, courage, communication, competence, preparation, resilience intelligence***. To survive in the world of VUCA, it essentially requires intelligence, more than intelligence, which is emotional intelligence and, most importantly, the coefficients of adversity that represent resilience or we can say adaptability.

4 C & 6 C in Education

Some of the current education systems still focus on the transmission and accumulation of information. This made sense in the past when it was difficult to access information, there was no internet, online libraries, specialized sites for all kinds of information and activities, streaming. We are being assaulted daily by a huge volume of information, some useful, others superfluous (Fullan, 2018:28). The phenomenon of "fake news" is growing and is used more and more often as a weapon, it is spoken of the "post truth" era.

In this context, the education system provides an even greater amount of information, without developing in students the skills to filter and interpret information correctly, to distinguish between what is important and what is not important. In an ocean of information porridge, students and students can no longer discern which information is correct, useful, important. They no longer make connections between the pieces of true information so that after they have completed the puzzle of information they can get a correct picture of reality. In addition to the large amount of information, most schools strive to provide students with predetermined skills such as: How to calculate integrals; how to program computers; driving vehicles and machinery; Some of these skills required for certain activities will probably no longer be needed in the labor market in the near future. These activities, jobs will be done by robots or will be automated.

Figure 1. Automatization risk for 2 professions: truck driver and teacher



What is to be done? What should we teach students? Many pedagogical experts believe that technical skills are slow, but their role should be reduced. The general life skills and socio-emotional competencies of students should be developed to enhance their ability to cope with stress. One of the most important skills is coping with change, learning new things, and keeping your mental balance in unusual situations. To survive and thrive in a constantly changing world, it takes a lot of mental flexibility and great reserves of emotional balance.

In the US National Education Association publication "preparing 21st century students for a Global Society" (https://www.edcan.ca). A guide for 4Cs. It is recommended to teach the 4 C's in schools – critical thinking, communication, collaboration, creativity.

Also called 21-century learning skills, it is believed that they help students learn and are therefore vital for success in school and beyond**.**

Critical thinking

Critical thinking is focused, careful analysis of something to better understand it. When people talk about the activity of the "left brain," they usually refer to critical thinking. Here are some of the main critical thinking skills:

- ☐ To analyze is to break something down into its parts, examine each part, and observe how the parts fit.
- ☐ Argument is the use of a series of logically connected statements, supported by evidence, to reach a conclusion.
- ☐ Classification is the identification of types or groups of something, showing how each category is different from the others.

Communication

- ☐ Analyzing the situation means thinking about the subject, purpose, sender, receiver, medium and context of a message.
- ☐ Choosing an environment involves deciding the most appropriate way to deliver a message, from a face-to-face chat to a 400-page report.
- ☐ Evaluating messages means deciding whether they are accurate, complete, reliable, authorized and up-to-date.
- ☐ Compliance with conventions means communicating using the expected norms for the chosen environment.
- ☐ Active listening requires careful attention, taking notes, asking questions, and engaging in any other way in the ideas that are communicated.

- Reading is decoding written words and images to understand what their initiator is trying to communicate.

Creativity

Creative thinking is open to discovery of possibilities. When people talk about the activity of the "right brain," they most often refer to creative thinking. Here are some of the most common creative thinking skills:

- Brainstorming ideas involve asking a question and listing all answers quickly, even those that are exaggerated, impractical, or impossible.
- To create something is to form it by combining materials, perhaps according to a plan, or perhaps based on the momentum of the moment.
- Designing something means finding the conjunction between form and function and shaping materials for a specific purpose.
- Entertaining others involves telling stories, making jokes, singing songs, playing games, playing roles, and making conversation.

All over the world, both traditional and most progressive school systems are familiar with the four Cs in. Communication, collaboration, critical thinking and creativity have become the core elements of the 21century educational movement to prepare students for careers in the present and future world. Now, two decades after the beginning of the 20th century, it is found that social, emotional and mental health problems are on the rise in our schools and in society at large (Fullan, 2018:101). To address these issues, education must continue to evolve to fully meet the needs of today's students.

A Canadian-born education researcher, Michael Fullan introduced another 2 Cs, character and citizenship, as part of his new pedagogues for deep learning. While the old 4 Cs are still relevant to the careers of the 21 century, these new additions represent a new focus on well-being (Fullan 2018:76). By creating more meaningful relationships for students with their peers, their schools, and the global community, the six C's pursue not only career success in the future, but also success in every aspect of life. This is how we evolve from 4 C to 6 C.

Compassion and character

Compassion and character are attributed to the student's personal effectiveness – their ability to empathize with others and apply this information to their behavior. Often referred to as emotional intelligence, this C is the foundation for creating positive and meaningful relationships. In fact, studies have shown that people with high emotional intelligence have greater mental health and lifelong leadership skills.

