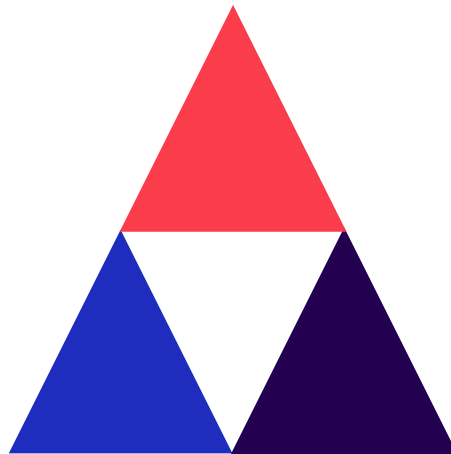# ▶ The future of work in the education sector in the context of lifelong learning for all, skills and the Decent Work Agenda

Report for the Technical Meeting on the Future of Work in the Education Sector in the Context of Lifelong Learning for All, Skills and the Decent Work Agenda

(Geneva, 17–21 May 2021)

▶ Acronyms

CEART	ILO/UNESCO Committee of Experts on the Application of the Recommendations concerning Teaching Personnel
CPD	continuous professional development
DFID	Department for International Development (UK)
ECE	Early Childhood Education
EFEE	European Federation of Education Employers
EI	Education International
ETUCE	European Trade Union Committee for Education
HIV/AIDS	Human immunodeficiency virus infection / acquired immunodeficiency syndrome (HIV/AIDS)
ICT	Information and Communication Technology
IOE	International Organisation of Employers
ILO	International Labour Organization
LLL	Lifelong Learning
OECD	Organisation for Economic Co-operation and Development
SDG	Sustainable Development Goals
TVET	Technical and Vocational Educational Training
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESCO UIS	UNESCO Institute of Statistics
UNEVOC	UNESCO International Centre for Technical and Vocational Education and Training
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
WEF	World Economic Forum

▶ Contents

▶ Introduction

1. The ILO Centenary Declaration for the Future of Work, adopted in 2019, directs the efforts of the ILO, among other priorities, to "promoting the acquisition of skills, competencies and qualifications for all workers throughout their working lives as a joint responsibility of governments and social partners". To address this challenge, the Declaration calls on ILO Members to strengthen the capacities of all people to benefit from the opportunities of a changing world of work through "effective lifelong learning and quality education for all". [1] The Declaration thereby amplifies the ILO's commitment to quality education and skills development, which had previously been elaborated in the Conclusions on skills for improved productivity, employment growth and development, the Human Resources Development Recommendation, 2004 (No. 195), the Human Resources Development Convention, 1975 (No. 142), and the Paid Educational Leave Convention, 1974 (No. 140). It also links the Decent Work Agenda to Sustainable Development Goal (SDG) 4, "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all".

2. The Declaration raises two important challenges for education and training systems worldwide. First, education workers – ranging from teachers, administrators and trainers to education support personnel – need to be developed and supported so that they can respond to the lifelong learning needs of employers and workers in a rapidly evolving world of work. A new generation of education workers will need to support what the ILO's Global Commission on the Future of Work called "a universal entitlement to lifelong learning that enables people to acquire skills and to reskill and upskill". "Lifelong learning", the Commission noted, "encompasses formal and informal learning from early childhood and basic education through to adult learning. Governments, workers and employers, as well as educational institutions, have complementary responsibilities in building an effective and appropriately financed lifelong learning ecosystem." [2]

3. Second, since teachers, trainers, school leaders and education support personnel are also workers themselves, the work of educators also has to evolve and be supported in the transition to a lifelong learning ecosystem. This report maps out emerging topics in the changing world of education and how these changes affect work in the education sector. This issue is especially important in relation to SDG target 4.c, which recognizes the importance of increasing the supply of qualified teachers and trainers in order to achieve SDG 4. [3] There is widespread recognition that the quality of teachers is the single most influential variable in an education system for achieving learning outcomes. [4] As education systems respond to rapid developments in the world of work, there is a vital need to examine the role of education workers and how they can respond to the challenges of the future of work and at the same time benefit from opportunities to develop their own professional skills and meet their own education goals.

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[1] ILO, *ILO Centenary Declaration for the Future of Work*, 2019.

[2] ILO, Global Commission on the Future of Work, *Work for a Brighter Future*, 2019), 11.

[3] SDG target 4.c reads: "By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States"; SDG indicator 4.c.1 reads: "Proportion of teachers with the minimum required qualifications, by education level".

[4] World Bank, *World Development Report 2018: Learning to Realize Education's Promise*, 2018, 131.

4. The role of education workers has been part of the ILO mandate since the adoption of the 1966 ILO/United Nations Educational, Scientific and Cultural Organization (UNESCO) Recommendation concerning the Status of Teachers. [5] The principles of this Recommendation, as well as those of the 1997 UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel, [6] are regularly examined by the Joint ILO–UNESCO Committee of Experts on the Application of the Recommendations concerning Teaching Personnel (CEART), established in 1968. The ILO previously addressed the topic of teachers and the future of work at the Joint Meeting on Lifelong Learning in the Twenty-first Century: The Changing Roles of Education Personnel, held in Geneva from 10 to 14 April 2000. The Joint Meeting, which foresaw many of the issues facing education today, underlined the importance of the lifelong learning concept, the role of constituents in promoting quality lifelong learning and the importance of remuneration and working conditions in ensuring an adequate supply of quality educators. It also stressed the importance of participation and social dialogue in educational decision-making and workplace learning. [7] In 2013, the ILO adopted Policy Guidelines on the promotion of decent work for early childhood education personnel. [8] At its 13th session, held in Geneva from 1 to 5 October 2018, the CEART adopted a declaration entitled "Education is not a commodity: Teachers, the right to education and the future of work". [9] Many of these issues will be considered at the upcoming 109th Session of the International Labour Conference (2021), which will hold a general discussion on skills and lifelong learning.

5. This report aims to cover current practices, challenges and prospects related to work in the education sector, in particular the work of education workers in both public and private settings, from early childhood education (ECE) to secondary education, including technical and vocational education and training (TVET). It also touches on some aspects of tertiary education – although many aspects of that education sector were discussed by ILO constituents at the Global Dialogue Forum on Employment Terms and Conditions in Tertiary Education, held in 2018. Similarly, many issues relevant to ECE workers were discussed at ILO sectoral meetings held in 2012 and 2013, while the conditions of TVET teachers and trainers were examined in 2010 at the Global Dialogue Forum on Vocational Education and Training. [10]

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[5] ILO and UNESCO, *ILO/UNESCO Recommendation concerning the Status of Teachers (1966), and UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel (1997)*, 2016.

[6] ILO and UNESCO.

[7] JMEP/2000/10.

[8] ILO, *ILO Policy Guidelines on the promotion of decent work for early childhood education personnel*, 2014.

[9] CEART/13/2018/10, Appendix III.

[10] MEECE/2013/10; GDFECE/2012/10; and GDFVET/2010/10.

▶ 1.   Global trends affecting education

6.   The ILO Centenary Declaration noted the transformative changes in the world of work – driven by technological innovations, demographic shifts, environmental and climate change and globalization – that are all taking place at a time of persistent inequalities. These mega trends and others also have had an impact on education and training and the work of educators.

7.   **Demographics.** The global population is expected to grow by 10 per cent by 2030, with 60 per cent of the increase expected to occur in developing countries, in particular sub-Saharan Africa and Southern Asia. [11] Life expectancies are also increasing, while at the same time fertility rates are declining in many industrialized countries. As a result, industrialized countries face populations with fewer young people, while by contrast developing countries are experiencing youth bulges that are producing a great demand for education and learning. Education systems and teacher planning will need to take account of these demographic shifts. The total number of teachers worldwide increased by 50 per cent between 2000 and 2019, from 62 million to 94 million teachers (see table 1). Yet to reach universal primary and secondary education in 2030, 68 million more teachers are needed: 24 million at primary level and 44 million at secondary level. Teacher shortages are most acute in sub-Saharan Africa, where 70 per cent of countries face shortages at primary level and 90 per cent face shortages at secondary level. [12] As the world turns to a lifelong learning model of skills development for the future of work, the education sector is likely to experience strong growth and labour demand for educators.

