



Re-positioning of educational technology in the VUCA world: Global and local cases from the perspective of Turkey

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Abstract

This paper introduces and discusses an extensive case of VUCA in Turkey resulting from global and local calamities in terms of the facts and their reflections to Educational Technology. Turkey has experienced a successive events of misfortune starting with Covid-19 pandemic and followed by massive earthquakes that took place on February 2023, each of which has deepened VUCA and both resulted in failure in coping with VUCA, especially in Educational Technology. This paper thus, intends to draw attention to the mistakes made during these atmospheres by representing the facts and reactions of principles, which, we believe, may guide the rest in similar future cases. In this report, we firstly introduce the outlines of VUCA and the facts about February Earthquakes. Secondly, we discuss VUCA cases within the context of Educational Technology. Lastly, based on what we learned from these cases, suggestions for shareholders are presented to relieve Educational Technology.

Keywords: VUCA, Educational Technology, Covid-19, February 6 earthquakes.

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Introduction

The world has changed. Today's *VUCA world* has brought about new challenges and considerations for organizations and systems, correspondingly, for Educational Technology (ET). Once conceptualized as a concern of ET in U.S. Military (Whiteman, 1998), the phenomenon of VUCA was mostly adopted by the field of economics. Few studies discussed education or ET in the context of VUCA (e.g. Reeves & Reeves, 2015). This paper thus, tries to give an overview of whether ET in Turkey has proven itself under the Covid-19 lockdown, and after immense earthquakes that took place on February 6, 2023, both of which were strong cases of VUCA in Turkey. To clearly define how these case capacities worked in Turkey, it will be better to carry on with each of the terms in the acronym.

VUCA

The acronym VUCA was first introduced by Whiteman (1998) to symbolize volatile, uncertain, complex, and ambiguous situations. VUCA concisely represents distinctive contexts and situations to deal with in this chaotic world (Reeves & Reeves, 2015). As these terms seem interrelated and are condensed into unpredictability, Bennett & Lemoine (2014) emphasize the value of understanding the differences among them.

- *Volatility* refers to frequently changing contexts and conditions, thus, unstable or unpredictable situations. The change is usually understandable and likely, and requires agility to cope with.
- *Uncertainty*, unlike volatility, refers to the lack of knowledge whether an event will take place and create significant change. This makes the issue harder to cope with as it requires further information beyond existing resources and adapting different perspectives on newly acquired data.
- *Complexity* indicates interconnected factors of a situation, which are difficult to categorize or control, and are not necessarily volatile or uncertain. Each complex situation requires a unique and distinct response.
- *Ambiguity* is the lack of basic knowledge about unprecedented situations that are not necessarily complex, volatile or uncertain. In such situations, experimentation is necessary as change is not understandable and there is no precedent to make predictions. (Bennett & Lemoine, 2014; Reeves & Reeves, 2015).

Organizations may find it frustrating and discouraging to plan and develop strategies to deal with VUCA. Some executers offer general solutions to VUCA environments such as being innovative, flexible and creative while some do not give it a second thought arguing the impossibility of planning things in such environments (Bennett & Lemoine, 2014). Planning and managing education in this chaotic and unpredictable environment, on the other hand, is inherently one of the main concerns of ET.

Covid-19 is a well-known case today, as it was a global fact and thousands of researchers world-wide have been researching on the case in several disciplines. The earthquake, on the other hand, is a local issue, and it would be better to begin with what happened in Turkey after the earthquakes in order to understand their effects that give rise to VUCA.

The February 6 Earthquakes

Southern east of Turkey was struck by two big earthquakes on February 6, 2023, first one ($M_w=7.7$) at 04:17 TRT (01:17 UTC) and the second one ($M_w=7.6$) at 13:24 TRT (10:24 UTC) (BOUN KOERI, 2023). 10 cities were directly affected by the earthquakes, sad to say, some of them almost wiped off the map. Beyond the expanse of area subjected to the earthquakes, unpreparedness made things worse. Communication services were down and people outside the earthquake region were clueless about the facts until days, even weeks later. This was when VUCA showed up, but was not the least in terms of ET.

Right after the earthquakes, the Turkish government announced that student dormitories were reserved for the earthquake victims, which consequentially led higher education institutes to postpone education until further notice, *which is a VUCA case itself*, and then, switch to online education once again, three semesters after Covid-19 lockdown. The government's initial claim was that higher education institutes were already prepared for online education after Covid-19 case experience. In the reality, ensuing decisions and interferences of officials deepened VUCA, especially for the higher education in Turkey.

VUCA and Educational Technology

Case of Volatility

Volatility refers to fluctuations and turbulence (Bennett and Lemoine, 2014). The most immense volatility Turkey has faced so far, regarding ET, was the computer adoption to the educational system since the Western World started to use computers in education. Although the case was immense, it was all about purchasing the computers and improving the infrastructure. However, the case with Covid-19 needed more attention. Turkish education system is a strictly regulated one all through K12 to Higher Education, thus ET was urgent not in the teaching-learning process only, but through all levels of the system. All of a sudden, we needed to respond to a large scale of demands, from teachers' remedial professional learning to timing of lessons, which then was tightly planned. This was a time for large improvement action but there was no time! So, ET once again found itself under the wings of online learning which already was there with no clue on the effect of learning. As put by Regalado (2012) online learning would be the most important technology in 200 years, but nothing has changed except online learning itself. So, the lessons were structured under the Ministry of Education EBA (Educational Informatics Network) for K12, and more online tools were used in Higher Education, resulting in many communication accidents due to the professors' lack of expertise in online learning. That is, the process was volatile. Every day came with surprises and rapid changes with ET at rest though not at peace.