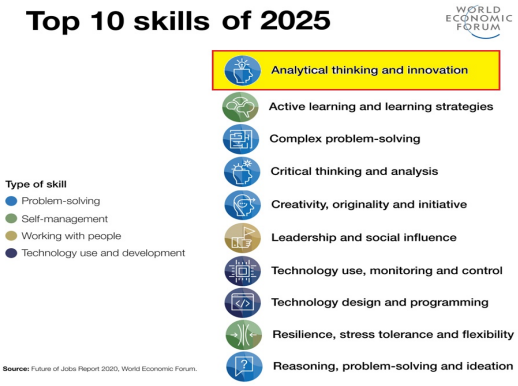
Compassion and character have become increasingly important for the development of modern careers. Emotional intelligence is a basic requirement for many employers today. The World Economic Forum listed emotional intelligence among the top six skills sought in the workforce in 2020. In 2015, it did not even exceed the top ten, which testifies to the growing importance in every aspect of society.

Figure 2. Emotional intelligence enters the top 10 and ranks 6th.

Community and citizenship

Today's students are growing up in an increasingly connected world. This connectivity brings with it a greater responsibility than past generations to think like global citizens. Community and citizenship help students develop a sense of purpose through these connections and ultimately strive to contribute to the improvement of the world. For example, students can focus on real-world issues such as sustainability to put learning in a tangible, immediate and measurable context. *Complex problem-solving skills*, the most important workforce skill required for 2025, according to the World Economic Forum.

Figure 3. Analitical and innovative thinking # 1 in the list of skills that will be needed in 2025.

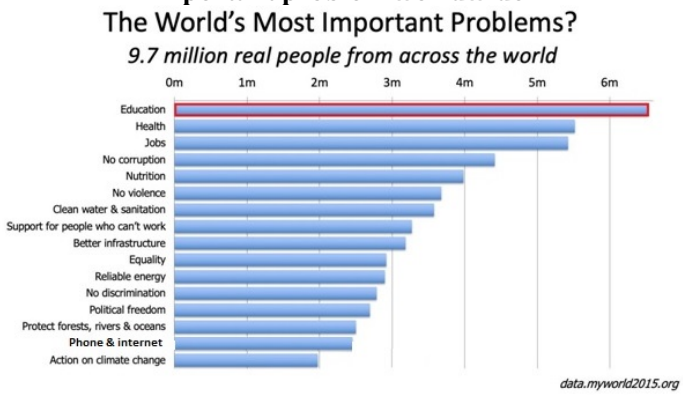


The addition of these new Cs is not intended to overshadow the four originals; they are included to create a comprehensive, well-rounded education focused on life success. Balance is key – there are no two school systems the same and each requires a different approach to learning environments. After all, the purpose of education should not be to create good workers, but to create good people. (https://www.edcan.ca).

The problems of the Romanian education system If the population structure will change in the future according to the predictions in the figure above, all policies will have to be changed. Social protection policies, labor policies, medical policies, etc. Educational policies are also on the path of change .

Perception of education (importance of education) globally and nationally

Figure 4. Almost 7 milion out of 9,7 million belive that Education is the most important problem worldwide.



School dropout

The dropout rate is the difference between the number of students enrolled at the beginning of the school year and the number of students enrolled at the end of the same school year, expressed as a percentage of the number of students enrolled at the beginning of the year. School dropout means that students stop attending school and the consequences are seen later: unemployment; social exclusion; poverty and health problems.

The main reasons that determine young people to quit their studies too early are: personal or family problems; learning difficulties or poverty. But these are not the only causes of abandonment, the issues regarding the education system, the atmosphere in schools and even the relations between teachers and students must also be remembered. The phenomenon of school dropout is more pronounced in rural areas, in Roma communities, in very poor areas where child exploitation also occurs. Also, school dropout among girls is somewhat higher compared to the EU (overall average), where school dropout is higher among boys.

