



Five Times Five: Reinventing Education for the 21st Century*

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Abstract

In “Five by Five: Redefining Education for the 21st Century,” the author explores the necessary transformations in education to meet the demands of the evolving world. Reflecting on the outdated 20th-century model, he emphasizes the need for adaptability, creativity, and technological proficiency in the current era. The essay covers five key aspects. The author discusses the essential traits to cultivate in the minds of youth, such as critical thinking, imagination, curiosity, discipline, and ethics. The essay envisions a future education system marked by continuous learning, modular offerings, and a blend of formal, non-formal, and informal learning formats. Ultimately, the author advocates for a holistic approach that prepares students for the challenges and opportunities presented by our rapidly changing society.

“The policies that have worked well in the past are not necessarily the best to confront the challenges of tomorrow...” – Ismail Serageldin

1. Introduction: Looking at the Future

Our education system evolved in the 20th century to produce graduates who could find employment in the economy of that century. Our educational institutions mostly stifled creativity and instilled discipline and an aptitude for taking instructions from an authority figure (the teacher in the classroom) and a capacity to put up with repetitive work that was frequently boring (drills and exercises). Grading and exams reinforced this system, which was crowned by a formal certificate at graduation.

In fact, the certification function was, and largely remains, about certifying that this graduate is a disciplined individual who can take instructions from an employer and has a core of knowledge that will allow him or her to do repetitive (boring) work at an acceptable speed and to an acceptable level of accuracy. The economy involved many repetitive tasks, whether in manufacturing factories and assembly lines, or in private sector offices or bureaucratic government agencies. This is what the employers of the past wanted in a model employee, and thus, educational establishments prided themselves on producing employable graduates.

But that was the past... The economies of the world have been transformed, and are in the process of accelerating rates of further change as the digital revolution becomes the new

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standard for connectivity and the hallmark of the new generation. Employers today value employees who are up to date on the latest technology and information, who know how to work in teams and across disciplines, and who can navigate both diversity in the workforce and constant change and transformation in the context of the work and the tools of the trade.

Education generally, and higher education specifically, has been clinging to a business model that is largely obsolete, even as private universities charge ever more for their services. But even higher education has been seeing some change in the last decades, as the internet wrought its unstoppable change and new products such as MOOCs and distance learning became possible. Society was changing rapidly, and educational establishments had to change.

So let me, in this essay, take on five broad topics:

- Five features of our changing world.
- Five characteristics of the mind we need to cultivate.
- Five kinds of education for tomorrow.
- Five aspects of the new education.
- Five essential transformations of youth.

You will note that, by coincidence, these five main headings are each comprised of five main elements. That is the basis of the title of this essay: “**Five by Five**”. Let us now discuss each of these five main topics.

2. First: Our Changing World

The 21st century has brought a profound transformation to our world. Largely thanks to the internet, we can see acceleration in all aspects of globalization, travel, trade, financial integration across nations, and social connectivity, even as new Science, Technology and Innovation (STI) bring ever newer products to the market. Rocked by at least one huge recession (2008-2009), the Euro-crisis (mostly Greece and Southern Europe), and several wars, the world economy has nevertheless grown and the world has pursued a common vision of development: first the Millennium Development Goals (MDGs) for the period 2000-2015 and then the Sustainable Development Goals (SDGs) for the period 2015-2030. The success of the first set of goals was largely helped by the enormous transformation of China, which not only grew at a blistering pace but also lifted hundreds of millions of its citizens out of poverty.

But the education crisis became apparent in the Euro-crisis, where austerity was imposed on the economies of countries like Spain, Italy and Greece, resulting in unemployment rates that exceeded 20% and youth unemployment rates that were double the national average. Despite their education, the recession not only hit them hard but also left permanent scars on many of them.

Many young people were so frustrated that they gave up looking for work or accepted any work, including dead-end jobs that offered no career prospects. The ILO estimated that the

proportion of youth among the working poor is roughly three times greater than the number of unemployed youth.

