

# **Our world is changing-And what that means for educators**

## **Abstract**

The world after COVID-19 is unlikely to return to the world as it was before. This crisis is alarming since it has several new, unfamiliar and unprecedented features for all areas and sectors. Historically, pandemics have forced humans to break with the past and imagine and create a new one. This one is no different. Now the world today must be more inclusive, resilient, flexible and sustainable.

This paper argues that the pandemic has created a unique opportunity for educational changes that have been proposed before COVID-19 but were never fully understood or implemented mainly focusing on the ever-neglected part of learning and teaching, assessment. Now is the time to rethink what we understand from assessment, redesign how students are assessed and reflect on why we conduct assessments. The ultimate goal of the assessment should aim to prepare individuals to the real world and unexpected problems they will face now and in future. Therefore, the paper proposes that we need more performance based, alternative type of assessment which honor diversity, individual differences and prepare individuals to the real world.

*Keywords: Post Covid Era, Education, Individual Differences, Types of Assessment, Alternative Assessment,*

## **1. INTRODUCTION**

The world after COVID-19 is unlikely to return to the world as it was before. This crisis is alarming since it has several new, unfamiliar and unprecedented features for all areas and sectors. Historically, pandemics have forced humans to break with the past and imagine and create a new one [1,2,3,4,5,6,7]. This one is no different. Now the world today must be more inclusive, resilient, flexible and sustainable [2, 4, 5, 8, 9,10, 11,12,13].

Education together with health was one of the most and worst affected sectors by the COVID-19 pandemic. In fact, more than 1.6 billion children across 180 countries were out of school during the height of the pandemic. Educational institutions across the globe were forced to make changes that had never been seen before. There was an increased transform to digital learning to safeguard the well-being of students and teachers while ensuring continuing education [2, 12, 14, 15].

Students were taken out of school to experience remote learning, in some form or another, from home. Teachers switched much or all their teaching to a virtual environment. Most of the teachers had no experience in this form of teaching. Therefore, they acquired or increased their own digital proficiency, mastered technical tools and developed new pedagogies such as managing group work and assessments online. Remote teaching created its own virtual environment both for students and teachers which created collegial interactions beyond the immediate school setting. The situation created threats to well-being of both students and teachers [2, 12, 14, 15].

These challenges and responsibilities result in debates, engagement and action by governments, international organizations, civil society, and more importantly educational professionals, as well as learners and stakeholders at all levels [3, 5, 6, 16, 17, 18].

Post COVID era guides us on many topics for a more inclusive, resilient, flexible and sustainable Development in education [2, 4, 5, 9, 10, 11, 12, 13]:

1. Societies must Commit to strengthen education as a common good for public in order to lessen educational inequalities. No society can flourish unless everybody flourishes.
2. Education for everybody. A new concept of education for all ages, backgrounds and profiles of intelligences.
3. Collaborative professional development networks should be created to improve teachers' professional capital.
4. Technology could be considered as blessing. However, it also clearly showed us that effective remote learning requires the human touch and still quality and effective teacher is number one. Technology can be a perfect assistant but no technology can replace a quality teacher. COVID-19 reminded educators, policymakers, and society, about the importance of teachers, teaching and both importance and value of the teaching profession and teacher well-being.
5. Having technology will not be enough. Teachers' digital expertise should be improved and this process should at pre-service teacher education programs.
6. Technology should be used more humanely. Many educators have found that the misuse of technology can make students feel more isolated, lonely and anxious. Also, without a human connection, students tended to get bored with what looked like automated lessons on screen.
7. Educational systems must make free and open-source technologies available to both teachers and students. More and quality educational resources and open access digital tools must support teachers and students. These resources should not be built outside of the pedagogical frame. All tools and resources should take teachers and students into account. Ultimate care should be spent not to allow so-called digital platforms to control education, especially those owned by private companies. Access to digital learning platforms, internet access, and digital devices for learning, should be provided free of charge.
8. When everything goes digital, digital security and ethics became vital. Therefore, strong and ethical security measures should be established.
9. Pandemic conditions have underlined the value of teachers' expertise which cannot be replaced by the improvised support of parents and families when learning takes place at home. Therefore, teachers and educators should also be considered as heroes, due to the huge effort they have put in to change, adapt and ensure continuation of education. Parents and families realized how hard is to deal with kids even there is only one at home where teachers have to deal with at least 20 of them in each class and even more in some contexts. Therefore, a better, sound and fair relationships between teachers and parents and other parties included in the process should be retaught and redesigned to improve the flow of communication.
10. It became obvious that education is not just about cognitive learning. Learning occurs through a complex interaction of cognitive, social and emotional processes.
11. We need to foster democratic education more than previously practiced alternatives. High-trust relationships and shared power between teachers and students. High degree of student voice and agency. Respect for children's ideas and contributions for constructing the desirable change.
12. COVID-19 taught us the value of schools. While we need to protect the social value and space provided by schools as we transform education, more outdoor and nature-based teaching and learning opportunities that improve learning and enhance young people's well-being should be expanded.
13. Curriculum must be redesigned for the new post COVID era. It is the right time for deep reflection on curriculum, particularly on preparing learners for more uncertainty.
14. Education systems should less bureaucratic and more flexible to respond to crises, complexity and uncertainty. Better financing of public education must be established in order to lessen the inequality and imbalances.
15. COVID-19 once again showed that more humanistic and individualized assessment play an important role in the process of learning and motivation. Learning the pathway to achievement should definitely be changed including less use of large-scale high-risk standardized tests and more emphasis should be given to using alternative assessment techniques. The types of assessment we perform, determine how students will approach the learning task and what study behaviors they will use. As Biggs [19] puts it "What and how students learn depends to a major extent on how they think they will be assessed" (p. 141). With the current unreasonable