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[11] UN Department of Economic and Social Affairs, *World Population Prospects 2019, Volume I: Comprehensive Tables*, 2019.

[12] UNESCO, "World Teachers' Day 2020 Fact Sheet", 2020.

▶ **Table 1.   Number of teachers by educational level, world regions, 2008 and 2019**

Level	Year	World	Arab States	Africa	Asia and the Pacific	Latin America and the Caribbean	Europe and Central Asia	North America	Women as % of total (World)
Pre-primary education	2008	6 882 560	52 080	484 144	1 969 599	962 348	1 859 859	450 886	94.6
	2019	11 578 983	72 074	979 514	4 233 667	1 123 589	2 388 290	–	94.1
	% variation	68.2	38.4	–	115.0	16.8	28.4	–	-0.6
Primary education	2008	27 786 485	367 862	3 817 886	10 916 595	2 898 936	2 889 321	1 929 575	62.0
	2019	32 645 930	433 914	5 879 485	–	3 082 752	3 166 992	–	66.9
	% variation	17.5	18.0	54.0	–	6.3	9.6	–	7.8
Lower-secondary education	2008	17 338 657	204 379	1 471 712	–	1 947 706	–	964 047	54.3
	2019	20 793 015	246 229		–	2 094 801	–	–	57.0
	% variation	19.9	20.5	–	–	7.6	–	–	4.9
Upper-secondary education	2008	13 661 311	57 263	1 189 218	–	1 477 777	–	896 246	48.1
	2019	15 732 909	189 207	–	–	1 817 381	–	–	50.7
	% variation	10.5	20.7	-5.7	3.4	21.1	3.4	13.5	5.3
Tertiary education	2008	10 599 418	73 902	408 202	–	1 550 695	2 521 836	1 581 996	41.2
	2019	13 120 856	94 552	–	–	1 914 326	2 445 962	–	43.2
	% variation	23.4	59.7	-8.8	–	22.6	11.8	79.0	4.9

Source: UIS/UNESCO; countries classified by UNESCO groupings.

8.   **Migration.** Increasing migration and displacement have had a significant impact on education and training. About one in eight people worldwide are internal migrants who live outside the region in which they were born, while about one in 30 are international migrants. Teachers and trainers who are responsible for teaching migrants are in many cases inadequately prepared to carry out this complex task, which may include managing multilingual classrooms and providing psychosocial support. Displacement and migration also pose challenges for teacher recruitment, retention and training. Shortages of educators have led to a proliferation of contract teachers or voluntary teaching jobs with variable qualifications and little job security. [13] Migration will also increase the demand for skills recognition services, which will fall to education and training providers. Recognition of prior learning requires particular skills in assessment and validation of learning, which many teachers and trainers working in centralized assessment systems are not equipped to undertake.

9.   **Climate change and environment.** The impact of climate change is already being felt across education and training systems. Extreme weather conditions can destroy or damage school infrastructure. Climate change and poverty are linked and can have a compound impact on education. For example, agricultural households suffering loss of income may pull their children out of school, while some families may migrate in search of basic necessities and children's and expectant mothers' health may be affected due to reduced agricultural output. [14] At the same time, the demand for green economy alternatives has created education and training pathways for future workers and has led to a renewed emphasis on skills for innovation and sustainable development. [15]

10. **Globalization.** Interconnected and interdependent economies are more competitive and knowledge-based. Society has become more individualistic and atomized and at the same time has become globally networked through social media and the internet. Education has therefore had to respond to the demand for skills to navigate a global labour marketplace and to address such issues as inclusion, multiculturalism and education for peace and global citizenship. [16]

11. **Technology.** The rapid development of information and communications technology (ICT) has had a significant impact on education. Students can learn outside the classroom through remote learning applications and social media, while education has to prepare learners for a virtual workplaces in which jobs are expected to be driven by artificial intelligence and digital technology. During the COVID-19 pandemic, online and remote teaching has become a widespread practice. These technological developments are transforming models of teacher training and classroom practice.

12. **Conflict and emergencies.** More than 75 million children and young people in crisis-affected communities face significant challenges in accessing quality education. Only 63 per cent of refugee children have access to primary education. Children in conflict-affected countries are 30 per cent less likely to complete primary school and 50 per cent less likely

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[13] UNESCO, *Global Education Monitoring Report, 2019: Migration, Displacement and Education: Building Bridges, Not Walls*, 2019.

[14] Heather Randell and Clark Gray, "Climate Change and Educational Attainment in the Global Tropics", *PNAS* 116, No. 18 (2019): 8840-8845.

[15] ILO, *Guidelines for a just transition towards environmentally sustainable economies and societies for all*, 2015.

[16] UNESCO, *Teaching and Learning Transformative Engagement*, 2019.

to complete lower secondary school. [17] In such contexts, teachers are often in short supply and many are new recruits with minimal experience or training to prepare them for teaching under crisis conditions. Those who do have a teaching background or qualification may have to teach content outside their knowledge area and may be underprepared to respond to the additional complexities of teaching in a crisis context. The countries that are most in need of education personnel are those affected by conflict and disasters. [18]

13. **Inequality.** Income inequality has increased in many developed countries and some middle-income countries since 1990. Countries in which inequality has increased are home to more than two thirds of the world population. [19] For education, this has been linked to growing inequality between the education and training systems of wealthier and poorer countries, between wealthier and poorer school districts and among genders, ethnicities and other groups in society. In most of the countries that have been analysed for wealth parity in education, children and adolescents of primary and secondary school age from wealthy households are less likely to be out of school than their peers from poor households. [20] Education is an important means to address inequality and education workers are faced with addressing this challenge. [21]

14. **The COVID-19 pandemic.** The global pandemic has accelerated many changes in the education sector. School closures in more than 162 countries temporarily affected more than 90 per cent of the world's student population. [22] School closures have erased gains in enrolling children into schools. UNESCO estimates that in addition to the 258 million children already out of school, nearly 16 million students from pre-primary to secondary were at risk of not returning to education in 2020. Tertiary education will also see an estimated 3.5 per cent decline in enrolment. [23] Education workers have had to deal with the rapid move to the online delivery of education. Digitalization has created opportunities for education to reach learners despite national lockdowns, but it has also highlighted the lack of training available for teachers in the use of technology and difficulties in accessing digital learning resources. [24] The pandemic has had varied degrees of impact on job losses in the education sector. Data indicate that only a minority of countries did not pay teachers during lockdowns, but furloughing and delays in salaries have been common. In low-income countries in which parents could not pay private school fees, teachers have lost livelihoods. [25] Key challenges for governments have included to protect educators from infection; provide infrastructure, training and access to remote learning technologies; and maintain employment for income and job security for non-teaching staff and education support personnel. [26]

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[17] Susan Nicolai et al., *Strengthening Coordinated Education Planning and Response in Crisis Contexts. Synthesis Report* (ODI, 2020); UNICEF, "Education Under Fire. How Conflict is Depriving Children of their Schooling", 2015.

[18] Danielle Falk et al., *Landscape Review: Teacher Well-being in Low Resource, Crisis, and Conflict-Affected Settings* (Education Equity Research Initiative, 2019).

[19] United Nations, *World Social Report 2020: Inequality in a Rapidly Changing World*, 2020.

[20] UNESCO, "2019 High-level Political Forum: Contribution from the SDG-2030 Education Steering Committee", 2019.

[21] Oxfam, *The Power of Education to Fight Inequality*, 2019.

[22] UNESCO, "COVID-19 Impact on Education", 2020.

[23] UNESCO, "COVID-19 Education Response: How Many Students Are at Risk of Not Returning to School?", 2020.

[24] HundrED,"Spotlight On Quality Education for All During Coronavirus Highlights Thirty Education Solutions", 2020.

[25] United Nations, *Policy Brief: Education During COVID-19 and Beyond*, 2020.

[26] ILO, "COVID-19 and the Education Sector", 2020.