Figure 5. School dropout in Romania

Early leavers from education and training by sex and labour status [edat_lfse_14]										
Last update	28.04.22									
Extracted on	28.05.22									
Source of data Eurostat	UNIT [%]									
AGE From 18 to 24 years	SEX M & F									
GEO/TIME	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
European Union - 27 countries (from 2020)	12,6	11,8	11,1	11,0	10,6	10,5	10,5	10,2	9,9	9,7
Portugal	20,5	18,9	17,4	13,7	14,0	12,6	11,8	10,6	8,9	5,9
Romania	17,8	17,3	18,1	19,1	18,5	18,1	16,4	15,3	15,6	15,3
Slovenia	4,4	3,9	4,4	5,0	4,9	4,3	4,2	4,6	4,1	3,1
Slovakia	5,3	6,4	6,7	6,9	7,4	9,3	8,6	8,3	7,6	7,8
Males										
GEO/TIME	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
European Union - 27 countries (from 2020)	14,5	13,6	12,7	12,5	12,1	12,1	12,1	11,8	11,8	11,4
Portugal	26,9	23,4	20,7	16,4	17,4	15,3	14,7	13,7	12,6	7,7
Romania	18,5	18,7	19,5	19,5	18,4	18,0	16,7	14,9	14,7	15,1
Slovenia	5,4	5,0	6,0	6,4	6,7	5,8	5,3	5,2	4,6	4,2
Females										
GEO/TIME	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
European Union - 27 countries (from 2020)	10,6	10,0	9,4	9,4	9,1	8,9	8,8	8,4	8,0	7,9
Portugal	14,0	14,3	14,1	11,0	10,5	9,7	8,7	7,4	5,1	4,1
Romania	16,9	15,9	16,7	18,5	18,7	18,1	16,1	15,8	16,6	15,5
Slovenia	3,2	2,6	2,7	3,4	3,1	2,5	3,0	3,8	3,4	1,9

Source : Eurostat

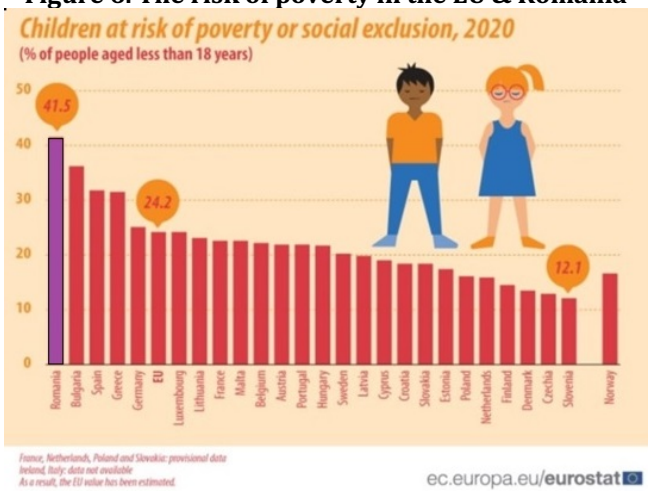
Politicism and private interests

Political behavior based on personal, group or party interests make financial resources difficult to allocate or investments not to be made efficiently. The lack of access to

digital technology but also the lack of digital skills of both students and teachers and the moral wear and tear of existing digital equipment (Ceobanu et. al, 2020:81).

The Romanian education system was not prepared for the situation created by the COVID pandemic, which only deepened the already existing inequalities, both at the level of society and especially among children. We can see it both in terms of the risk of poverty or social exclusion and in terms of difficulties in accessing online education, internet services, Wi-Fi, etc. According to Eurostat, in 2019, four out of five young people (80%) aged 16 to 24 in the European Union (EU) had basic digital skills or above. The autors of a recently published study claim that :„ When educational institutions issued a mandate to convert all face-to-face courses to online ones, often in a week or less to create this metamorphosis, the very nature of education changed".(Motoi&Popescu, 2021:137)

Figure 6. The risk of poverty in the EU & Romania



Poverty among children remains a serious issue in Romania and even in the EU , almost 25% of European children being exposed to the risk of poverty or social exclusion.

The figure 6 is 24% higher than the share of people aged between 16 and 74 (56%). Young people in Romania in 2019 were in last place in the EU in this regard, with only 56% of them having basic digital skills or above the basic level, Eurostat data show. This reality does not seem to have changed after almost two years of the pandemic, where teaching was done *volens nolens* online. This shows that there is still a need for investment in the development of digital skills in pupils, students and teachers. The underfunding does not only refer to the salaries of teaching staff and auxiliary staff, but also to the provision of teaching aids, modern laboratories, workshops in general, all the infrastructure & logistics related to teaching activities. Focusing on the system and the needs of society, not on the needs of the student. Although in the current Romanian education theoretically all the attention is focused on the student, on the maximum development of all his skills and competencies, in reality, the focus falls less on the student and more on documents that often have no relevance in the teaching-learning process (Ceobanu et. al, 2020:87) .

5. What education will look like in a changing future

Humanity as a whole has always been in a constant state of change. Only, now more than ever, the conjunction of several factors make the change felt more acutely, more painfully. The effort required to adapt to new conditions is exhausting, because we are not physically and mentally prepared for this effort. But maybe it's hard for us because we don't know how to

adapt to changes „there are more questions than answers". What kind of skills are necessary for contemporary man to adapt to modern life?