obsession with high stakes testing and the lack of emotional support for young people, anxiety is bound to play a bigger role in learning environments.

It is clear that the pandemic has created a unique opportunity for educational changes that have been mainly proposed before COVID-19 but were never fully understood or implemented. The crisis brought a new urgency to the debate on the merits of high-stakes examinations versus continuous alternative assessments. Results from the many polls and studies suggest that the crisis will lead to greater use of continuous alternative assessments including the final student evaluations [2, 6, 20, 21, 22].

Therefore, the focus of this paper will be more on the ever-neglected and ignored part of learning and teaching, assessment. And it is believed that the paper will help educators to rethink what they understand from assessment and redesign how students are assessed and reflect on why they conduct assessments.

## **2. GOAL OF EDUCATION AND ASSESSMENT**

The conventional goal of any educational system is to prepare students for an upper level, from elementary to college or careers. Although the world and realities have changed dramatically, this long-lasting view still holds value. The world has fundamentally evolved as a result of ever-advancing technology and the COVID-19 pandemic [5]. Therefore, educators need to stay up-to-date so that the strategies they use will serve their learners well into the future. And education systems must start preparing socially responsible good citizens not only for an upper level. Although this aim might seem like an enormous task, it is not as difficult as one might think.

Upper level and career preparation may continue to be a focus, but it's important to understand that there is no one-size-fits-all recipe for success since it varies greatly from learner to learner. COVID-19 pandemic and aftermath present both challenges and opportunities for educators. Our world needs students who could replace conventional ideas with innovative solutions to real problems to answer the needs of both the society they live in and globally [5]. There are many ways to achieve this goal. Therefore, when designing lessons, projects or assessments, all educators at all levels should consider whether or not they help learners to:

Engage in real problem-solving

Collaborate with peers

Think critically, creatively and innovatively

Think, act socially responsibly

Communicate clearly and accurately

Develop open-mindedness

Expect the unexpected

Make real-world applications

Reflect on learning

Analyze, reason, and evaluate

Develop and practice entrepreneurial skills

Continually adapt to new ways of thinking, working and perhaps new occupations [2, 23, 24]. It becomes obvious that above listed skills cannot be taught or achieved by locally and internationally designed and applied high-stake tests or locally performed lower-order paper-pencil type of assessments. While the above elements are definitely essential, I am not insisting that not all lessons, assignments or assessments will include all of these elements. However, there is a need to develop routinely implementable standard systems that either directly address these skills or create conditions for developing these skills.

“In the process of social change, educators face the challenge of creating schools that provide adequate services to students, even when they are unsure about the nature of society that students will face in the future [25]. Last 50 years, especially the last 3 years, large-scale cultural, social, economic, political, environmental and technological changes forced the notion of schooling to change, including classroom assessment [26]. However, although many so-called reforms were introduced not much has changed especially regarding how and why to assess students. We have been hearing the same old songs. As a result, most reforms have failed or bound to failing.

Assessment, in its various forms, affects almost everything that happens in a classroom. An effective, vision oriented and targeted assessment tells us what our students' mindsets are, what they have learned and what they need help for. It allows teachers to adapt to their students' needs and plan accordingly to ensure that each student can reach their full potential in order to perform their best to solve the possible problems they will face in the real world [27, 28].

For most of the 20th century even early years of 21<sup>st</sup> century, classroom assessment was considered a kind of index for learning following a kind of predictable pattern where teachers teach, test students' knowledge on the material taught, make judgements on students' achievements, and move on to the next unit, level, etc. how students. This vision of assessment is far from the society's expectations of schooling and preparing for the new world with full of changes and uncertainties [29].

Therefore, we should be aware of what we understand from assessment and what we do for assessment. We need to focus on assessment preparing individuals to the real world and unexpected problems they will face. Traditional and accustomed use of one-size-fits-all type of lower-order thinking skills-based testing and paper pencil exams are far from accomplishing this aim. We need more performance based alternative type of assessment which honor diversity, individual differences and prepare individuals to the real world. In learning, people obtain knowledge, skills, and work habits—all of which they use to apply knowledge and skills to "real-world" situations. Performance-based learning and assessment strategies involve the performance of tasks that are meaningful and engaging to students in order to learn and improve their skills which will be used in real world where unexpected things happen so often [30].