▶ 2. The evolving world of education

Skills for the future of work

15. Education and teaching have always existed in some form in human history through informal learning, trade schools and apprenticeships, private tutoring or religious or military institutions. The industrial revolution was accompanied by an educational revolution that ushered in public school systems, national curricula and degrees, as well as the professionalization of the teaching profession. Education and schooling featured regimented discipline and assessments, an authoritarian role for the teacher and mass textbook production aimed at creating a national culture and preparing young people for nation-building and service in industry and military. [27] Over time, education took on a wider humanistic dimension, embracing the values of equality, human capability and development, personal growth and social responsibility. [28] In 2008, the International Labour Conference concluded that the improved quality and availability of education and training can also engender a virtuous circle, in which skills development fuels the innovation, increased productivity and enterprise development, technological change, investment, diversification of the economy and competitiveness that are needed to sustain and accelerate the creation of more and better jobs in the context of the Decent Work Agenda and improve social cohesion. [29]

16. As the fourth industrial revolution unfolds, education is once again undergoing its own revolution, orienting towards a more flexible, broader and integrated lifelong learning approach in order to prepare learners for a world of work in which flexibility, adaptability and innovation will be key elements. [30] So-called "twenty-first-century skills", defined by various organizations in different formulations, are seen as the basis for core competencies and capabilities that would prepare learners to succeed in the future world of work and a globalized society, including:

- creativity and innovation;
- critical thinking, problem-solving and decision-making;
- learning to learn, metacognition;
- information literacy;
- ICT literacy;
- communication;
- collaboration (teamwork);
- citizenship, both local and global;

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[27] Franz-Michael Konrad, *Geschichte der Schule: Von der Antike bis zur Gegenwart* (Munich: C.H. Beck, 2012); Joel Mokyr, "The Rise and Fall of the Factory System: Technology, Firms, and Households Since the Industrial Revolution", *Carnegie-Rochester Conference Series on Public Policy* 55, No. 1 (2001): 1–45.

[28] ILO, Human Resources Development Recommendation, 2004 (No. 195); UNESCO, *Learning: The Treasure Within*, Report to UNESCO of the International Commission on Education for the Twenty-first Century, 1996.

[29] ILO, *Conclusions on Skills for Improved Productivity, Employment Growth and Development*, International Labour Conference, 97th Session, 2008, para. 5.

[30] WEF, *The Future of Jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution*, 2016.

- life and career; and

- personal and social responsibility, including cultural awareness and competence. [31]

17. The International Labour Conference also concluded in 2008 that education should include "awareness of workers' rights and an understanding of entrepreneurship as the building blocks for lifelong learning and capability to adapt to change". [32] The ILO has developed the Global Framework on Core Skills for the Twenty-first Century, based on the ILO Centenary Declaration and its human-centred approach to the future of work. It groups core skills into the categories of social and emotional skills, cognitive and meta-cognitive skills, basic digital skills and basic skills for green work. [33]

18. Orienting education systems towards these competencies, as well as other emerging skills such as socio-emotional skills and knowledge for sustainable development, has ushered in the so-called competence-based approach, which focuses on how students can master specific skills in work and life rather than formal qualifications. [34] Delivery methods have also evolved: learning pathways are increasingly moving away from the principles of mass education towards more personalized learning paths to address the specific needs and goals of each individual learner and allow for more flexible and time-bound transitions between learning and work. [35] Moreover, digital resources allow learners to access education and training from a variety of sources, providing a flexibility that allows for remote access and different work–life combinations.

19. In better-resourced schools, such trends are already gaining traction. In Singapore, by the end of secondary education students are expected to have developed analytical and innovative thinking skills as well as social and emotional skills. In the Republic of Korea, schools are expected to foster creativity as part of subject-based learning and 10 per cent of school time is allocated to project-based learning and other transversal activities. [36] Learning is envisaged to be not so much a top-down instruction of content using mass-produced textbooks but rather a learner-centred and participatory process, with greater involvement of communities, support staff and caregivers, that aims to foster extended learning opportunities and community relationships. [37]

20. In addition to new competencies, teachers have become responsible for a widening range of subject areas as schools take on a greater social role. Indeed, education has become a central strategy for preparing learners to tackle common global challenges, as set out in SDG target 4.7. [38] In addition to core subjects and skills, educators are increasingly expected to cover such topics as:

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[31] See Assessment and Teaching of 21st Century Skills website, http://www.atc21s.org/; many other formulations exist; see also Global Partnership for Education: "21st-Century Skills: What Potential Role for the Global Partnership for Education? A Landscape Review", 2020.

[32] ILO, *Conclusions on Skills*, para. 6(b).

[33] ILO, "Global Framework on Core Skills for the Twenty-first Century", forthcoming.

[34] OECD, *Social and Emotional Skills: Well-being, Connectedness and Success*, 2017.

[35] Fernando M. Reimers and Connie K. Chung: *Teaching and Learning for the Twenty-First Century: Educational Goals, Policies, and Curricula from Six Nations* (Harvard Education Press, 2016); OECD, "*Skills for 2030*", 2019.

[36] OECD, *Innovating Education and Educating for Innovation: The Power of Digital Technologies and Skills*, 2016.

[37] World Economic Forum, Schools of the Future: Defining New Models of Education for the Fourth Industrial Revolution, 2020; Lisa Flook, "Four Ways Schools Can Support the Whole Child", *Greater Good Magazine*, 23 April 2019.

[38] Alexander Leicht et al., eds, *Issues and Trends in Education for Sustainable Development* (UNESCO, 2018). SDG target 4.7 reads: "By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender

(a) **Sustainable development.** Educators are increasingly expected to promote education on such topics as climate change; biodiversity; disaster risk reduction; sustainable consumption and production; population growth; and green technology.

(b) **Economic development.** Educators teach skills for livelihoods and entrepreneurship. In rural settings, teachers can support increases in agricultural productivity through field schools and agricultural extension training.

(c) **Gender equality.** Education is a key tool for promoting gender equality and teachers are expected to contribute to promoting female health and nutrition interventions.

(d) **Peace education and global citizenship.** Global citizenship education aims to empower learners of all ages to assume active roles, both locally and globally, in building more peaceful, tolerant and inclusive and secure societies through cognitive, socio-emotional and behavioural skills. Educators are expected to support constructive political participation and peace by teaching skills such as listening, negotiation and mediation, building tolerance and diversity. [39]

(e) **Inclusivity.** Educators are increasingly expected to create learning environments that are meaningful and accessible for all students irrespective of the differences in their identities, backgrounds and learning differences. [40] In Organisation for Economic Co-operation and Development (OECD) countries in 2018, it was noted that 61 per cent of the teachers working in a multicultural school supported activities that encouraged students' expression of ethnic and cultural identity. [41] With increasing diversity in classrooms, educators are expected to perceive the curriculum in the context of culture and to customize their teaching practices into a culturally sensitive pedagogy. [42] Learning institutions are also increasingly charged with the integration of learners with disabilities.

(f) **Health.** Educators are also seen as an important agents for promoting health and hygiene, including reproductive health. Research has shown, for example, that education programmes targeting gender inequities, sexual coercion, alcohol and substance use and other factors can lead to a reduction in the incidence of sexually transmitted infection, including HIV. [43]

21. Schools systems and educators have been given the daunting task of addressing this vast and ambitious agenda, often in systems that lack the resources, training, curriculum development and support to deal with such topics. Research in Kenya indicated that there was a lack of clear responsibility and teacher development with regard to education for sustainable development. [44] The *2020 Global Education Monitoring Report* found that while

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equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development".

[39] Jeff Crisp et al., eds, *Learning for a Future: Refugee Education in Developing Countries* (UNHCR, 2001); APCEIU and UNESCO, *GCED Learning and Assessment: An Analysis of Four Case Studies in Asia*, 2020.

[40] Yale Poorvu Center for Teaching and Learning, "Inclusive Teaching Strategies"; Montenegro, Ministry of Education, *Montenegro Inclusive Education Strategy 2019–2025*, 2019.

[41] OECD, "The Changing Landscape of Teaching", in OECD, *TALIS 2018 Results (Volume 1): Teachers and School Leaders as Lifelong Learners*, 2019.

[42] Anviti Singh, "Education Policy: Pedagogical Uncertainty in the Era of Neoliberal Globalism", *Financial Express*, 18 June 2020.

[43] UNESCO, *Charting the Course of Education and HIV*, 2014.