Currently most education systems are still based on the accumulation of information but now we are overwhelmed by the huge volume of information (Ceobanu et. al, 2020:104). More than ever, people need skills to interpret this huge volume of information, to distinguish what is important and what is not, to make the necessary connections between information to form an overall picture of reality, of the world. Otherwise people's lives and futures will be decided arbitrarily. Educational policies should primarily focus on the formation of those general skills necessary in life, skills necessary to face the VUCA universe, to learn new things, to maintain mental balance in all kinds of unusual situations (Bennet and Lemoine, 2014: 7). The linear view of life is changing. The standard by which life was measured has been decalibrated. Other measurement standards are required. The old division of lives into relatively stable periods of Study, Work, Pension is no longer relevant. The future will force us to learn permanently, from childhood until the end of our lives, and somewhere along the way we will have to work, only that we will change our job and profession several times during our life. And there will be no question of pension. A flexible mind has no pension. Any stop means regression, to maintain and evolve requires effort. Of course, there will be holidays and vacations, somehow we need to recharge our batteries. In this context, educational policies must take into account and pay attention to the 6Cs. See the skills needed in the future presented above. Daniel Goleman said „We're being judged by a new yardstick: not just by how smart we are, or by our training and expertise, but also by how well we handle ourselves and each other" (Goleman 2018:167). The structure of the population will change in the future. According to UN predictions, world population growth will stabilize at apx, 10.9 billion by the end of the century (Rosling, 2018: 95). Those statistics estimate that we will reach a plateau sometime earlier by 2070, apx 9.7 billion after which the world population will begin to decline. In this situation, an important share of the world's population will be made up of adults.

Figure 7. Population growth will decrease.

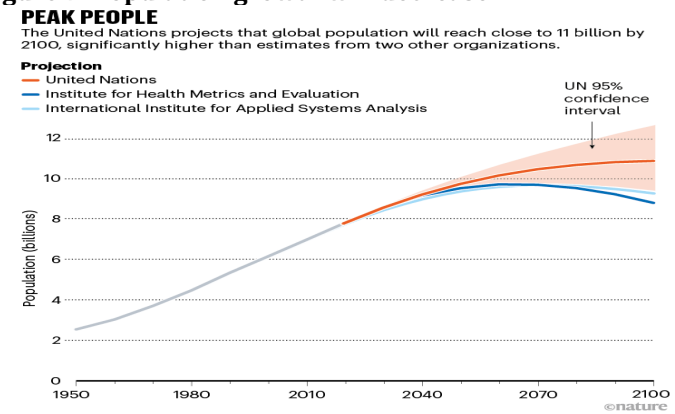


Figure 7 show that although the base of the graphs remains constant (number of births relatively constant), the adult age categories are increasing in size. Their share in society becomes quite important. They will be active on the labor market, but in a changing world they will have to change their profession and workplace several times during their lifetime. In this context, androgogy - the training of adults should become relevant to the design of educational policies. Regarding the future of education, experts have cited a variety of forces shaping the future of education, forces they believe will impact the skills required of future teachers to provide quality education and support for learners.

6. Conclusions

From what was exposed in this study, we can state that there is a relatively high degree of inconsistency between the personal perception of the role and digital skills and the objective reality. Regarding the relationship between the personal and the digital-educational ecosystem, several conclusions were drawn, but here, we will refer more to the skills in using IT equipment and the online education platform. Even if there are percentage differences in response regarding the two categories of respondents, relevant for this hypothesis is the connection between what the respondent believes and reality, that is, truthfulness. At the majority level, students and teachers responded that the school has the necessary infrastructure for online education, and digital skills are in the acceptable-very good range. However, given the systematic observation of educational processes at the managerial level, as well as the existence of the IT infrastructure that can be tested, we believe that many (but not the majority) of the recorded responses do not have a high degree of veracity. So, there is a relatively large discrepancy between the sociological and the objective reality regarding the respondents' digital skills.

The transformation of the physical ecosystem of the classroom into a digital ecosystem, while in itself a beneficial thing, has widened this opposition or distance. It must be stated that the error does not belong to the educational digital ecosystem, but to the mental ecosystems of the participants, both teachers and students, who do not have the necessary digital and managerial skills, but also to the social-political ecosystem, which did not ensure legislative and financial coherence. The limits of this research were related to the relatively small research universe, especially, in the case of teachers, to the short time needed to readjust the research to the new reality to be researched, to certain contradictions between the degree of subjectivity of the respondents and the desirable degree of objectivity.

As future research directions, first of all, we can think about the continuous theorizing and possible operationalizations of the VUCA concept, a concept that, in Romania, is just at the beginning. In other words, the pandemic crisis, as a trigger of the pedagogical paradigm and, at the same time, as a potential factor of segregation, would be a worthy direction to consider. Another perspective takes shape in the hybridization and virtualization of educational processes, and the fusion between physical and digital ecosystems could represent an education formula of the future.

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