Performance-based learning and assessment (PBLA) approach includes a balance of skills and facts to help individuals learn more effectively. Performance-based learning and assessment are not part of the design process for a curriculum. They help teachers to implement the curriculum in the best possible way including classroom activities and assignments. Since authentic tasks are rooted in the curriculum, teachers can develop tasks based on what is useful to them. Through this process, assignments become more authentic and more meaningful to students. And in return, this helps them to develop a deeper understanding of the material and to truly appreciate the skills they are learning. Where traditional tests help answer the question "Do you know?" performance-based alternative assessment techniques help answer the question, "How well can you apply what you know?" These two visions of literacy are not in competition. However, since the common way is more with "Do you know" we need to focus on more "How well can you apply what you know" or at least to find the right balance between them [31].

Here I would like to share the differences among Assessment of, for and as Learning and focus on assessment as learning since it helps educators to bring the above vision to come true.

Assessment of Learning (AoL) is intended to provide evidence of achievement to parents, education policy makers, other educators, students themselves, and possibly some external groups (employers, other educational institutions, etc.) [26]. The purpose of this kind of assessment is usually Summative and is mostly done at the end of a task, unit of work etc. This type of assessment is mainly a kind of benchmark to see "how-well students they can do".

“AoL is the assessment that becomes public and results in statements or symbols about how well students are learning. It often contributes to pivotal decisions that will affect students' futures. It is important, then, that the underlying logic and measurement of assessment of learning be credible and defensible.” [26]. Whatever your thoughts on AoL and the objectivity usually attached to these types of assessments, they play a huge role and dominate educational systems: they impact the design and delivery of learning programs, they leave an enduring mark. on the fabric of education delivery, and

even play an important role in comparing and contrasting the educational performance of schools and students worldwide through international tests like PISA and/or TIMSS).

Whatever your thoughts on AoL and the objectivity attached to these types of assessments, they play a huge role in our education system: they impact the design and delivery of learning programs, they leave an indelible mark on the fabric of education delivery, and is it also fundamental to compare the educational performance of schools and entire countries (through PISA). From the learner's perspective, the impact of summative assessments could not be greater: employability, future income, self-esteem and, according to a recent study, even life expectancy [ 32].

Assessment for Learning (AfL) happens during the learning, often more than once, rather than at the end. Students understand exactly what they are to learn, what is expected of them and are given feedback and advice on how to improve their work. In AfL teachers use assessment as an investigable tool to find out as much as they can about what their students know and can do, and what confusions, preconceptions, or gaps they might have [26].

The wide variety of information that teachers collect about students' learning processes provides the basis for determining what they need to do next to move student learning forward. It provides the basis for providing descriptive feedback for students and deciding on groupings, instructional strategies, and resources." [26]. The heart and the main focus of AfL is about checking for student understanding and responding as an educator. Learners are engaged in the learning process, and by collecting and analyzing data, the teachers can adapt their teaching and delivery to maximize students' understanding and progress.

Teachers also use assessment for learning to enhance students' motivation and commitment to learning. When teachers commit to learning as the focus of assessment, they change the classroom culture to one of student success." [26]. Whatever the preferred learning assessment strategy of educators, the key here is how they collect the data and what they do on/with it. Teachers and education institutions usually collect a lot of data but generally they are not using the evidence to do something they you couldn't have done without the evidence! So, it is difficult to call this as formative assessment.

Compared to the two above assessment ways, assessment as learning (AaL) is comparatively a new concept which is based on the philosophy of assessment for learning, placing more and purposeful emphasis on feedback and metacognition. As Dann [33] states, AaL examines how students self-regulate their own learning, make complex decisions about how to use feedback and how to address their learning priorities in the classroom.

Assessment as Learning occurs when students reflect on their progress and monitor it to shape their future learning goals. "Assessment as learning helps students to take more responsibility for their own learning and monitoring future directions. Through this process students are able to learn about themselves as learners and become aware of how they learn – become metacognitive (knowledge of one's own thought processes)" [26]. In a sense, assessment as learning generate reflective students who have the knowledge and skills to decide their next learning step.

Traditional classroom assessment used throughout the 20th century, generally followed a predictable pattern including teachers' teaching, testing students' knowledge and skills on the material, usually knowledge, making judgements in relation to students' success primarily based on the testing, and afterward moving unit, chapter or level. However, due to societal changes in expectations from schools and education, cognitive knowledge has furnished new insights into the nature of learning, and as a result the traditional role of assessment in motivating student learning has been challenged [34].

### **3. CURRENT PICTURE AND NEED FOR ALTERNATIVE ASSESSMENT**

As the COVID-19 pandemic showed and even such pandemics will continue to spread in various forms around the world, school systems everywhere faced and will face crisis of educational management whether in-person, virtual, and or hybrid learning modes. In this uncertain and fluid

environment, the systematic and uniformed challenges of assessing what and how students are learning will become even more complex [6, 18, 20, 21].