Turkey's second VUCA case was due to the February 6 earthquakes. The VUCA effect of the case struck us with the reality that a local effect could be as difficult as a global one. The world stopped for days, for almost in each corner of the country. The education system was interrupted for a shorter period of time for K12 compared to former Covid-19 case experience. Higher Education, on the other hand, experienced volatility more acutely. This was mostly because of the hasty decisions made by the officials to save the day. Below listed some critical decisions that constantly changed educational conditions, and their actual effects that deepened volatility:

- On February 9, Council of Higher Education announced that higher education was postponed until further notice. Just after this announcement, student dormitories were immediately evacuated, and the students' belongings were quickly gathered and packed by the attendants. Most of the students returned their hometown.
- On February 11, Turkish President announced that higher education would completely switch to distance education until the end of the spring semester. Universities have started preparations to switch to online education, updating their Learning Managements Systems and other online/digital materials. Some universities, unfortunately, had already renounced their distance education resources, which made the switch more challenging for them. Later, with an additional announcement, classes that require practice remained face-to-face. Students who took these classes had to return to the cities they study.
- On March 13, Council of Higher Education announced that higher education would be face-to-face beginning from April 3. A considerable number of students returned to the cities they study.
- On March 30, Council of Higher Education announced that higher education would be hybrid beginning from April 3, attendance would not be requisite, and exams would be online. However, the fact was that faculties were short of classrooms that support hybrid education.

Instructors and students were both challenged to adapt to these constantly changing conditions, in terms of planning and practicing instruction. The quality of education, however, remains questionable.

Case of Uncertainty

Uncertainty is referred as "the lack of predictability of issues and events" (Horney et al, 2010, p.33). This aspect of VUCA has been effective in Turkish Education System for years. There have been uncertainties in K12 organization; should we go on with 4-3-4 or change to 4-4-4 for duration, should we start schooling age at 7 or at 6, should we reschedule school time, should we appoint teachers on contracts, and so on.

Regarding Higher Education System, the uncertainties are found in every aspect from academic track to course credits, from central curriculum to free curriculum models. It is therefore probably the least affected area for ET since the system is acquainted with the sense. ET researchers in the field in Turkey are rather immune to uncertainty and they carry their research with the present or popular topics, like Metaverse research before it is here fully. At this point, we want to refer to Reeves & Reeves (2015) with Table 1 for focus of ET research. There seems to be a global problem with research in the field as getting into whatever is there on the agenda instead of what should be. This, of course, is not a contribution to any certainty.

Table 1. *The focus of ET research; things vs. problems (Reeves & Reeves, 2015, p.27)*

Research focused on <i>things</i> is what we do	Research focused on <i>problems</i> what we should do
Learning Analytics	Ineffective Teaching
Mobile Learning	Inadequate Higher Order Learning
Online Learning	Poor Learner Motivation
Games and Simulations	Failure to Engage
Wearable Technology	Little Preparation for Real World
Clickers and Smartboards	Lack of Intellectual Curiosity
Machine Learning	Undeveloped Creativity
Virtual Assistants	Weak Communication Skills
Immersive Learning	Insufficient Time-On-Task
	Declining Value of Degrees

In fact, the authors of this paper are academics of a department called Computer Education and Instructional Technology (CEIT) which suffers from uncertainties of VUCA World. The departments established in 1998 are in a transition period for the last four years, not knowing how to cope with the uncertainties in the system, which are mainly due to the disorientations stemming from the discordance with the VUCA World. The departments need to move from the SPOD-World (S-Steady; P-Predictable; O-Ordinary; D-Definite) to VUCA (Korsakova, 2020) and learn to be agile with all the respects of the department.

With the disaster, it was really a VUCA world for Higher Education in Turkey. The student dormitories were found to be the most appropriate for the disaster survivors, so the students were forced to move their belongings out in the soonest time possible. The result was a break in Higher Education and students were offered distance education via online learning. There came ET on stage again, this time rather sophisticated compared to Covid-19 era. At least, universities had adopted an LMS. It was after a month and a half, the system turned to hybrid education which offered students the choice to attend the classes face-to-face or online, synchronously, with no attendance limit. This time the burden was on the lecturers to arrange this difficult combination leaving a minimum role to ET.

Uncertainty was a natural consequence of the constantly changing decisions for students as well, because no further information was present about *how* the process would proceed. Was attendance compulsory? Would we switch to face-to-face education and when? Should students stay in their hometown or in cities they study? Would exams be face-to-face or online? These questions, and more, occupied students' minds for weeks until the last weeks of semester, what is worse, lecturers also lacked further information and could not help, which showed us our organizations failure in coping with cases of uncertainty.

