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At the Intersection of the Future of Work and Education

David Edwards

Education International

Abstract

“At the Intersection of the Future of Work and Education” explores work in education as well as the contribution of education to the future of work in other sectors. It argues that, in both instances, a strong, well-financed, high-quality system of public education is needed.

The operation of school systems during the pandemic deepened long-standing problems of financing, segregation, inequality, and discrimination inside and between countries. Distance learning was a quantum leap in the use of artificial intelligence and other technology depriving learners of social relationships.

Governments are not implementing the Sustainable Development Goals, especially Goal 4 on education. That inaction has enabled the entry of private companies into education. They profit from the system, influence education policy, and weaken democratic control of education.

Professional teachers and their unions are too often not consulted on policy. Their status issues have deepened well-being problems for the school community and aggravated the serious teacher shortage.

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This article addresses the related questions of the relevance and role of education in the future of work and the future of work in education. For both issues, process is critical. Is the future of work a question of the workings of market forces and actors driving technological capacity “untouched by human hands” or are human needs, wishes, and values relevant?

Although the introduction of new technology, including artificial intelligence (AI), has long been in motion in education and other sectors, public and private, with the COVID-19-related lockdowns and remote learning, that motion has accelerated considerably in education. What was seen as a future concern also became a concern in the present.

Distance learning created public-private partnerships between school authorities and edtech companies. Those companies, though not elected, were shaping education policy. Outside the transparency and accountability standards of elected officials and civil servants, these partnerships placed important decisions beyond the reach of citizens and the processes of governance. Professional teachers were also distanced from such decisions. The algorithms that were essential elements of those systems were protected intellectual property.

At the same time, the school community of students, teachers, and parents realized just how vital social relationships are to learning. The pandemic deprived the learners and teachers of social contact. That deprivation retarded learning and created tremendous stress for both, and, in some instances, led to mental illness and even suicide.

Stress and other well-being issues, already major problems in many countries, were aggravated by the effects of COVID-19. One area where teachers reported stress in the 2021 Education International survey on the status of teachers was excessive workload due to administrative tasks.¹ Technology has the potential to reduce that burden without having negative consequences. But even where it was available, distance learning showed its limitations not only in the attendant social isolation but also in the inequality of access and the ability to use it effectively.

A lesson from the pandemic is that the use of technology can both enhance and diminish the teaching profession. But the report also revealed concerns, again, not just pandemic related, about the gathering and sale of private data.

Another critical concern about the future of work in education, but also of education itself, is the availability and allocation of public resources. Effects of the austerity programs imposed in connection with the 2008–2009 financial crisis have had a lasting impact. The Sustainable Development Goals (SDG), including SDG Goal 4 on education, are dangerously underfunded. Although that was already true before the global health crisis, the situation has worsened.

The quality of work in education and, therefore, the quality of education is determined to a large degree by the status of teachers. That relationship between teacher and student in the school environment makes learning happen. Financing is relevant not just for compensation but also for high-quality teacher training and for a myriad of other reasons.

Whether looking at the future of work in education or in general, the lessons of the pandemic teach that there should be an approach that puts our humanity and dignity before profits and management dogma. It is a social contract, and it is about the public or common good.

In a 2021 report, UNESCO writes: A social contract is “an implicit agreement among members of a society to cooperate for shared benefit. A social contract is more than a transaction as it reflects norms, commitments and principles that are formally legislated as well as culturally embedded. The starting point is a shared vision of the public purposes of education.”²

The dangers of a “hands off” future of work, a market-driven approach has become more apparent. The market will not mandate a well-rounded, complete education. It may include skills

training but will not stress democratic values or the competencies necessary for critical thinking, participation in free debate, and active citizenship. In addition, the future of work is part of a larger debate about equality and opportunity as well as the future of the planet.

A hands-on approach to the future of work would connect it to the future health and adaptability of society, regardless of the pace of change. There is no conceivable and desirable “future of work” without major consideration given to the future of education. Craft notes that there are two Latin roots of the English word *education*. *Educare* means “to train or to mold.” *Educere* means “to draw out.”³

While the two meanings are quite different, they are both relevant to understanding the essence of “education” and the work in and through education. Both meanings are grounded in the very nature of education. It is long term. Educators root their work in the human personality and needs and inform it by the past while being oriented toward the future.

The future of work, like the future of education, is often discussed in abstract terms, and differences are based more on speculation and philosophy than on reality. For some, it is all about portable future skills, while others stress that current trends toward conflict and fragmentation require education and training that develop independent beings who are connected to their societies and to themselves. Developing human beings with these connections requires an education that is both knowledge- and skills-based and works on the development of the self. It is not the self in a narcissistic sense as Foucault says but in the sense of caring for the self.⁴

As we steer toward an uncertain future, one thing is sure: without an equitable, inclusive, holistic and high-quality education, it will be difficult for society to truly move forward. As with all futures thinking, there is no wide consensus but there is agreement on preparation fundamentals, including the ability of individuals to navigate complexity and of society to set rules that protect workers above jobs.