“The old disciplinary silos in education, research and teaching will no longer be adequate. We will need to cross disciplines to understand and deal with our multi-dimensional and complex problems.”

These early experiences with unemployment “scar” youth in terms of potential career development and future earning power. Furthermore, it creates distrust in the political and socio-economic systems, which erodes the fabric of society.

But that was Europe. Actually, 90% of the global youth population lives in developing countries, where employment opportunities are scarce and the institutions that govern labor markets and social security are weak. Many youths have few opportunities other than to make a meager living in the informal economy.

All this showed the inadequacy of the education system and the poor quality of its links with society at large. The Pandemic gave a huge push to online working (from home), education (distance learning), and shopping, as well as conferences and meetings. But that is only one side of the changing world, for the internet, the most transformative technology of all time, has also contributed to five profound changes in our world.

2.1. A New Paradigm of Knowledge

The way we learn knowledge, how we store and retrieve it and how we interact with it and add to it are all changing. I analyzed this a decade ago in what I called “The Seven Pillars of the Knowledge Revolution”. These seven pillars are (i) the move from print to digital, which makes the edifice of knowledge built by individual books or essays much more fluid, with websites being accessed globally instantly and updated continuously and linked by hypertext links to other essays and websites, or images and videos. The picture we imagine is no longer that of a great structure built by individual bricks (or books); rather, it is of a flowing river with many tributaries contributing to its flow. (ii) Image is as important as text, including video. (iii) Humans can no longer function without machines. They need the mediation of machines to find, retrieve and use the information with which they interact. (iv) Our global society is characterized by complexity and chaos (in the scientific sense of the terms). Our reality is complex and chaotic, meaning that complex systems have non-linear feedback loops that result in systems and subsystems that are extremely difficult to predict. Many of our models, based on simple mathematics and analogies drawn from physics, are proving inadequate. (v) Today, the concepts and techniques of computing science will become a central part of the new knowledge paradigm, and will weave into the very fabric of science and scientific practice. (vi) Transformation and convergence will become more

common. Transformation in that new discoveries will change the nature of a field of study, like DNA in biology, where genetics and all the “omics” replaced the old-fashioned focus on descriptive taxonomies. And convergence, like when we had biology and chemistry and now we have biochemistry. Today we are witnessing a convergence between Bio-info-nano technologies which will certainly presage more fertile changes in all these fields. (vii) the old disciplinary silos in education, research and teaching will no longer be adequate. We will need to cross disciplines to understand and deal with our multi-dimensional and complex problems from the environment to poverty to gender. Already much of the most interesting work is being done in between the disciplines, where they intersect or where the gaps are. All this requires is that our education systems train many people to have interactional expertise to improve their efficiency in working across multiple disciplines as well as within the new interdisciplinary area. Just as we say that diversity is enriching, so is the sharing of knowledge across disciplines.

2.2. Big Data and the Internet Explosion

The ICT revolution is continuing to expand the scope of the information available beyond anything that could have been imagined a few short years ago.

According to Forbes (Jan 2020), the International Data Corporation (IDC), one of the leading global providers of market intelligence, predicted that the amount of newly created data in 2025 would reach 175 zettabytes (175 trillion gigabytes) of new data around the world. That figure is likely to be exceeded, as have earlier forecasts.

1.7 Megabytes of data were created **every second by every person** during 2020.

90% of the world’s existing data was created in the last two years alone.

463 exabytes of data (almost **half a zettabyte**) will be generated **each day** by humans as of 2025.

So, let us ask, how big is a zettabyte? Well, if all the text in all the catalogued books in the Library of Congress was digitized, one zettabyte would be equal to more than 70 million times more!

Storage of this enormous data is being handled by the rapidly evolving “cloud” technology, with many new things on the drawing board (e.g. storage in DNA).

This internet explosion is changing everything. Analysis based on data is rapidly shifting to “Big Data Analytics,” confirming the trends discussed in the new knowledge paradigm from working with and through machines to the growing centrality of computer science.