However, the understanding in our current education system is almost entirely focuses on AoL. In short, the difference between AoL and AfL is a matter of function and purpose, that is, a matter of 'who'. However, AaL is a way to see what students can do and helps teachers see what they need to do [26]. Unfortunately, this very important detail is ignored even at the university levels. AaL informs us to use alternative and performance-based assessment techniques.

Alternative and performance-based evaluation methods fall in this type of assessment group. It is these types of assessment methods that I advocate, that I have used in my lessons for decades, and that constitute one of the main pillars of my educational philosophy. Some of these are; academic games and competitions, projects, progress/development interviews, questions with structured answers, student diaries, portfolios, process sheets, home exams, minute papers, brainstorming, case studies, interest centers and exhibitions, interviews with professional representatives, student contracts, inventions, exercises and practices, field observation, study and visits, independent study or supervised studies, individualized education, learning models, expert learning, oral presentations, lectures, micro teaching, problem solving, programmed and computer assisted instruction, project or activity methods, protocols, memorization, role-plays, simulations and student teams [30, 35] Despite of a huge bulk of literature on the internet, unfortunately, both teachers and faculty members suffered through distance education (I prefer to call it distance learning) during the Covid-19 pandemic since alternative and performance-based assessment methods are not known enough and are not widely used.

Differences are the essence of life. Imagine if all trees were one species and red pine? However, unfortunately, those who deal with education have based their understanding of education, which they misinterpreted, on this basic mistake, and by continuing this mistake, they cause individuals, and therefore humanity, to be dragged into chaos, consciously or unconsciously. You can find this philosophy in almost all my speeches and articles. Because the basis of my philosophy of life, and as a result, my philosophy of education, emphasize the idea of respecting individual differences, nurturing these differences with equal respect and using alternative systems to assess learners [30].

While the importance of education is increasing and constantly being expressed, high-risk, standardizing standardized tests are becoming more at the center of education and form the basis of poor quality. This terror includes teachers who have undergone similar tests and unfortunately are exposed to such tests throughout their university education. The whole goal of teachers, administrators, families, society and those who manage education is about how accurately students' test scores are calculated and how much these scores can be increased. What's the point of comparing students, teachers, schools, cities or even countries with test scores? If there is no comparison and contrast, the whole competition system will surely collapse. If the system of the race collapses, what will those who advocate this system and those who benefit, in fact make fortune out of it, do? Since they do not want to lose this great amount of revenue, they become more and more aggressive on presenting the central standard tests to the nations every year and hypnotize people [30].

We should not be afraid of the open standards that alternative assessment techniques will create. What we should fear instead is the standardizing standards imposed by so-called standardized tests. If schools are to be reformed, this can never be done by testing, nor should it be. Any villager or chicken breeder knows that if s/he wants chickens to grow, s/he can never do it by weighing them. So, what do they do? S/he feeds the chickens. When s/he realizes that their chickens are not feeding enough or they do not meet the expectations, s/he changes their feed. In meantime, they learn what they like, what they don't like and what their needs are. S/he makes sure that they are well-fed. So why are those who govern nations and administer education only concerned with children's scores? Can't they find the right path like ordinary but smart villagers? By the same logic, children will never develop unless they receive quality education where their desires and abilities are nurtured, honored and properly assessed so that they can perform what they have acquired so far. As a result of this wrong point of view, we torture smart brains in classrooms by just focusing on high-risk standardizing tests

and test scores which create one type of individuals and populations with same abilities and talents. This is a typical society-engineering [30].

When students are not successful in the tests, teachers, schools and provincial/district directors are usually held accountable by the system. We hear and see that very serious pressure is being placed on these groups regarding the test results. High-risk testing is part of the policy-making process. These tests determine not only the future of the individuals but also the future of the schools, school/district directors and eventually the countries as in the case of PISA and TIMSS [30].

Education is no longer shaped in the hands of educators. Those who run the economy, those who blindly believe in neoliberal philosophy, those who take the advantage of high-risk tests in various ways, have surrendered education to the one-size-fits-all press. Under his condition and state, schools have unfortunately become places where the foundations of injustice and terror are laid and formed by meeting the brutal ambitions of the neoliberal system [30].

The source of high-risk tests is eugenics, that is, IQ (intelligence quotient) and social competence movements to prove the superiority of one race, one ethnic group to another, to perform the biological improvement of people. In 1883, Galton coined the term eugenics. Galton dealt with many issues and made many innovations [36]. These fields include geographical travels and discoveries, geography, meteorology, psychology (especially psychometry), criminology, (proto-)genetic science, eugenics, and statistics. Galton suggested that measurements could be used to monitor the progress of individuals as well as the performance of schools. Eugenics envisioned the breeding of a human race by genetic control and selection, that is, the correction of the human race through the selection of "unhealthy" and "bad" individuals and the regulation of "mating" [37].