Evolution in the nature of work and the advent of the often-cited Fourth Industrial Revolution are ushering in substantive changes in employment practices.⁵ From the development of platform capitalism,⁶ which has seen new ways of employing and exploiting workers on ever more precarious and unsupported arrangements, to mass digitalization and automation across industries, workers are confronted by a staggering array of thorny problems. Alongside these developments is a continuing push for greater deregulation that ensures that profits flow disproportionately in only one direction, regardless of the human and social costs. Market fundamentalists have successfully posed increased displacement, disruption, and precariousness as a Darwinian inevitability, while behind the scenes, corporate funders pay an army of lobbyists to predetermine the shape and scope of the future.

Few would argue that new technologies do not have the potential to make some jobs obsolete while at the same time requiring workers to get more specialized skills. The issue arises, however, about who decides which workers benefit from reskilling and upskilling and where the investment will come from. While there are neoclassical academics and right-wing think tanks (corporately funded) who argue that the future of workers should be left to the market, there is a bit of self-fulfilling prophecy in that they work to weaken tax bases and governmental capacity so ferociously that many governments are now poorly situated to deal with the challenges we face. One could equally well posit that there is no other entity capable of steering humanity away from a dystopic future than strong and democratic governments with a strengthened social contract that invest in an extended and broadened public education system.

In 2019 the International Labour Organization (ILO) Global Commission on the Future of Work produced the excellent report *Work for a Brighter Future*, which puts human capabilities

and a lifelong learning guarantee at the center of the global future of work agenda.⁷ It stresses reinvigorating the social contract that has been under intense pressure for at least four decades as worker/trade union rights have been eroding.

Formed in the destruction and aftermath of World War I, the ILO marked its centennial in 2019 with a chilling warning against the attack on the very multilateralism on which it was founded and called upon workers, employers, and governments to cooperate to ward off a potentially disastrous progression of events. Multinational institutions like the ILO are struggling to engage rogue states that refuse to submit to the rules they once championed.

The ILO is providing much-needed leadership in drawing out the sorts of things we need to consider in these changing times. The acquisition of skills and reskilling must be accessible lifelong for all of us.⁸ A public system that delivers and distributes the opportunities to make education in its full scope, even beyond skills training, a reality for the majority not just the few is at the crux of the ILO recommendations.

Lifelong learning is part of a broader approach to education and must not be reduced to skills training or upgrading, as important as they are. The ILO report by the Commission on the Future of Work gives an example when it refers to “developing the capabilities needed to participate in democratic society.” Our member organizations also do not see narrow training as a successful path for the future. That path would be restricted to a limited range of measurable skills and to strictly employment-related competencies. To adapt to the future, people need to learn how to learn. Experience should be valued even if jobs open up in new and different areas. Lifelong learning should also be accessible, of good quality, and free.

The future of work should take place in an environment of security, opportunity, and confidence. Measures proposed by the commission to that end include a lifelong learning guarantee (accessible, of good quality, and free) and social protections that are not dependent on a particular job but follow workers throughout their working lives. Blockages and limits in the rights to organize and bargain should be removed. Changing jobs should not mean losing trade union representation or other rights.

Any examination of the future of work needs to take into account shifts in populations and workforces and social, economic, and environmental changes. Massive shifts in population, much of it in the form of forced migration and refugees creates social, political, and educational challenges. Tackling the effects of global warming will require changes not simply in the form of just transition for affected workers but also in terms of a larger role of governments so that the necessary reorganization of economies can be managed rather than left to the winds of markets. Even issues like global inequality have an impact on the development of employment, its conditions as well as its social impact. Responding to all of these challenges requires an increase in investment in people’s capabilities and in stable and well-functioning institutions of work, including trade unions and industrial relations. None of these challenges can be met by extreme individualism. Rather, collective action is required, and, in that context, education is, quite naturally, important to any solutions.

The lifelong learning guarantee advanced by the ILO is a sensible development in response to a world in transition. If workers are to be properly prepared for shifting employment practices and possibilities, they need access to training and education. This access is recognized as a joint responsibility among governments, employers, workers, and educational institutions.⁹ There is further work to do on extending this entitlement to those in the informal economy, which is a majority of workers in Africa and those from vulnerable and marginalized communities. It would also contribute to formalizing their work.