[44] Joseph Opanda, "Education for Sustainable Development in Teacher Education and Professional Development (TEPD) Programmes in Kenya: A Missing Component" (GRIN Verlag, 2013).

the implementation of the SDG target related to sustainable development and global citizenship is difficult to measure, there were indications that few countries had integrated such principles into teacher training. [45]

22. Teachers also need to be prepared to teach students with varied backgrounds and abilities. According to the 2020 *Global Education Monitoring Report*, about 25 per cent of teachers in middle- and high-income countries reported a high need for professional development on teaching students with special needs. In ten francophone sub-Saharan African countries, only 8 per cent of grade 2 and grade 6 teachers have received in-service training in inclusive education. Training on inclusion tends to focus on teaching skills for specialists and not on mainstream teachers. Working conditions can also play a role. In Cambodia, teachers questioned the feasibility of applying child-centred pedagogy in a context of overcrowded classrooms, scarce resources and overambitious curricula. [46] Support personnel accompany a transition towards inclusion, but a survey of unions suggested they were consistently available in only 22 per cent of countries. [47]

Learning crisis

23. While many industrialized countries and better-resourced schools seek to adapt learning to the new economy, many developing countries and low-income segments of industrialized economies are facing a learning crisis. Even before the pandemic, 258 million children were out of school and an additional 175 million pre-primary children were not enrolled in education. [48] Globally, one in two pre-primary-school-age children, one in 12 primary-school-age children, one in six secondary-school-age children and one in three upper-three secondary-school-age young people are out of school. Moreover, children in school are not necessarily reaching learning goals. The World Bank estimates that more than 50 per cent of 10-year-old children (primary school graduates) in low- and middle-income countries are in "learning poverty", defined as the inability to read or understand a basic story. [49] The Education Commission estimated that in 2016, more than 70 per cent of all school age children (ages 4 to 17) in low- and middle- income countries would reach adulthood without gaining basic secondary-level skills. [50] Many countries face populations that, despite having achieved literacy and numeracy, have gravitated towards political extremism, anti-science and conspiracy theories.

24. Even if learners obtain an education, they may not necessarily have better job opportunities if their education does not match labour market demand. A recent report by the International Organisation of Employers cites an estimate that by 2020 there may be a global shortage of 38–40 million highly skilled workers. Moreover, 40 per cent of employers noted lack of skills as the main reason for entry-level vacancy, while 60 per cent stated that new graduates were not adequately prepared for current work. [51] According to the Manpower Group, 45 per cent of employers could not find the right set of skills needed by

[45] UNESCO, *Global Education Monitoring Report, 2020: Inclusion and Education: All Means All*, 2020.

[46] UNESCO, *Global Education Monitoring Report*, 2020.

[47] EI, "Are We There Yet? Education Unions Assess the Bumpy Road to Inclusive Education", 2018, 19.

[48] UNESCO, "New Methodology Shows that 258 Million Children, Adolescents and Youth are out of School", Fact Sheet No. 56, 2019.

[49] World Bank, *Ending Learning Poverty: What Will It Take?*, 2019.

[50] Education Commission, *The Learning Generation: Investing in Education for a Changing World*, 2016.

[51] IOE and ILO, *Changing Business and Opportunities for Employer and Business Organizations*, 2019.

their enterprise in 2018, up from 31 per cent in 2008. [52] Ensuring the right skills to meet the labour market demand will be a constant process of upskilling and reskilling. Yet participation of 15-to-24-year-olds in technical–vocational programmes is relatively low. According to data from 2017, the participation rate was 4 per cent at the global level. No region has achieved gender parity. Female participation rates in technical–vocational programmes are lower than male participation rates in all regions except Latin America and the Caribbean, where male participation rates are lower. [53]

25. Traditional pedagogies are still dominant in many schools, especially in the developing countries of South Asia, Africa and the Latin America. Such methods include top-down lecturing, summative assessments and rote memorization. While in some contexts such methods can be culturally and educationally appropriate, in other cases they may be barriers to learning. [54] Physical punishment of students is still a common practice in some regions: in Africa, only eight countries have banned corporal punishment, [55] while in Latin America nearly 50 per cent of students experience corporal punishment in school and only ten countries have legislation to ban it. [56]

26. Except for Europe and Northern America, where nearly all primary and secondary schools have basic resources, availability in other regions varies considerably by type of resource and level of education. Sub-Saharan Africa faces the biggest challenges in providing primary and secondary schools with basic resources. The situation is particularly severe at the primary and lower secondary levels, where less than 50 per cent of schools have access to electricity, the internet, computers and basic drinking water. [57]

Private education

27. While most education today is provided by public services, private education has been an integral part of education provision and an important element in educational freedom. [58] The privatization of education has become an increasingly important trend and in some cases may be employed as a state strategy for seeking to improve access, equity, choice, innovation and efficiency in education. Globally, over the last 30 years the proportion of children attending private institutions at primary level rose from 8 per cent to more than 17 per cent, a trend that is continuing and is mostly prevalent in lower-middle-income countries. [59] In 2015, the valuation of the global education market was estimated at around US$5trillion and venture capital investment was nearly US$2billion, growing at a rate of 45 per cent from 2010 to 2015. [60]

28. Privatization can take many forms, from traditional fee-based elite schools to so-called "low-fee" private schools (including international chains), public–private partnership

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[52] Manpower Group, "Solving the Talent Shortage: Build, Buy, Borrow and Bridge", 2018.

[53] UNESCO, "2019 High-level Political Forum: Contribution".

[54] Win Han Oo, "The Evolution of Cultural Practices: Are Changes to Education in Myanmar Leading to a Shift in the Way in Which Child–Adult Relationships Are Constructed?", *Global Studies of Childhood* 5, No. 4 (2015): 395–403.

[55] Deutsche Welle, "The Reluctant Farewell to Corporal Punishment", 20 November 2019.

[56] UNICEF, "Comprehensive Laws and Social Changes Are Key to Eradicate the Physical Punishment Suffered by 1 out of Every 2 Children in Latin America and the Caribbean", 25 April 2018.

[57] UNESCO, "2019 High-level Political Forum: Contribution".

[58] "International Covenant on Economic, Social and Cultural Rights", 1966, Art. 13; and ILO and UNESCO, Recommendation concerning the Status of Teachers, para. 10(c).

[59] Rita Locatelli, *Reframing Education as a Public and Common Good* (Palgrave Macmillan, 2019), pp. 62–67.

[60] Antoni Verger, "The Rise of the Global Education Industry", 2016.

arrangements such as charter schools, school vouchers schemes, independent non-profit schools and privately managed public schools. In the TVET sector as well, the creation of training markets in which public and private providers compete is becoming a common feature. A number of important private foundations, sometimes linked to education companies, have also become important actors in education policy. [61] Privatized education-related services are also flourishing, providing such services as tutoring, e-learning, test preparation, accreditation services, teacher capacity-building, and admission and counselling services.

29. Private schools can offer good conditions and job satisfaction for staff, [62] although some have faced financial difficulties caused by the pandemic. [63] Concerns have been raised about conditions in private "low-fee" establishments aimed at servicing poorer communities. A study by the Department for International Development of the United Kingdom indicated that the cost savings of low-fee private schools tended to be realized at the expense of staff salaries and working conditions. [64] Teachers in low-income private schools are in many cases less qualified than public school teachers and receive lower wages. In some chain schools, teachers receive lesson plans and are expected to replicate them according to a script. [65] For example, in the case of one large private provider in Uganda, 80–90 per cent of teachers were unlicensed, as the use of technology and centralized content was perceived to eliminate the need for professionally certified teachers. In the Philippines, 70 per cent of teachers at a large provider did not have accredited certification to teach. [66] In sub-Saharan Africa, governments are facing challenges in adequately ensuring quality and regulating the private education sector. [67]

Monitoring and accountability

30. There is a greater emphasis on evaluation and assessment in education reforms owing to an increased focus on effectiveness, equity and quality in education, as well as increased pressure on government systems to ensure accountability and maintain confidence in public education systems. Assessment also plays an important role in measuring achievement outcomes for national systems of education, individually or comparatively, through international comparative assessments. International comparative data have put pressure on countries to introduce reforms based on the policies of high-performing countries. In Brazil, for instance, the Programme for International Student Assessment results were crucial in the preparation of the 2016–17 secondary school reforms. [68] Overall, there is an increasingly sophisticated use of technology in assessments in terms of data management, especially in OECD countries. [69] Education metrics have proliferated, from

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[61] See Global Business Coalition for Education website, https://gbc-education.org/.