Economies are being upended. The large tech companies now dwarf the giants of yesteryear (oil companies and car manufacturers). How can education remain static?

2.3. Social Connectivity and the Personal Hand-held Device

A predominant feature of the society that is being created before our eyes is the rapidly growing importance of the mobile phone. Today, there are more lines than human beings. A

special variety of mobile telephony, the smartphone, has allowed unparalleled connectivity and allowed the emergence of social networks, accompanied by a gradual shift from desktop and laptop to handheld devices, including tablets such as iPads.

“To be disciplined is not just about doing homework and studying diligently; it is also about how we master our emotions and remain respectful of others with whom we disagree.”

But the instrument of choice is the smartphone. That personal hand-held device has empowered a whole generation of young people to deal with data, information and communications very differently than their parents. And its power will be multiplied many times over by the introduction of the new generations of technology: 5G, 6G and beyond.

The marriage of the smartphone and the internet is the defining transformative technology, for good or ill. It brings instant news and unlimited information to the fingertips of youth, just as it allows the spread of lies and conspiracy theories on newly viable social media.

2.4. Artificial Intelligence (AI), Robotics and Brain-Machine Interface

The new era of Artificial intelligence (AI) is here. Machines can handle our production processes with much greater speed and accuracy, and in fact, robots now handle most assembly line operations in traditional manufacturing. Robots are already landing airplanes, and they will soon be driving cars without human intervention. This Artificial Intelligence (AI) revolution will be very far-reaching. The McKinsey Institute estimated that its impact will be 3000 times greater than the Industrial Revolution.

In addition, as the biological and the ICT revolutions combine their skills, they are creating new domains of achievement that will have far-reaching consequences for the interactions of humans with machines. Activities such as a direct reading of brainwaves and the rapidly expanding field of Brain-Machine Interface promise even more far-reaching transformation in the not-too-distant future.

Again, how can the designers and managers of our education systems continue to ignore these profoundly transformative technologies that are being developed before their eyes?

2.5. The Internet of Things (IoT)

The Internet of Things (IoT) is when machines talk to machines and act upon that information flow without human intervention. Many everyday uses of this capacity are undoubtedly benign and are happening every day, as when a car carries a tag on its windshield and a toll gate reads it without having to stop the car and query the driver. Security sensors in buildings to prevent fires or other problems are other examples. But that technology is evolving rapidly and will open immense fields, especially when we combine its latent power with AI and other developments of our era.

These five aspects of our rapidly changing world underline the enormous range and magnitude of the transformation we are going through. To the extent that the education system is intended to prepare our youth to better live and function in this rapidly changing society, it is clear that truly radical transformations are required in our education systems.

3. Second: The Mind We Need to Cultivate

In 1983, Howard Gardner, a distinguished professor at Harvard, revolutionized our way of looking at the education process that we were supporting in the last century. He pointed out that the emphasis on a single measure of IQ and testing and measuring through exams and SAT scores was fundamentally flawed. Our youth had at least eight different kinds of intelligences that were very different and that needed different kinds of nurturing to bring out the best in each of them. The education process would be more effective by recognizing that while an acceptable level of ability in each of these eight domains was desirable, they would shine in probably only one or two of them, and these should be the ones that we nurture.

The 1983 “eight multiple intelligences” include: verbal, mathematical, spatial, bodily-kinesthetic, musical, intrapersonal, interpersonal, and naturalist. These types of intelligence have come to be known in the classroom as “learning styles”. Where applied, they allow educators to identify the different strengths and weaknesses in individual students and nurture their strengths while they remedy their weaknesses.

But Gardner has been looking at the changing world, has evolved his thinking and recommended five aspects of the new intelligence that our education system should be developing and nurturing among our students so that they can function better in the 21st century. These five aspects that he considers desirable to nurture in the minds of our youth are the ability to **synthesize**, as well as the ability to be **disciplined, respectful, creative, and ethical**.