None of this can happen without addressing the precarity of workers in technical and vocational education and training (TVET) and those in adult education. According to Stromquist, among educators, those in TVET along with those in early childhood education are the least likely to get fair pay, with fewer than 17 percent described as being fairly paid.¹⁰ With escalating precarious work practices, there is a growing need to focus government policy on the institutions that house TVET workers and on providing pay and conditions, with rights to have union representation, that give them security in their employment and professional development.

Moodie, Wheelahan, and Lavigne make clear that for TVET to deliver on lifelong learning possibilities, a few things need to change.¹¹ They show that the atomized and devolved TVET approach seen in England and Australia is counterproductive to developing relationships with employers that give learners real options. Rather, they argue, it is necessary to develop strong TVET institutions with qualified teachers providing students with a relational bridge to employers. Furthermore, they argue, students should be developing not competencies but productive capabilities. This approach compliments that of the ILO. Productive capabilities are a more rounded concept that allows students to have a role in choosing their own future, not merely being a target or input for a particular view of labor market direction. This agenda broadens the idea of the skills a worker needs to encompass “the capabilities needed to participate in a democratic society.”¹²

Higher education also has experienced a period of rapid change influenced by new market models, privatization, and increased precarity. While this sector is not primarily responsible for workforce training, the importance of flexible academic pathways that allow those engaged in technical subjects to move into and out of university settings cannot be underestimated. Learning is not a linear process and, as the complexity of skills required in jobs is increasing, so too must the responsiveness of the education system. Cradle-to-grave learning means no part of the system can be planned or maintained without relating it to the other parts. All are dependent on qualified teachers with sound career development and ongoing learning opportunities for individual needs and institutional development. Such opportunities will allow teachers to respond to changing learning needs and the increasing pace of educational reform.

For the future of work in education, a better process will yield better results. The future of work in education requires an informed discussion with educators and their trade unions. We have seen a clear and growing interest in curriculum change, for example, to meet the changes in educational needs. What most agree on through curriculum and other measures, however, is the need for a broader set of capabilities among students that includes enhancing their social and emotional learning, as well as their cognitive development. This has an impact on the organization of schooling. That is clear in the latest *Education Policy Outlook*.¹³ Chapter 7 tells us that 41 percent of teachers’ unions have selected successful collaborations around curriculum as one of their three most important policy engagements with government.

As curriculum shifts and the pressure to plan for the next generation of jobs mounts, it is inevitable that assessment will also require changes. The time lag is also inevitable as the old compact between school assessment and universities remains stubbornly hard to shift. In looking toward the future of work in education, the next generation of assessment may seek to provide opportunities for students to interact with virtual entities to shape learning opportunities.

The rapid development of unregulated, for-profit online assessment has led to important questions. For starters, What instructional improvement decisions are these assessments informing when educators are not involved in their development and use? For another, What impact will extended screen time have on student and teacher well-being? Research on the impact of screen

time on learning and cognitive development is giving pause in some countries, such as Japan, about education technology altogether. Providing a student with AI and unfettered access to the worldwide web without a designed and purposeful curriculum and a professional teacher would be counterproductive to the purposes of education, that is, the individual's development. Curriculum of the present and future should seek to mediate students' interaction with technology and further develop critical thinking skills and powers of analysis.

Increasingly, the public sector is where government and the general public interact. The ability of individuals to think for themselves and respect the rights of others is wholly reinforced and even largely developed at school. While the public sector covers more than just education, a person's first conscious experience of how the state obligation to respond and care happens is through education. The public sector stands as a bulwark against commercial forces that follow priorities different from the necessary focus on human flourishing. At a time when market fundamentalism has taken a Darwinian approach to accessing educational capital, public services work in a fundamentally different way motivated by different values. Education should be able to support the individual to grow in an increasingly uncertain world. And concern for the common good means that every society has the responsibility to educate all of its citizens and not just a select few.

In many countries, education remains one of the last bastions of public-sector financing, yet with the growth of edu-businesses, there has been growing pressure from investors and market actors to liberalize the money flows associated with this significant government expenditure. They have found "market opportunities" in some countries more than in others, but the search for profit from education is a global phenomenon. The past two decades have seen an explosion in the number and extent of edu-businesses seeking to capitalize on the global education industry.¹⁴ These efforts have led to a push by educational providers such as Pearson and Bridge International Academies to increase their "market share" from low-fee for-profit schools in the developing world to targeting individual students over an educational lifetime in the developed world.¹⁵ Through scripted delivery and technology, they also seek to deprofessionalize and automate education workers—teachers themselves.

When we break down the forces of capital mining the education system, we can see a range of players from the professional learning-and-development providers with ready-made solutions to the publishers and knowledge copywriters. There is a large and growing assessment industry and a new mushrooming of AI and machine-learning initiatives. The 2019 ILO report stresses the importance of a human-centered future.¹⁶ The OECD similarly stresses the need for such an approach built around "inclusive growth, sustainable development and well-being."¹⁷ But there is no market reason for private companies to follow either of these societal agendas.