High-risk testing affects the curriculum and pedagogical aspects of testing and control over identities. Of course, it is very difficult to write on a complex subject with many variables such as education. High-risk testing is only one element of the entire education system. However, I must admit that it is one of the most important keys that forms both the basis and starting point of many problems we face in education [30].

Our schools have been places where students, in a way, are seen as raw materials, are molded into shape and turned into different products to fulfill different tasks in life. This is a typical 19<sup>th</sup> century perspective transferred to the 20<sup>th</sup> century and unfortunately to the 21<sup>st</sup> century. Standardizing high-risk tests began to be centralized in education in the 1900s and this concept is still continuing. And this culture, in the meantime, led to an increasing control over the educational process.

The tests turned schools into factories, teachers into workers, and students into products that came off the product line [38]. And all these have been done and is being done directly through tests. In such tests, students' lives, home cultures, stories, educational backgrounds, individual differences, curiosity, enthusiasm, socio-economic conditions mean nothing. The effects of the local conditions, realities or special circumstances of individuals or groups have always been ignored. In contrast, a globalized norm is dictated what the product, i.e., students, should look like. This removes the students from the learning process and do not let them to taste the honor of learning. This process and the philosophy of education allowed the tests to be a kind of eugenic practice, if not what they are used to be. In fact, today the OECD (Organization for Economic Development and Cooperation) is in a similar global practice via PISA (Program for International Student Assessment) [30].

Standardizing, standardized tests fulfill the task of controlling not only the place of students and learning in the production model of education, but also the entire educational process [21]. This process, which starts from the primary education and continues until the doctoral education, causes uniform people to take place in this production line and leave that band as a one size product. Worst of all, faculty members who will work at universities are unfortunately recruited according to the scores taken through such high-risk tests in Türkiye.

#### **4. INDIVIDUAL DIFFERENCES AND ALTERNATIVE ASSESSMENT**

Individual differences, some of which are shaped as a result of different factors and can be changed and developed over time, are the facts that make people different from each other. Some of these

differences are with us from birth, that make us who we are and help us to reveal ourselves within ourselves. The most basic of these are brain dominance, general intelligence, multiple intelligence profile, motivation, age, gender, attitude, self-confidence, risk taking, learning strategies, learning styles, Field Dependency/Independence, personality, tolerating ambiguity, anxiety level, and beliefs about learning [30, 35].

How can one think that a person who grows up in an environment where individual differences are not valued and the state does not provide opportunities to allow these differences to emerge, act entrepreneurially, create innovation and change, and solve problems by taking risks and thinking innovatively? Can cows produce cheese? What remains if we take the color from life? The solution lies in the real inclusion of performance-based, alternative assessment systems in education, where individual differences are taken into account and valued. Any child can fly as long as their wings are not broken and they are let fly [35].

Centrally executed so-called standardized tests unfortunately are field-based and completely information-oriented, causing individual differences and activities to lose their importance. And as a result, it causes individuals not to acquire the skills that require performing observable and exhibitable skills such as foreign languages, music, painting, etc.

Individuals can practice their entrepreneurial spirits easily in countries where the education system is more liberal, where individual differences are nurtured and honored, and where individuals find the opportunity to realize themselves more often, or where central standardized tests are not used as the sole determinant (such as Finland, Denmark, Netherlands, Sweden, Switzerland). Therefore, more entrepreneurial and innovative individuals can emerge in such societies. A closer look at the Global Innovation Index will tell us a lot about this fact [39]. Same reality can be seen in the Global Entrepreneurship Monitor ranks [40]. You can easily notice that countries at the top of the list in PISA [41] scores do not hold the same places in the above indexes.

Differences are the essence of life. Imagine if all trees were one species and were all pine trees? However, unfortunately, those who deal with education have based their understanding of education, which they misinterpreted, on this basic mistake, and by continuing this mistake, they cause individuals, and therefore humanity, to be dragged into chaos, either consciously or unconsciously.

If we can transform the education system into such a system where individual differences are nurtured with performance-based assessment techniques, individuals who have excluded from the system, due to left brain focused, mathematical/verbal intelligence based high-risk tests, could all be accommodated and fed [42]. Such a system will definitely help all individuals reach and accomplish their true potentials. Such a system will also, in return, lead to raising "good citizens", which is the main duty of education. In this way, terrorism caused by education can also be prevented [30].

## **5. CONCLUSION**

COVID-19 has impacted the lives of each and every one of us across the globe and this global scale, is forcing people and countries work together while facing the local challenges. Here I would like to remind how countries including so-called developed countries like USA needed even a simple mask during the early days of pandemics. Therefore, people all over the world now need global cooperation skills to solve problems humanity will face both in present and in the future more than ever [2, 5, 13, 39].

In the future, creativity, communication and collaboration will be the top skills sought by the societies, along with empathy and emotional intelligence [9, 12, 25]. Thus, education systems should be spending more time on preparing students to gain such skills. Education systems should also be able to prepare students to both recognized and possible unknown and unpredicted threats they will face in the future. And such a preparation cannot be fulfilled with traditional ways of assessment, mainly testing [21].