Doubtless, these are qualities that we would all value and each of us may have our own list of desirable attributes. In fact, a great futurist, Peter Diamandis, founder of Singularity University, wrote, in September 2018, arguing for a new kind of education, and there he valued particularly: **Passion, curiosity, imagination, critical thinking, and grit (perseverance)**. There are certainly overlaps between the two lists and each of us could also make up his or her own list. For me, I have chosen the following five attributes to highlight what the schools of the future should focus on nurturing.

3.1. A Critical and Synthesizing Mind

Much of what has been said above underlines the enormous amount of information and stimuli coming from multiple sources that our young people (with their trusty hand-held smartphones) will have to deal with. The ability to **synthesize** will be one of the most prized skills that society will need in its productive workers. Effective citizens will also need to develop their thinking and their positions based on the ability to synthesize screened information from many sources. That process of screening requires the ability to develop and apply **critical thinking** before seeking to synthesize. Thus, I see the two as intertwined.

3.2. *A Mind Endowed with Imagination and Creativity*

One of the worst legacies of the past century was the emphasis on rote learning of boring information and the stifling of the **imagination** of youth: i.e. the ability to imagine that which never was. Likewise, schools used to emphasize that there was only one “right” solution that was being taught, and did not give the students the ability to be creative in finding alternative solutions. **Creativity** was relegated only to self-expression in art class (where it definitely belongs), rather than seeing it as a part of an everyday interaction with real life or abstract problems.

“Education is not just about imparting skills. It is also about building character.”

3.3. *A Curious Mind*

Children have an innate curiosity and ask endless questions: why is the sky blue? Why are the leaves green? It is a characteristic that we must retain and that our educational institutions should help us develop into adulthood. This is especially true of nature and science... Science is not a dry list of dates and people, or of experiments to be repeated without understanding their importance and even more, why they are deemed to be important. Science is a marvelous journey of discovery, propelled by the curiosity of some remarkable individuals.... That appreciation may nurture the next generation of discoverers.

These children will become the generation that will invent the future, and they should be in Boorstin’s description of “Questers”. They must search and be encouraged that the fecundity of the questions we pose is frequently far more important than the finality of the answers we find.

3.4. *The Disciplined and Respectful Mind*

Too frequently, the enormous range of social media allows people to be bullies, to spread misinformation and to acquire a certain arrogance and insensitivity to the harm that may be inflicted on others as we continue to cater to the support of our ego.

To be disciplined is not just about doing homework and studying diligently; it is also about how we **master our emotions and remain respectful of others** with whom we disagree. These are interpersonal and behavioral skills that we learn in school by interacting and socializing with our peers. It is nurtured by student practice and teacher example.

To be disciplined is also to set goals for ourselves and to have the **persistence and perseverance** to pursue our goals and to continue despite the inevitable obstacles that will confront us. It is about not giving up at the first setback. Sometimes that is because we have a passion for the topic in question, but more often it is simply the commitment to get things done and to see tasks through to the end.

3.5. *The Ethical Mind*

Education is not just about imparting skills. It is also about building character. In fact, Wikipedia defines education as “the process of facilitating learning, or the acquisition of

knowledge, skills, values, beliefs, and habits”. Indeed, values, beliefs and habits are social skills that every citizen needs. In our society, with its increasing diversity, socialization requires increased appreciation (not just tolerance) of the multiplicity of ethnic and religious backgrounds, and of course an appreciation of the gender dimension and a commitment to greater equality in society.

These are the ethics of citizenship that we seek to nurture in our coming generations. But there are additional dimensions to ethics that make it a necessary aspect of the formation of our future citizens. The explosion of science and technology will raise ethical questions about how we deploy these new technologies. Not everything that is technically feasible is ethically desirable, just as not everything that is legal is necessarily just.

How will we fashion science-based legislation and evidence-based regulations while still observing ethical standards about such issues as limiting inequalities, ensuring access for all, and empowering the weak and the marginalized to become the producers of their own bounty and welfare rather than the recipients of charity or the beneficiaries of aid? All these questions are becoming necessary parts of the formation of character, which is an integral part of the education of the young.