To focus more specifically on AI, it is clear that the impact of this form of technological development is potentially large in the field of education. Some healthcare services have embraced AI and are deploying algorithmic analysis to drive developments in a way not yet seen in education. This practice has also led to abuses, with Google criticized in the United States for commandeering a large data set from a private healthcare provider.¹⁸ Whatever the ethical implications, the success of health modeling has been dependent on big data with regular feedback loops to perfect the algorithm.

The use of algorithmic analysis has led to outcries about data privacy. Breaches of privacy have been of special concern in the United States because the health system is largely private. Individual control over data is less tightly regulated. But it is not just healthcare. A large amount

of data is being harvested from students and used by major firms. There have also been cases of data breaches where personal data becomes generally available.¹⁹

Accidents or abuse of access to data highlight the importance of a careful balance between the need to be open to the possibility for AI to be a positive force in human development and the need to provide safeguards against misuse. The sector is expanding so rapidly that this balance has not yet been reached.

Globally, education remains largely uncharted territory. The role of regulation in directing AI has not yet developed. Without government involvement, AI development will be driven and developed by private business interests. There is already massive harvesting of data in US schools, public and private, justified by concerns about security and student mental health.²⁰

The advance of Big Data has had a profound impact on the development of assessment practices in education. The ability to compare and analyze large data sets in multinational sampling assessment programs like PISA and TALIS has led to the establishment of large publicly accessible data.

At a national level, the ability to analyze examination results has provided increasing visibility for those who achieve and those who do not, with equity becoming a policy area of growing importance. Inequity has remained a stubborn fact. While there are notable successes, most education systems have continued to find it difficult to lift the results of students who come from lower socioeconomic backgrounds. The perceived need for detailed comparable data has encouraged the development and expansion of standardized tests.

As computer power increases and AI possibilities proliferate, we are likely to be seeing the beginning of the next generation of assessment. Assessment that responds to learners, funneling them into questions depending on their answers, leads to an increasingly segregated learning system. It is in the same sense that Dewey argued about students' being confined to their class of origin.²¹ Similar concerns are heard today.

Already in 1966, long before AI, the *ILO/UNESCO Recommendation concerning the Status of Teachers* maintained: "Since teachers are particularly qualified to judge the teaching aids and methods most suitable for their pupils, they should be given the essential role in the choice and the adaptation of teaching material, the selection of textbooks and the application of teaching methods."²² Introduction of new teaching methods, whether it is the use of overhead projectors or online courses or AI, should be done in a way that enhances rather than undermines the teaching profession.

Assessment systems that atomize students and segregate them from their peers are a major acceleration of the class-based learning that has been in operation since the nineteenth century.²³ While "personalized learning" was superficially attractive as it asserted itself at the turn of the millennium, it has proven problematic. Business interests have a stake in the further development in such systems. But, more and more, educators and policy makers, concerned about this mechanization of education and results, are questioning and rejecting the easily standardizable and testable in favor of educational methods that teach collective problem solving and joint solutions.²⁴ Just as MacBeath points out in his foreword to the second edition, "the more things change, the more they stay the same."²⁵

So, in this time of change and transition, what power do workers have to resist the reductionist narrative and work toward an education system built on human flourishing? It has always been that education systems rest on the quality and commitment of their teachers. But the inverse is also true.

Education International has taken leadership on this issue and developed a joint professional teaching standards framework with UNESCO to place teachers and their unions at the center of defining teacher professionalism.²⁶ For teachers to shape the education system and to improve teacher learning, they need access to and involvement with all forms of teacher policy. It is clear from the TUAC survey that they do not yet have it.²⁷ As long as teachers are gated out of policy developments around matters that directly affect them, progress will continue to be uneven.

For Education International and our members, we see union renewal, education renewal, and the future of work as interrelated and interdependent. The public sector is the most important arena for the government and the people to interact. Despite austerity cuts and campaigns to demoralize, marginalize, and subdue teachers and their unions, we remain uniquely positioned to ethically and professionally shape the future of schools, learning, and student growth. As we have seen, the forces lined up against our vision are strong. From a private sector committed to profit from the “education market” to advances in data analytics and machine learning over human learning to the disingenuous arguments of those arguing that a prescribed evolution of work is inevitable, it has never been more important to have a process and to put human beings at the center of it.

Human flourishing remains the goal of education and the goal of teachers. Learning is something that students need throughout their lives. But it can be guaranteed only by a public education system built around well-resourced, qualified teachers able to work supported by policies they help shape and with full rights, including the rights to form and join trade unions under their control and negotiate collective agreements.

Notes

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⁹ *Ibid.*, 30.

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