Case of Complexity

Complexity arises from a situation in which multiple factors interact with each other (Hadar et al., 2020) and thus, bring chaos and stress to the medium (Bennet & Lemoine, 2014). ET is a complex issue itself both in concept and practice. For many years, the concept was regarded as technological tools used in teaching and learning process, with the tools determining instruction rather than the instruction determining tools. The Covid-19 as the case of VUCA only fed the complexity of ET in Turkey. The situation was to save the day and "keep the neighbours silent" mood so ET was a waste of energy, time, knowledge through different media with no regard to learning, psychology, pedagogy or whatever constituting a learner. Social media caused the biggest stir in disaster regions pouring to other areas of the country in carrying full disinformation about the region, as long as the ET shareholders do not agree on the concept and content, and follow the necessary learning and teaching needs, it seems that we will carry complexities within ET discipline wherever we are.

Earthquake is a circumstance that contain complexity within itself. After the immense earthquakes in Turkey, both government and people had to deal with interrelated problems that are with vital, social, cultural, economic, psychological, educational necessities and so. After the disaster, Turkey has experienced the biggest internal migration in its history, as millions of people migrated from the disaster area to every corner of Turkey, which resulted in distinctive problems to be solved in every area. As explained under the previous headings, it was a complete chaos after the earthquakes, and on the top of it, elections were hard at hand, which took place only after three months. Hundreds of thousands of people had to go to their hometowns to vote and many could not, which dealt a major blow in terms of democratic rights. This, again, can be seen as a failure in dealing with complexity as an online voting system might be on the table via e-government services. Ultimately, the

complexity still holds its place regarding the internal migration issues as to whether the movers will stay where they moved or will go back to their hometowns.

Case of Ambiguity

Ambiguity is defined as lack of clarity on something presented incomplete or inaccurate (Bennett and Lemoine, 2014). Ambiguity brings chaos as well, and therefore misused for complexity most of the time. Ambiguity also has to cope with more than one issue at a time which makes things more complex. Covid-19 period is an ambiguity in itself. We had no idea what the disease was, too many ideas and opinions made it more ambiguous at one point, instead of clearing it. We tried to define the old knowledge, through the lens of the new circumstances. However, much of the knowledge created in the ET was rather hesitant, like Emergency Online Learning and Emergency Distance Learning concepts. The same scene took place for the disaster, all we knew was that it was natural disaster, an earthquake, but nothing more.

Researchers knew that they were with something peculiar, wanted to create knowledge for the period, however felt uneasy in doing so. The result was half documentary, half advisory piece of publications in the field.

Lessons from the Scenes when You Feel VUCA

We have experienced VUCA with the tremendous entrance of a global virus and a massive earthquake. A pandemic made us realize that while the nature of issues in the VUCA World will change according to different fields or institutions, it is imperative that we understand the traditional methods will be ineffective for the desired results. As Borazon & Chuang (2023) underlines, "The COVID-19 pandemic has offered increased uncertainty in the education system, calling for a shift in the strategic goals of the education system from a quest for quality to a quest for resilience". Furthermore, for Turkey, the earthquake made us remember the vision we left behind. Panthalookaran (2022) has offered a blueprint for the pedagogy of the digital natives within entrepreneurial pedagogy as a solution in the VUCA world. After the immense earthquake disaster in Turkey, we came to adopt *local* VUCA world. As LeBlanc (2018) suggests, coming from a comment he once heard from an engineer, "*Technology and engineering is easy. Humans are hard*", we need to tackle and change our culture in this era. Other than that higher education can settle the courses and ET to deliver them besides success in a VUCA world is not just about technology but rather about a new kind of leadership that is values-led and purpose-driven (Waller et al., 2019). Lalla (2021) on the other hand, emphasizes in a Guardian article, that a focus on individual learning experiences has overcome by a full individual personalization of content and pedagogy enabled by cutting edge technology. If so, is it easy to change the new goals with old structures? Well, if you are in the same opinion with Schleicher (2021) when saying education means resolving tension end dilemmas, we do too.

Turkey has deeply experienced VUCA because of a string of bad luck that are global (pandemic, high inflation), and local (earthquakes, migration, election crisis) facts. Our experiences showed us that it is not always possible to distinguish volatile, uncertain, complex and ambiguous issues from each other as they could be firmly interrelated in some cases. The capacity of agility and resilience are the keys to cope with them in such environments, which will consequently relieve ET. It is time for Turkey to adopt unorthodox methods and to reposition its role in ET by following the envisaged challenges. ET community should come together regardless of departments, that is faculty, business world, employers and employees of the field, to take fruitful decisions. At this point, we can suggest that they should;

- abandon the old traits of technology-oriented thinking skills and become more learner-oriented,
- work and produce adaptive learning systems for all degrees of education through K12 to higher education,
- reflect on the future generations' needs,
- focus on the research for vision, not for the methods,
- sustain learning communities of ego-free shareholders for a coming era,
- rethink the future of education with machines but not without human,
- leave one size fits all model to industry and be concerned about education.

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