Therefore, it is a must that educators at all levels to use this crisis created by COVID-19 pandemic followed by crisis of energy, food and security caused by Russia-Ukraine-war as an opportunity to push for more human oriented significant shifts in almost every part of education by answering what,

how, where, who, and when. In other words, from education philosophy to curriculum, from teaching to teacher, from teacher education to teacher development and from learning to assessment of learners should be redesigned accordingly.

I am never against accountability in assessment. However, I am against the idea that the only way to do this is through high-risk centralized tests that standardize and enslave people, and offer endless possibilities to those with developed mathematical and verbal intelligence. Being against such testing does not mean at all against accountability for education. Because only a certain type of success is preoccupied, and only this group is valued, the vast majority are ignored and unfortunately not considered other things that people can be good at. Evaluation; necessary for qualified, effective and meaningful teaching. Teachers, schools, and those who administer education have responsibilities to students, families, and morality. However, the current system is 100% dependent on only one type of evaluation system, and more importantly, it is never just and democratic [30].

We certainly need an accountability system that honors both children and the society. Only such a system can bring about equality and justice. Such an honoring assessment system should be democratic and include different assessment techniques. It should exhibit a bottom-up understanding instead of being directed from the top down, that is, by some institutions, organizations [30].

And it is obvious that we cannot address the challenges of this new era without a more effective multi-alternative way of how we consider assessment and education in general [4, 22, 32].

It is time to create a truly inclusive school system, where different opportunities are opened to all children. Inclusive education is not just the inclusion of people with disabilities, ethnicities or different preferences into the system. Real inclusiveness can be achieved by hosting all children in the system not just those who have more developed mathematical and verbal intelligence and are better test takers, as it is the case in the current high-stake test-driven educational system [42]. All children should be invited into this system and these children should be directed to all doors of life with appropriate learning methods in line with their interests, desires and abilities. These fields should cover a wide range from arts to sports, from basic sciences to anthropology, from education to agriculture. Students' progress in line with their interests, desires and skills will also be able to respond to the pragmatic needs of the society. Many people have many interests and that is a very good thing. However, millions of people have been forced to one-size-fits-all suits for years, and unfortunately, they continue to do so. What percentage of society do you think needs or will need extensive computation, coding, artificial intelligence, robotics and industry 4.0 applications? What would be the point of teaching these to all children? [30]

In the education system of the future, tests should not be on the radar of children so often, or even if they do, they should never be the only element on their radar. We must all fight for the honor, dignity and happiness of learning, true teaching and development, education, and share with everyone the ideas and practices that are terrorizing humanity and corrupting our social and biological genes [30].

The history has showed us that decisions we have made during crises shape the future world for decades [7, 43].

The world after COVID-19 is unlikely to return to the world that was. Many trends already underway in the global economy are being accelerated by the impact of the pandemic and the crises following it. These crises are alarming, in part, because it has several new and unfamiliar features [15].

The COVID-19 crisis has changed our world and our global perspective. It has also taught us how education needs to be transformed to prepare learners at all levels for the future [7].

Geneticists, biologists, virologists already entered to the *cosmic room of the human being*. The rest is a kind of Cat and mouse play. So as educators we should be ready for the next pandemic and some other environmental disasters. Therefore, we should be prepared for some mixture of in-person and digital teaching processes. A well-designed blended approach can allow flexibility to answer the needs and well-being of both teachers and students.

If we can transform the education system into a system where individual differences are nurtured and honored by using performance-based assessments and where the people we excluded from the

system due to mathematical/verbal intelligence-based and left-brain-focused, tests, are accommodated and fed, we will help all individuals reveal their true potentials. Such a system will also lead to raising "good citizens", who are happy and using their own potentials to help humanity. In this way, terrorism caused by education can also be prevented [30].