4. Third: What kind of Education?

Distance learning (**guided learning**) will become a major feature of the new system. The old model of rigid linear advancement through 12 years of schooling, followed by four years of university, after which one receives a degree that certifies one’s entry into the labor force to practice some profession for forty years and then retire, will become totally obsolete.

Continuous learning will be more than a slogan; it will be an economic necessity. The market will demand new skills, and an increasingly competitive world will force enterprises to continuously upgrade the skills of their labor force. There will be modular offerings in practically every field to meet the needs of all people, including courses on such topics as painting and pottery for those who want to pursue their interests and hobbies.

Most of the institutions offering degrees will still be part of the formal education system, linked with schools and training institutions. But there will be an increase in non-formal education with community groups and other organizations. Informal education through interactions with friends, family and work colleagues will of course continue.

But all forms of education will be available in parallel: Classroom instruction, distance learning, self-learning and informal learning with peer groups.

4.1. Formal Education in Established Schools and Universities

This will continue to be the backbone of a country’s education system which will continue to grant degrees and rely on lectures, seminars and face-to-face instruction, although they will increasingly use the new technologies as part of their repertoire. (see discussion on “methods” in the next section below).

4.2. Research Excellence and the University

One of the great successes in a number of countries is the combination of research and teaching at the best universities. That not only advances the world's knowledge and understanding of complex subjects but also allows the researchers to involve the students in the research, thereby training the ranks of future researchers. This does not preclude research at other public and private institutions. This will continue, although the availability of the new technologies will affect how the professors teach, how they maintain contact with their students, and how the mentors remain in touch with their mentees. But on the whole, these will be differences in tools and techniques rather than changes in the formal structure of the institutional arrangements.

“While some are worried that robots will reduce employment opportunities, I do not think so.”

4.3. Distance (Guided) Learning

The COVID-19 pandemic forced many schools and universities to rush into various forms of distance learning. But there were already many transformational approaches that had pioneered many different kinds of distance education. Massive Open Online Courses (MOOCs) have become a part of the higher education landscape. Starting in 2011 with Sebastian Thrun's Stanford course that got 100,000 registrations to the creation of Coursera and Udacity, followed by Harvard, MIT, Berkeley and others' creation of edX and other entries into the field such as FUN, FutureLearn, NovoEd, Iversity, and many others, up to and including the University of the People. Also, short-form lectures like the Khan Academy and TED talks, as well as many institutions that post lectures on YouTube, meant that the educational landscape for distance or guided learning was already quite rich when the COVID-19 pandemic forced many institutions to introduce online teaching in parallel with—or instead of—face-to-face instruction. The pandemic period in 2020 gave a huge boost to online education everywhere in the world.

4.4. Lifelong Education for Employment

The notion that we would go through 12 years of schooling and then 4 years of college and get a degree that would enable us to practice a profession for the next 40 years and then retire is totally obsolete. There is no field of endeavor that is not affected by the explosion of knowledge and the transformative techniques that are being invented and re-invented every day. Life-long education will have to become a reality, with new professional assessments every 5-10 years. The rapidity of the change in the markets of the world will force employers to demand that their employees remain up-to-date with the explosive growth in the data and findings in their fields.

While some are worried that robots will reduce employment opportunities, I do not think so. In fact, I believe that as we went from a one-day to a two-day weekend, or as we increased the minimum wage from time to time, we will go from a two-day weekend to a

three-day weekend, thereby reducing the demand for human working hours by 20% with robots picking up the additional work. That qualitative improvement in lifestyle will also be accompanied by a qualitative change in the nature and content of the work as humans learn to work more—and better—with robots.

4.5. Lifelong Education for Personal Cultural Enrichment

The educational landscape is intimately involved with the overall cultural landscape of a country. Thus, we can expect that not only will there be an evolution driven by technology and market considerations, but also there will be an expansion of the offerings of the educational institutions in what may be generally called cultural self-improvement courses, which can be very enriching, and that the new technologies of distance learning will make accessibility to such offerings very easy.