[62] Andreas Schleicher, TALIS 2018: Insights and Interpretations (OECD, 2019).

[63] Oxford Policy Management, "Will Covid-19 Mean the End of Low-Fee Private Schools?", *OPM Blog* (blog), August 2020.

[64] Laura Day Ashley et al., *The Role and Impact of Private Schools in Developing Countries* (United Kingdom, DFID, 2014 (updated 2019)).

[65] CEART/13/2018/9.

[66] EI, "Privatisation and Its Impact on Teachers' Conditions of Employment", 2017.

[67] Donald R. Baum et al., "Regulating Market Entry of Low-Cost Private Schools in Sub-Saharan Africa: Towards a Theory of Private Education Regulation", *International Journal of Educational Development* 60 (2018): 100–112; see also *World Development Report 2018* (World Bank, 2018), 176–178.

[68] Celso João Ferretti, "A reforma do Ensino Médio e sua questionável concepção de qualidade da educação", *Estudos Avançados* 32, No. 93 (2018): 25–42.

[69] OECD, "Trends in Evaluation and Assessment", in *Synergies for Better Learning* (2013), 35–56.

measurements of student performance on standardized tests to school expenditure, teacher absenteeism and teaching time in classroom and on tasks. In some systems, the monitoring of school performance has become a high-stakes activity, with more resources allocated to high-performing schools and resources cut from low-performing schools; other systems have experimented with teacher performance pay, linking wages and career advancement with student performance. There is little evidence that such measures have a positive impact on education or teaching and they can lead to unintended consequences, such as teacher flight from low-performing schools (often in disadvantaged settings) to high-performing schools; teaching that is focused only on test results; and even cheating and fabrication of test results. [70]

31. Classroom observation by school leaders and mentors has been seen as a more positive approach to school performance monitoring, as is investment in school leadership and management, which has an impact on teacher behaviour. Student surveys have also come into use: in 33 education systems in mainly high-income countries, 83 per cent of lower-secondary-school teachers reported that student surveys were part of their evaluation. However, an international review showed that such surveys were not based on informed analyses of teaching. Professional learning communities represent an accountability approach that has helped increase teachers' pedagogical and content knowledge, with associated changes in practice, but they are less common in poorer settings in which mentoring and collaborative practices may be rare. Most countries have national codes of ethics developed by teachers' unions, but the lack of clear enforcement mechanisms hinders their effectiveness and codes do not always specify breach-reporting or sanction mechanisms. Community monitoring of teachers has been effective in some settings and is most effective when observations focus on easily identified and interpreted tasks, such as teacher attendance. [71]

▶ 3. The evolving occupations of educators

Roles of teachers and trainers

32. In addition to teaching subject matters and managing classes, the role of education workers in schools is evolving into a variety of roles, including:

(a) **Learning facilitator.** Historically, teachers and trainers were hired for their mastery of subjects and ability to transfer this knowledge to students, a role that remains dominant in many parts of the world. [72] As the concept of learning moves towards "learning to learn", however, the expectation for a teacher to possess a fixed stock of knowledge is changing. Much of the world's knowledge is available online. Among OECD countries, there is an evolving view that the teacher's role is that of a facilitator; in 2013, 94 per cent of the teachers in an OECD survey noted that they view themselves as facilitators for students' enquiry and that their main aim is to foster critical and individual thinking skills based on learners' individual needs, styles and levels of

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[70] Richard J. Shavelson et al., "Problems with the Use of Student Test Scores to Evaluate Teachers" (Economic Policy Institute, 2010).

[71] UNESCO, *Global Education Monitoring Report 2017/8: Accountability in Education: Meeting our Commitments*, 2017.

[72] Keith Heggart, "How Important Is Subject Matter Knowledge for a Teacher?", *Edutopia* (blog), 1 May 2016; OECD, *Creating Effective Teaching and Learning Environments: First Results from TALIS*, 2009.

ability.[73] New pedagogic styles integrated with technological instructional aids require teachers to facilitate learning environments to induce open-ended discovery by students. [74] The teacher is no longer expected to be an authoritative source of information but a trusted broker of a variety of sources of information. The rise in the nature of formative and competency-based assessments has driven further changes in the role of teachers as facilitators. Summative assessments are more linked with the teacher's role of a judge for the purposes of compliance and accountability, while formative and competency-based assessments require teachers to assist individualized learning experiences. [75]

(b) **Career counsellor.** Given the evolving nature of work and the uncertain future of jobs, teachers also have a role in guiding students in curriculum choices and career paths, especially in settings in which there is a shortage of formal career counsellors. The teacher's assumed role of career guide is amplified by the shortage of formal career counsellors. For example, the 350 million school students in India would need an estimated 1.4 million career counsellors to maintain the globally accepted student-counsellor ratio. [76] In the United Kingdom of Great Britain and Northern Ireland, a 2011 amendment to the Education Act made it compulsory for schools to offer career guidance and some of this responsibility was placed on teachers. Teachers serve as constructors of careers by helping students develop career management skills so that they can continuously react to the dynamically changing expectations of the labour market.

(c) **Vocational instructor.** Teachers and trainers are considered to be the frontline of TVET delivery as vocational subjects are increasingly becoming available in secondary schools, often linked to part-time apprenticeships, traineeships and other forms of work-based learning. [77] Teachers and trainers are increasingly expected to establish and develop relationships with the private sector and individual employers and to develop entrepreneurial skills and relevant public–private partnerships. [78]

(d) **Social worker.** As more families depend on all household adults to work, schools play an important role in loco parentis. Teachers therefore perform the function of pastoral care and social work as they deal with children, families and communities. [79] To engage students in effective learning environments, teachers need to consider the social context in which students operate, such as domestic conflicts, hunger, poverty and trauma. Educators are expected to monitor learners' mental well-being and offer psychosocial support. At the level of the wider community, teachers are responsible for providing advice to parents and building community partnerships for learning. Society also expects schools to promote tolerance, integration and social cohesion and respond to the needs of the disadvantaged students in proactive ways, such as by

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[73] OECD, "Teaching Beliefs and Practice", Teaching in Focus No. 13 (2015).

[74] Sandra Finley, *Instructional Coherence: The Changing Role of the Teacher* (SEDL, 2000).

[75] National Research Council, "The Relationship Between Formative and Summative Assessment—In the Classroom and Beyond", in *Classroom Assessment and the National Science Education Standards* (National Academies Press, 2001).

[76] "Professional Counselling and Career Guidance for Holistic Education", *ScooNews*, 15 April 2020.

[77] UNESCO-UNEVOC, "The Future of TVET Teaching".

[78] Michael Axmann et al., "Vocational Teachers and Trainers in a Changing World: The Imperative of High-Quality Teacher Training systems", ILO EMPLOYMENT Working Paper No. 177, 2015.

[79] Rosemary Webb and Graham Vulliamy, "The Social Work Dimension of the Primary Teacher's Role", in Research Papers in Education 17, No. 2 (2010): 165–84.

providing support for claiming social protection benefits. [80] Teachers also acts as a resource person for issues like child labour and advocate for reform at the community level, and they are also expected to identify warning signs that indicate sexual abuse or whether children have problems in relation to their developmental stages. Infection control and the management of mental stress in relation to the COVID-19 pandemic added new responsibilities to the social worker role of educators and education support workers.

(e) **Manager and administrator.** Teachers and trainers also play key administrative and managerial roles. [81] Educators' duties require them to maintain general school records – both online and offline – on learners, equipment in classrooms/labs and financial information. They need to organize their individual time management and participate in the development of school calendars, examinations and school events. Teachers participate in conflict management to resolve tensions among parents, schools and learners. Educators may also be involved in planning and managing the induction and integration of new colleagues in the school system and coordination with other teachers and education authorities.