## Disclaimer

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## REFERENCES

1. Angrist, Noam, Bergman, P. & Matsheng, M. School's Out: Experimental Evidence on Limiting Learning Loss Using 'Low-Tech' in a Pandemic. NBER Working Paper 28205, National Bureau of Economic Research. 2020a. Retrieved from <https://www.nber.org/papers/w28205>
2. International Monetary Fund. How will the world be different after COVID-19? Six prominent thinkers reflect on how the pandemic has changed the world. 2020. Retrieved from <https://www.imf.org/Publications/fandd/issues/2020/06/how-will-the-world-be-different-after-COVID-19>
3. The Organization for Economic Cooperation and Development. The territorial impact of COVID 19: Managing the crisis across levels of government. 2020a. Retrieved from <https://www.oecd.org/coronavirus/policy-responses/the-territorial-impact-of-COVID-19-managing-the-crisis-across-levels-of-governmentd3e314e1/>
4. The Organization for Economic Cooperation and Development. Building back better: A sustainable, resilient recovery after COVID-19. 2020b. Retrieved from <https://www.oecd.org/coronavirus/policy-responses/building-back-better-a-sustainable-resilient-recovery-after-covid-19-52b869f5/>
5. United Nations Educational, Scientific and Cultural Organization. International Commission on the Futures of Education. Education in a post COVID world: Nine ideas for public action. 2020a. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000373717>
6. United Nations Educational, Scientific and Cultural Organization. COVID 19—An overview of national coping strategies on high stakes examinations and assessments. Working Document. 2020b. Retrieved from [https://en.unesco.org/sites/default/files/unesco\\_review\\_of\\_high\\_stakes\\_exams\\_and\\_assessments\\_during\\_covid-19\\_en.pdf](https://en.unesco.org/sites/default/files/unesco_review_of_high_stakes_exams_and_assessments_during_covid-19_en.pdf)
7. Susskind, D. Manyika J. Saldanha, J. Burrow, S. Rebelo, S. Bremmer, I. LIFE POST.COVID-19. Six prominent thinkers reflect on how the pandemic has changed the world. International Monetary Fund. 2020. Retrieved from <https://www.imf.org/en/Publications/fandd/issues/2020/06/how-will-the-world-be-different-after-COVID-19>
8. Andrabi, Tahir, Benjamin Daniels, and Jishnu Das. Human Capital Accumulation and Disasters: Evidence from the Pakistan Earthquake of 2005. Journal of Human Resources 52(2): 1088-1107. 2021. Retrieved from <http://jhr.uwpress.org/content/early/2021/06/02/jhr.59.2.052010887R1.refs>
9. Angrist, Noam. What the Pandemic Taught Educators: Creative remote education can make up for learning lost during school disruptions. International Monetary Fund. 2022. Retrieved from <https://www.imf.org/en/Publications/fandd/issues/2022/06/what-the-pandemic-taught-educators-angrist>
10. Angrist, N., Evans, D. K., Filmer, D., Glennerster, R., Rogers, F.H., & Sabarwal, S. How to Improve Education Outcomes Most Efficiently? A Comparison of 150 Interventions Using the New Learning-Adjusted Years of Schooling Metric. Policy Research Working Paper No.

9450. The World Bank. 2020b. Retrieved from <https://openknowledge.worldbank.org/handle/10986/34658>
11. Angrist, N., Djankov, S., Goldberg, P.K., Patrinos, H.A. (2021). Measuring human capital using global learning data. *Nature*. 2021; 592, 403–408. <https://doi.org/10.1038/s41586-021033237>
  12. Hargreaves, A. What the COVID-19 pandemic has taught us about teachers and teaching. *FACETS*. 2021; 6 (1). <https://doi.org/10.1139/facets-2021-0084>
  13. Sheninger, E. *Disruptive Thinking in Our Classrooms: Preparing Learners for Their Future*. ConnectEDD; 2021.
  14. Ribeiro, A. What COVID-19 has taught us about education. *THINK*. 2022, January 24. Retrieved from <https://thinkmagazine.mt/what-covid-19-has-taught-us-about-education/>
  15. Schleicher, A. The impact of COVID-19 on education - Insights from Education at a Glance 2020. OECD. 2020. Retrieved from <https://www.oecd.org/education/the-impact-of-covid-19-on-education-insights-education-at-a-glance-2020.pdf>
  16. The United Nations Children's Fund. 'What will a return to school during the COVID-19 pandemic look like?'. UNICEF. 2020, August 24 Retrieved from <https://www.unicef.org/coronavirus/what-will-return-school-during-COVID-19-pandemic-look>
  17. Banerjee, A., Banerji, R., Berry, J., Duflo, E., Kannan, H., Mukerji, S., Shotland, M., & Walton, M. From Proof of Concept to Scalable Policies: Challenges and Solutions, with application. *Journal of Economic Perspectives*. 2017; 31(4): 73-102. DOI: 10.1257/jep.31.4.73
  18. United Nations. Policy Brief: Education during COVID-19 and beyond. United Nations. 2020, August. Retrieved from [https://unsdg.un.org/sites/default/files/2020/08/sg\\_policy\\_brief\\_covid-19\\_and\\_education\\_august\\_2020.pdf](https://unsdg.un.org/sites/default/files/2020/08/sg_policy_brief_covid-19_and_education_august_2020.pdf)
  19. Biggs, J.B. *Teaching for quality learning at university*. 1999. Open University Press.
  20. United Nations Educational, Scientific and Cultural Organization. UNESCO COVID-19 Education Response Education Sector Issue Notes, No: 4-3: Managing high-stakes assessments and exams during crisis. May, 2020c. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000373387>
  21. United Nations Educational, Scientific and Cultural Organization. Could coronavirus shape the way assessments work forever? 2020d. Retrieved from <https://world-education-blog.org/2020/03/20/could-coronavirus-shape-the-way-assessments-work-forever/>
  22. The World Bank. High-stakes school exams during COVID-19 (Coronavirus): What is the best approach? 2020. Retrieved from <https://blogs.worldbank.org/education/high-stakes-school-examsduring-COVID19-coronavirus-what-best-approach>
  23. Lee, Jong-Wha, and Hanol Lee. Human Capital in the Long Run. *Journal of Development Economics*. 2016; (122):147–69. <https://doi.org/10.1016/j.jdeveco.2016.05.006>
  24. The Organization for Economic Cooperation and Development. *Creating Effective Teaching and Learning Environments: First Results from TALIS*. 2009. Retrieved from <https://www.oecd.org/education/school/43023606.pdf>
  25. United Nations Educational, Scientific and Cultural Organization. *Reimagining our futures together: a new social contract for education*. 2021. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000379707.locale=en>
  26. Western and Northern Canadian Protocol for Collaboration in Education (WNCP). *Rethinking classroom assessment with purpose in mind: assessment for learning assessment*