5. Fourth: Reinventing Education

5.1. Content

In terms of content, we are becoming increasingly aware that the idea of endless repetitive drills undertaken under the discipline reinforced by an authority figure in the classroom setting is not the best way to develop a child's questioning and exploratory tendencies, their abilities to learn how to learn by discovery and not by rote memorization, and their creativity. These are all the qualities that will be increasingly valued in the emerging globalized economy of the 21st century, where repetitive tasks will increasingly be performed by robots and workers will be valued primarily for their creativity and interpersonal skills in a vastly expanded services sector.

But most importantly, we have identified the aspects of the Mind we seek to nurture, from critical thinking to ethics, from creativity and exploration to persistence and discipline, from openness to others to respect and appreciation of diversity. The content of the curricula and syllabi of the new systems must be designed to promote these values as they impart the kind of skills that will increase the self-confidence of the young.

5.2. Method

In terms of method, we will rely much less on classroom instruction and much more on guided learning and self-learning. In classroom settings, there will be flipped instruction. Instead of teachers using the face-time for lectures and then leaving the students to do the problem-solving on their own, they will present their lectures in video format, which the students can see on their own time (and repeat the parts they want to hear more than once to better understand them) and then use the face-time in the classroom for mentoring, problem-solving and teamwork among students. Drills will be increasingly in the form of video games, challenging the students to solve problems on one level and move on to the next, something they enjoy doing. Distance learning (guided learning) will become a major feature of the new system and will also allow those who learn online to go from completing one level to the next as they face harder material to learn.

5.3. The Participants in the Education Process

Participants in the education process will still involve parents, teachers, students, peer groups and the community, but the last two will include virtual as well as physical peers and communities.

5.4. The Venues

The venue, or organizational setting, the schools and universities, will not be replaced by individuals working on computer terminals or their mobile phones or other technologies, from home or from elsewhere. This is because children need to be with other children of their age to learn to interact and socialize with peers. Only schools provide the requisite setting for such socialization, an essential feature of emotional development and the formation of effective citizens.

Furthermore, as has been made abundantly clear during the 2020 COVID-19 pandemic lockdowns, parents will not be able to effectively resume work if their children are not in school. But it is not just a matter of convenience for the parents. It is essential to remember that education is not just about the imparting of skills but also about socialization, which requires that children and teenagers learn with their peers.

Libraries are special venues that are frequently presumed to be obsolete in the digital era. I think that libraries will become even more important in this period of boundless electronic information of enormously variable quality. Having too much information is as problematic as having too little for those who do not know their subject matter well.

Libraries will help by organizing coherent domains of knowledge and sharing in the global explosion of information. They will not be just depositories of books and magazines but will become essential portals through which learners—and the general public—will be helped to explore the vast and growing resources that will be at their fingertips.

5.5. Links to Society

Distance learning (guided learning) will become a major feature of the new education system. The old model of rigid linear advancement through 12 years of schooling, followed by four years of university, after which one receives a degree that certifies our entry into the labor force to practice some profession for forty years and then retire, will become totally obsolete. Continuous learning will be more than a slogan; it will be an economic necessity. The market will demand new skills, and an increasingly competitive world will force enterprises to continuously upgrade the skills of their labor force.

Although I believe that formal instruction will continue to be important, it will increasingly be supplemented by both guided learning and self-learning through myriad offerings.

Driven by curiosity and self-interest, the lifelong learners of the future will alternate between broadening themselves or pursuing hobbies on the one hand and acquiring marketable skills on the other. The offerings for both will be there.

6. Fifth: The Five Transitions and the Education System

The education system is the locus of the transition of adolescents into adults and the incubator of effective citizens. It is the custodian of the great generational transition. There are five essential transitions that occur between the ages of 15-24 in most societies and they make these years particularly important, and since the High School and the University help mediate all these transitions, it is essential that the education system focus on and improve the fashion in which it plays that role in the lives of our youth. These five transitions are:

6.1. Continuing to Learn

Whether to drop out of further structured instruction and university participation or not is the single most important decision in a teenager's life. Its repercussions and the future path of their career will be inevitably affected by it. With every passing generation, the importance of having completed a higher level of education is more valued in the employment market, and it prepares the graduate for more possibilities of starting their own enterprise.