(f) **Leader.** The role of school leadership and principals has diversified over the years, extending beyond school administration and management. School leaders, including principals and head teachers, are expected to build competencies around data, curriculum, pedagogy and human capacity-building. [82] School leaders monitor, guide and supervise effective curricula and aim to innovate and integrate instruction and assessment. They also create collaborative networks and learning opportunities for teachers and ensure teacher certification. [83] Furthermore, they provide strategic support for the integration of digital tools in instructional aid. Teachers can also act as catalysts for educational change by networking with trade unions, children's and women's rights networks, other social change organizations and school management committees. During the COVID-19 pandemic, school leaders have had to deal with the difficulty of planning teaching continuity plans and the protection of staff and learner health.

Diversification of the education workforce and specialization of support roles

33. Changes in the administration of schools and learning institutions have had implications for changes in workforce design, including changes in staff roles and capabilities. OECD data show that in countries like Brazil, Chile, Saudi Arabia and South Africa, teachers in a typical classroom spent 30 per cent or more of their working time on activities other than teaching and learning. In OECD countries, teachers spent on average nearly 80 per cent of their working time on actual teaching and learning activities within the classroom. [84] The education workforce has expanded to enable teachers to focus on learning activities and reduce their administrative burden. School workforce teams now include learning support staff (teaching assistants, enrichment coordinators, mentors and enrichment coordinators),

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[80] Norman m. Goble and James F. Porter, *The Changing Role of the Teacher: International Perspectives* (UNESCO, 1977).

[81] Aijaz Ahmed Gujjar and Bushra Naoreen Choudhry, "Role of Teacher as Classroom Manager*", Journal on Educational Psychology* 2, No. 4 (2009): 65–73.

[82] Lee Alvoid and Watt Lesley Black Jr., "The Changing Role of the Principal", Center for American Progress, 1 July 2014.

[83] Forrest W. Parkay et al., *Curriculum Leadership: Readings for Developing Quality Educational Programs* (Pearson, 2014).

[84] Schleicher, *TALIS 2018: Insights and Interpretations*.

education leaders (head teachers, school principals, district leaders) and support staff (health workers, social work/student welfare staff, counsellors, technology and administrative staff). At the level of the education system, roles like specialist teachers and district leaders may be created across a cluster of schools to provide support to the whole network. [85]

34. The widespread integration of ICT into teaching, learning and management has increased the importance of computing support staff. Their tasks include servicing not just the advanced needs of the students but also the needs of teachers and the administration. Library staff have had to familiarize themselves with a wide range of information management systems in order to function as online resource centres. Likewise, administrative roles are now required to maintain computerized records to align with local and national administrations. Increasing efforts to ensure the inclusion of learners with disabilities have at the same time increased the demand for child development experts and counsellors to work with teachers to ensure pro-inclusion practices. [86] In Finland, for example, where there are seven nationally administered special schools, teaching assistants play an important role in supporting the learning of students with disabilities who attend mainstream schools. [87]

35. Operating schools also requires the support of janitorial and maintenance staff, nutrition staff, medical staff and vehicle drivers, who ensure that learning happens in a safe and supportive environment. Such staff are often on the frontline of the security of schools as they work outside the classroom, including during commutes and in dining areas. [88] School food workers are often key to ensuring adequate nutrition for children; during the COVID-19 pandemic, an estimated 350 million children did not receive subsidized daily meals through school. [89] Although this role is clearly more important in poorer countries, it is relevant in poorer segments of developed countries as well: in the United States, for example, nearly 30 million children receive subsidized meals at school, relying on school food and sanitation workers for food security. [90] From 1970 to 2010, the number of non-teaching staff in the United States (those employed by school systems but not serving as classroom teachers) grew by 130 per cent. In 2014, non-teachers comprised half of the public school workforce (about 3 million individuals) and their salaries and benefits absorbed one quarter of current education expenditures. [91]

36. Drawing on models from the health sector and the use of local community health workers, there has been a growing interest in creating "learning teams" around students, including trainee teachers, learning support staff and specialist teachers. Such models also envision a variety of community education worker roles, recruited from local communities, that can support foundational learning and student welfare and well-being. [92] This phenomenon is

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[85] Freda Wolfenden et al., *Re-envisioning and Strengthening the Education Workforce: Initial Literature Review* (Education Commission, 2018).

[86] Michal Shani and Cathie Koss, "Role Perceptions of School Administration Team Members Concerning Inclusion of Children with Disabilities in Elementary General Schools in Israel", International Journal of Inclusive Education 19, No. 1 (2015): 71–85.

[87] Wolfenden et al *Re-envisioning and Strengthening the Education Workforce.*

[88] National Center on Safe Supportive Learning Environments, "School Support Staff".

[89] UNESCO, "Education: From Disruption to Recovery"; World Food Programme, "Mitigating the Effects of the COVID-19 Pandemic on Food and Nutrition of Schoolchildren", 2020.

[90] FRAC, "School Meals are Essential for Student Health and Learning", 2019.

[91] Matthew Richmond, *The Hidden Half: School Employees Who Don't Teach* (Thomas B. Fordham Institute, 2014).

[92] Education Commission, *Transforming the Education Workforce: Learning Teams for a Learning Generation*, 2019.

also prevalent in high-income and/or OECD countries. In OECD countries, the ratio of learning support staff has increased to 7.3 staff members for every 1,000 students in primary and secondary schools. In the United States and the United Kingdom that ratio is almost twice as high, at 15.5 per 1,000 students, having increased in the United Kingdom by 100 per cent from 1997 to 2009. [93]

37. The deployment of learning support staff has also been on the rise in low- and middle-income countries, in which teacher recruitment and retention are issues. Research shows that learning support staff can enhance learning and teaching outcomes if sufficient training, induction and deployment are undertaken. This requires teachers to collaborate with education support staff small groups. [94] For example, in Ghana, the teacher community assistant programme (a three-year remedial literacy initiative launched in 2010) showed gains in student learning outcomes from grades 1 to 3 through interventions by high-school graduates. [95] Community education workers, who may include health workers, can work on areas like improving access, attendance and retention for the most marginalized students. In Kenya, community education workers played an important role in improving the access of girls to education. [96]

38. While the importance of education support personnel has come into prominence, so have concerns about their working conditions. In Africa, the deployment of so-called "community teachers" was a strategy for reaching universal primary enrolment goals, but it resulted in the widespread recruitment of unqualified staff on fixed-term contracts. [97] Many of these teachers received less pay and fewer benefits than teachers on public-service contracts. Education support personnel, according to a union survey, are often paid much less than teachers. [98] They have been particularly hard hit by job losses due to the COVID-19 pandemic, especially in tertiary education. [99]

New pedagogical approaches

39. Teaching methods have also changed in the light of new approaches to education and the integration of technology in schools, as well as neurological research and its applicability in education settings. [100] New models of pedagogical and instructional design are outgrowing the traditional delivery of a one-size-fits-all mass education system with a focus on student-centred learning. [101] The model popularly known as self-directed learning is the process "in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for

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[93] Wolfenden et al.

[94] Christine M. Rubie-Davies et al., "Enhancing Learning? A Comparison of Teacher and Teaching Assistant Interactions with Pupils" *School Effectiveness and School Improvement 21*, No. 4 (2010): 429–449.

[95] IPA, "Evaluating the Teacher Community Assistant Initiative in Ghana", 2015.

[96] Wolfenden et al.

[97] Centre for International Teacher Education, "Rural Teachers in Africa", Working Paper No. 312 (ILO, 2016); Jean Bourdon et al., "Les enseignants contractuels : avatars et fatalités de l'éducation pour tous", paper for a seminar on the theme "La professionnalisation des enseignants de l'éducation de base : Les recrutements sans formation initiale", 11–15 June 2007, Sèvres, France.

[98] Philippa Butler, "Education Support Personnel: Shining Light on the Invisible Workforce", *EI Blog* (blog), 11 June 2019.

[99] Kevin Mahnken, "Half of All School Employees Aren't Teachers. This Recession Will Endanger Their Jobs", *The 74* (blog), 14 April 2020.

[100] Patricia K. Kuhl et al., eds, *Developing Minds in the Digital Age: Towards a Science of Learning for 21st Century Education* (OECD, 2019), 25–36; The Royal Society, *Brain Waves 2: Neuroscience: Implications for Education and Lifelong Learning*, 2011.