- as learning assessment of learning. Manitoba Education Citizenship & Youth.2006. Retrieved from [http://www.edu.gov.mb.ca/ks4/assess/wncp/rethinking\\_assess\\_mb.pdf](http://www.edu.gov.mb.ca/ks4/assess/wncp/rethinking_assess_mb.pdf).
27. Banta, T.W., Jones, E.A., and Black, K.E. Designing effective assessment: Principles and profiles of good practice. Jossey-Bass; 2009.
  28. Terenzini, P.T. Assessment: What it is and what it isn't [Electronic version]. ADE Bulletin. 1993, Spring; (104), 14-17. Retrieved from <http://web2.ade.org/ade/bulletin/n104/104014.htm>
  29. Price, K. J., Pierson, E., & Light, D. Using classroom assessment to promote 21<sup>st</sup>Century learning in emerging market countries. Paper presented at Global LearnAsiaPacific Melbourne, Australia. 2011. Retrieved from <https://cct.edc.org/sites/cct.edc.org/files/publications/Using%20Classroom%20Assessment.pdf>
  30. Altan, M.Z. Eğitim Terörü [Educational Terror]. Destek Yayınları; 2022.
  31. Stecher, B. Performance Assessment in an Era of Standards-Based Educational Accountability. Stanford Center for Opportunity Policy in Education; 2010.
  32. Hall, W. What is Assessment as Learning? Enhancing teaching with data. 2020, December 10. Retrieved from [https://www.century.tech/news/what-is-assessment-as-learning\\_enhancing\\_teaching-with-data/](https://www.century.tech/news/what-is-assessment-as-learning_enhancing_teaching-with-data/)
  33. Dann, R. Assessment as learning: blurring the boundaries of assessment and learning for theory, policy and practice. Assessment in Education: Principles, Policy & Practice. 2014; (21:2), 149-166, <https://doi.org/10.1080/0969594X.2014.898128>
  34. United Nations Educational, Scientific and Cultural Organization. Student Learning Assessment and the Curriculum: Issues and Implications for Policy, Design and Implementation. October 2015. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000235489>
  35. Altan, M.Z. Türkiye'nin Eğitim Çıkmazı, Girişimci Öğretim Girişimci Öğretmen [Turkey's Education Dilemma, Entrepreneurial Teaching Entrepreneurial Teacher]. Pegem; 2014.
  36. Galton, F. In Wikipedia. 2022, August 22. [https://en.wikipedia.org/w/index.php?title=Francis\\_Galton&oldid=1105938784](https://en.wikipedia.org/w/index.php?title=Francis_Galton&oldid=1105938784)
  37. Gillham, N.W. Sir Francis Galton and the birth of eugenics. Annu Rev Genet. 2001; (35):83-101. PMID: 11700278. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/11700278/>
  38. Watters, A. The Invented History of The Factory Model of Education. *Hack Education*. 2015, April 25. Retrieved from <https://hackeducation.com/2015/04/25/factory-model/>
  39. WIPO. Global Innovation Index 2021: Tracking Innovation through the COVID 19 Crisis. Geneva: World Intellectual Property Organization. 2021. Retrieved from [https://www.wipo.int/global\\_innovation\\_index/en/2021/](https://www.wipo.int/global_innovation_index/en/2021/)
  40. GEM. 2020/2021Global Report. Global Entrepreneurship Research Association. 2021. Retrieved from <https://www.gemconsortium.org/file/open?fileId=50691>
  41. The Organization for Economic Cooperation and Development. PISA 2018: Insights and Interpretations. 2019. Retrieved from <https://www.oecd.org/pisa/publications/pisa2018results.htm>
  42. Altan, M.Z. Extrability and the Theory of Multiple Intelligences as a Phenomenon for an Inclusive Education Renewal. European Journal of Special Education. 2020; 5(3): 17-38.

43. Georgieva, K. Facing Crisis Upon Crisis: How the World Can Respond. International Monetary Fund. 2022, April 14. Retrieved from <https://www.imf.org/en/News/Articles/2022/04/14/sp041422-curtain-raiser-sm2022>

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