However, specialists like Peter Diamandis point out that an average of 7,200 students drop out of high school each day, totaling 1.3 million each year. And over 50 percent of these high school dropouts name boredom as the number one reason they left. Thus, attention to the educational system's performance is key to responding to this challenge.

This decision to continue studying (from high school to undergraduate in university) is also an essential transition for those who want to graduate and continue to the professional schools that train and educate future medical doctors or engineers.

6.2. Starting with Work

The transition from a dependent student to an independent participant in the labor force occurs in these years, traditionally with a pre-college or college education, and usually starts with part-time work. The manner in which the university, and by extension, the other institutions in the higher education system, address that transition and facilitate it will have a major impact on the economy and society, not to mention the lives of the young people themselves. We will not address the issues of youth migration, which is a subject deserving another separate essay.

6.3. Developing a Healthy Lifestyle

Key decisions on smoking, experimenting with drugs, attitudes towards sex and other choices that confront youth at that age can make all the difference in terms of their adoption of a healthy lifestyle or not. Sometimes the bad decisions even lead to addiction, and even possible criminality. Psychological support from the education system is important to assist youth in coping with depression or factors that could lead them to make unhealthy decisions.

6.4. Starting a Family

Family formation starts at the older end of that age group. Thus, the attitudes that they gain at university and in the higher education system can make all the difference between a

society with solid family units and one with broken homes. Household formation is about more than demographic change.

6.5. Exercising Citizenship

The political awareness of the new generation was formed in those years. Usually, it is at university that they join political parties, start to vote and get exposed to a wide spectrum of ideas and debates. Their future attitudes as responsible, participating citizens or detached, apathetic individuals will make a major difference in the effective democratic evolution of society. The attitudes they develop towards politics and society will also make the difference between the rise of extremism and the success of pluralistic politics.

I believe that in designing policies that deal with youth in these formative years, we must include the following three broad thrusts: (i) expanding opportunities, (ii) enhancing capabilities, and (iii) providing second chances. Each pathway (opportunities, capabilities, and second chances) is to be applied to the policies that address each of the five transitions. These views are supported by the World Bank and others who have studied these questions. It is important to ensure that the maximum is done to avoid having many young people stay in long-term unemployment or find themselves locked into dead-end jobs, joining the bulk of the working poor.

These policies and pathways are important complements to the transformation of the educational system. They will assist young people from the incubator of the basic education system into the mainstream of society.

7. Conclusions

It is evident that distance education and online learning, especially after the boost that they got from the COVID-19 lockdown and emphasis on social distancing, played a big role in 2020. It is highly probable that such distance education will continue to play a big role in the future. It will force many educational institutions, especially universities and institutes of higher education, to re-examine their existing educational models, inherited from a past era where the costs have been allowed to escalate at a much faster pace than can be borne by the students and their families; cost escalations that have been so steep that they have brought into question the value of having a degree.

The existing educational system will soon become a system with new, affordable means of entry and better learning. It will be a system where learners can challenge existing ideas and invent new ones. A system that offers access to all and promises a good chance of success. A system that promotes curiosity, imagination, critical thinking, and ethics.

The new generation of students, like their peers elsewhere, is a connected group. They are growing up with the tools of the digital revolution and the allure of social media is taken for granted and part of the landscape of their adolescence. This is having some impact on the skills they value and the way they learn them best. This comes at a time when we are on the cusp of a major transformation in the educational system in terms of content, methods, participation and venues.

Those who want to seize the moment to promote a green recovery and to promote a reskilling and upskilling of their people will help push the educational system towards the new forms of education that will prevail in the 21st century. A new generation of children will flourish in a system that is driven by their curiosity and that allows each individual to reach the full extent of their abilities and give back to society to the full measure of their talents.

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