[101] Mitchell Jay, "What Exactly Is Student-Centred Learning?", *Student Voices* (blog), 1 December 2016.

learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes". [102] In doing so, learners exercise greater control over the content and purposes of learning. Teachers help learners plan their targets, prepare a learning plan and produce a portfolio of their best work. [103] The teacher's role has evolved to identify the best resources on the topic or skills in the areas of interest for the students, leverage opportunities for learning experiences available at scale and connect learners across cultures and perspectives.

40. The teaching of twenty-first century skills requires a variety of learning methods. [104] Flexible and personalized pedagogical styles include teaching techniques such as "crossover learning" for connecting formal and informal learning; "learning through argumentation" for developing skills in scientific argumentation; "incidental learning" by embracing unplanned or unintentional learning; and "context-based learning" by accounting for the context that shapes the process of learning. Teachers are also integrating other approaches, such as "learning by doing", "stealth assessment" (unobtrusive assessment of learning process), "flipped classrooms", and "play-based learning" for early learning. [105]

41. Problem-based or project-based learning are common techniques in TVET. All these techniques require different delivery and assessment approaches, which add to the complexity of educator work. In secondary education and TVET, there is an increased trend towards work-based and work-integrated learning approaches that give the students exposure in order to put theory into practice. These opportunities range from internships, job shadowing, simulations and mentorship programmes. To this end, teachers foster partnerships with employers and align their curricula with employer's expectations and industry standards. [106]

42. Language is also a key factor in delivering quality teaching. Multilingual classes are a growing phenomenon across the world due to increased mobility. [107] Sometimes both teachers and learners may need to use administrative languages that are neither the first language nor the local language for both of them. There is growing interest in using mother-tongue bilingualism, especially in early years of schooling for enhanced learning outcomes in later years. It remains a challenge, however, to find or train teachers proficient in multiple languages, especially indigenous languages. [108]

Digital learning

43. Modern technologies like smartboards and digital tablets have become widespread in schools that have the resources to procure such equipment. [109] Educators are no longer

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[102] Mark K. Smith, "Malcolm Knowles, Informal Adult Education, Self-Direction and Andragogy" (infed.org, 2002).

[103] Tom Vander Ark and Emily Liebtag, "Developing Self-Directed Learners", *Getting Smart* (blog), 6 December 2016.

[104] WEF, *The Future of Jobs Report 2018,* 2018; Regina Pefanis Schlee and Katrin R. Harich, "Teaching Creativity to Business Students: How Well Are We Doing?", *Journal of Education for Business* 89, No. 3 (2014): 133–41.

[105] Mike Sharples et al., *Innovating Pedagogy 2015: Open University Innovation Report 4* (The Open University, 2015); OECD, *The Nature of Learning*, 2010.

[106] Laura Rook, "Challenges Implementing Work-Integrated learning in Human Resource Management University Courses", *Asia Pacific Journal of Cooperative Education* 3, No. 18 (2017): 199–212.

[107] Sue Ollerhead and Kerry Taylor-Leech, "Promoting Multilingual Approaches in Teaching and Learning", *Learning Portal* (blog), 6 November 2019.

[108] Susan Malone, *MTB MLE Resource Kit: Including the Excluded: Promoting Multilingual Education* (UNESCO, 2018); Global Partnership for Education, "3 Examples of Mother Tongue Education to Improve Learning", *Education For All Blog* (blog), 21 February 2019.

[109] Bernardo Mendonça and Isabel Leiria, "Na nova sala de aulas todos ensinam, todos aprendem" *Expresso*, 15 April 2020.

limited by their personal observations and assessments of students' abilities but can leverage predictive analytics for adaptive learning, aimed at delivering a curated learning environment for students through an algorithmic approach to address the unique learning needs of each student through just-in-time feedback, pathways and resources. [110] Students are also gaining immersive mixed reality experiences through augmented reality, virtual reality and simulation-based content in the classrooms. ICT is also empowering classroom management for multi-grade teaching. Many countries in Asia and the Pacific, for example, teach students in different grades at the same time. In such classrooms, technologies such as augmented reality and virtual reality help engage and interact students with different abilities and aid cross-learning with older students. [111] Introducing technological interventions into education is in wide use and aims to improve learning results, reduce costs and deliver education to children in remote areas, while at the same time improving operational efficiencies, such as by streaming back-office functions. [112] Technology is being introduced to reduce a teacher's workload by reducing grading time through automatically grading and analysing student performance and home work, automate lesson planning linked to the curriculum and the use of update and track data dashboards for individual student performance. [113]

44. Teachers' experiences are mixed in this regard. In Canada, a study of teachers' beliefs in the use of technology revealed challenges in their readiness to integrate technology since some technologies take a longer time to learn relative to their perceived value addition. [114] In the United Kingdom, most teachers found that education technology saved time. [115] A global survey of teachers conducted by Education International (EI) found that the involvement of teacher organizations in establishing policies and practices on ICT in education was low and few teachers felt that their training and continual professional development (CPD) needs on ICT were met. [116] Training in the use of ICT involves not only the technical use of tools but their sound pedagogical use and related ethics, such as protection of data, privacy and exposure to harmful or false content.

45. One key challenge for the use of educational technology is access to technology and information infrastructure. A survey of schools on the use of ICT in education in the European Union (EU) found that less than one out of five European students attended schools with internet connectivity above 100 megabits per second (mbps), well below the estimated 700 mbps needed for simultaneous student use of online educational tools. [117] Moreover, CPD on ICT for teachers remains uncommon; six out of every ten European students are taught by teachers who engage in personal development activities on ICT in their own time. [118] In the global South, the problem of the lack of ICT infrastructure persists (see box 1). Only 43 per cent of Latin American and 12 per cent of Central and Southern Asian primary schools provided access to the internet for pedagogical purposes (see SDG

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[110] Smart Sparrow, "Let's Talk About Adaptive Learning".

[111] Taraneh Enayati et al., "Classroom Management Strategies of Multigrade Schools with Emphasis on the Role of Technology", *Interdisciplinary Journal of Virtual Learning in Medical Sciences* 7, No. 2 (2016).

[112] Education Commission, *The Learning Generation: Investing in Education for a Changing World,* 2016.

[113] Nancy Wilkinson and Toby Baker, "Will Technology Solve Teacher Workload?", *Nesta Education* (blog), 11 October 2019.

[114] Isha DeCoito and Tasha Richardson, "Teachers and Technology: Present Practice and Future Directions", *Contemporary Issues in Technology and Teacher Education* 18, No. 2 (2018): 362–378.

[115] Charley Rogers, "Not Enough Time for Innovation, Say Teachers", *Education Technology* (blog), 28 January 2019.

[116] Christina Colclough, "Teaching with Tech: The Role of Education Unions in Shaping the Future" (EI, 2020).

[117] European Commission, "Connectivity for a Competitive Digital Single Market – Towards a European Gigabit Society", 2016.

[118] European Commission, "2nd Survey of Schools: ICT in Education", 14 March 2019.

indicator 4.a.1), while 94 per cent of schools have access to internet in Eastern Asia. The global average is 39.6 per cent. [119]

▶ Box 1.   Digitalization and the education sector in East Africa

A recent ILO study on digitalization and the education sector in East Africa, funded by the German Agency for International Cooperation, found that infrastructural deficits such as the lack of electricity, poor internet connectivity, limited digital facilities and devices in schools and at home, outdated technology and the lack of affordable technology, technology-related services and data and internet bundles remain fundamental challenges to varying degrees in the use and integration of technology for teaching and learning. Rural regions remain particularly underserved in these areas, contributing to a digital divide within countries. Limited and inadequate capacity development of teachers in the use of technology for pedagogical purposes, which is often limited to ad hoc, one-time workshops, delays the realization of the benefits offered by digitalization efforts.

The COVID-19 crisis exacerbated these infrastructural and human capacity deficits, with many countries in the region relying on radio and television programming to continue learning during school closures. The availability of these devices, however, was limited in some rural and remote regions and in some marginalized and disadvantaged communities, further exacerbating existing education inequalities. Private schools with greater resources were more readily able to adopt virtual solutions, including making use of communication platforms.

In East Africa, policies and frameworks are present to support the integration and use of technology across sectors and industries, including in education. In many cases, however, such policies and frameworks require updating to reflect the emergence of new digital technologies and platforms as well as related issues, further implementation and financial support. Greater collaboration between governments, social partners and other education stakeholders is fundamental to the inclusive and equitable digitalization of the sector.

ILO, "Digitalization and the Education Sector in East Africa", forthcoming.

▶ 4. Challenges and opportunities for decent work in the education sector

Skills and training for educators

46. Teaching is a significant source of formal, professional employment in developing countries. Teachers are highly represented among wage and salaried workers and among professional and public sector workers. One study estimated that in low-income countries, three out of every five professional-level workers and about one of every five secondary and university graduates work as teachers. [120] The growing demand for education workers and the expanding roles of teachers, of different pedagogical approaches and of the subject matters they are responsible for have underscored the importance of teacher education and training. In most countries, the development of teachers is undertaken through teacher training institutions, which provide pre-service training, as well as through in-service training, which allows teachers to be trained while gaining experience in the classroom. In some contexts, direct mentoring supports new teachers in learning how to teach effectively.

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[119] Source and regional groupings: UIS.Stat data extracted on 28 September 2020.

[120] Lee Crawford and Todd Pugatch, "Teacher Labor Markets in Developing Countries", Working Paper 546 (Center for Global Development, 2020).

47. While the importance of teacher training and professional development are recognized, there remain large gaps in ensuring an adequately trained education workforce in many countries. Partly in response to the pressure to ensure universal primary and secondary education enrolment, some countries have been obliged to recruit unqualified teachers to ensure a sufficient number of teachers per classroom. In sub-Saharan Africa, the proportion of trained teachers to students has declined in the last two decades, which has led countries to lower their entry requirements and employ contract teachers or paraprofessionals. [121] The proportion of teachers with the minimum required qualifications in secondary education ranged from 97 per cent in Central Asia to 42 per cent in sub-Saharan Africa (see figure 1). [122] Shortages of trained teachers are especially marked in higher mathematics and science subjects. [123] OECD countries are also failing to attract young professionals into the teaching profession, with significantly smaller proportions of teachers below 30 years of age. [124] In some areas of teaching, teaching requirements may be overly academic, especially in the case of TVET teaching, which industry professionals are barred from entering without formal pedagogical training. While paraprofessionals and contract teachers are increasingly deployed to fill the gap, improving their skills is deprioritized relative to those of full-time teachers. [125]

▶ **Figure 1 – Percentage of trained teachers in upper secondary, 1998–2019**
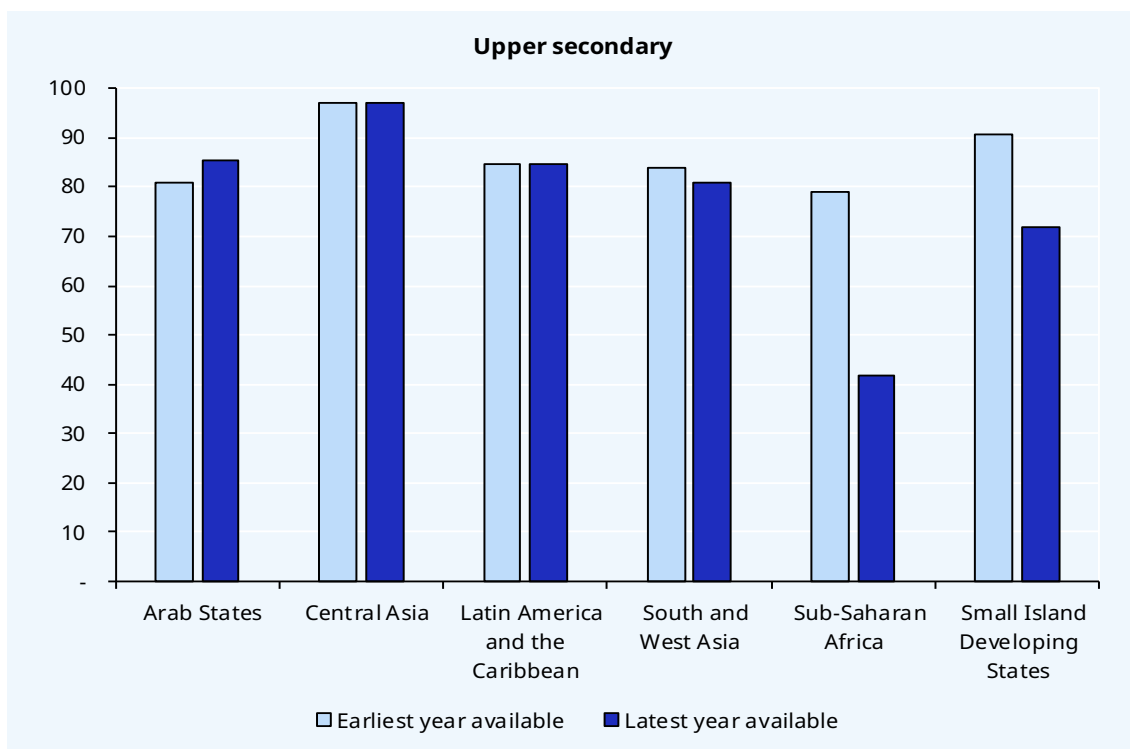
Source: OECD, TALIS 2018 database.

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[121] Thibaut Lauwerier and Abdeljalil Akkari, "Teachers and the Quality of Basic Education in Sub-Saharan Africa", UNESCO Education Research and Foresight Working Paper (UNESCO, 2015).

[122] UIS.Stat data extracted on 7 December 2020.

[123] Andreas Schleicher, ed., *Preparing Teachers and Developing School Leaders for The 21st Century: Lessons from Around the World* (OECD, 2012), 55–80.

[124] OECD, "A Profile of the Teacher Population and the Schools in Which Work", in OECD, *Creating Effective Teaching and Learning Environments*, 25–46.

[125] São Paulo State University, "Mesa Redonda: A Formação de Professores e as Tecnologias Digitais na América Latina", Youtube video, 17 September 2020.

48. Despite these challenges, educator training is evolving. In industrialized countries, teacher training has increasingly tried to integrate twenty-first century skills into both curricula and pedagogy. Examples include Singapore's TE21 Model of Teacher Education, which sets out a schema of learner-centred values, teacher identity, service to profession and community, twenty-first century skills and the knowledge required for teachers. Finland's model emphasizes a research-based approach to teacher development and a strong clinical component that focuses on classroom practice in schools associated with training institutions. Other approaches, such as the Netherlands's Wikiwijs system, enable teacher collaboration through the internet. In developing countries in which teacher shortages are prevalent, technology offers a way to train teachers remotely or through alternative training paths. These strategies are especially important for upgrading teachers who may be serving as teachers but do not have the formal qualifications to be fully certified. The United Republic of Tanzania's MUKA programme enables teaching certification through a combination of face-to-face teaching sessions and independent study. Malawi and Nigeria have had similar programmes. [126]

49. While pre-service training is important for teacher education, in-service CPD in the context of lifelong learning has become the key strategy for ensuring that teacher competencies adapt to fast-paced developments in pedagogy and curricula. [127] There are still wide gaps in access to CPD worldwide. In OECD countries, 94 per cent of teachers have participated in at least one CPD activity in 2017–18. In some OECD locations like Alberta (Canada), Australia, Austria, Latvia, Lithuania and Shanghai (China), 99 per cent of the teachers have participated in at least one professional development activity. The main topics covered in these CPD activities include knowledge and understanding of subject fields (76 per cent) and pedagogical competencies in teaching subject fields (73 per cent). Lower participation was observed in CPD activities on teaching in multicultural or multilingual settings (22 per cent) and communicating with people from different cultures (19 per cent). [128] Teachers reported a greater need of being trained on topics like ICT skills for teaching (18 per cent), teaching children with special needs (22 per cent) and teaching in multicultural settings (15 per cent) in both 2013 and 2018. Within the OECD, 56 per cent of teachers reported having received training on the use of ICT in their pre-service training (figure 2).

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[126] Schleicher, ed., *Preparing Teachers and Developing School Leaders for the 21st Century*.

[127] Independent Evaluation Group, *Selected Drivers of Education Quality Pre- and In-Service Teacher Training* (World Bank Group, 2019).

[128] OECD, "Providing Opportunities for Continuous Development", in OECD, *TALIS 2018 Results (Volume 1)*.

► **Figure 2 – Percentage of teachers for whom "use of ICT for teaching"
   has been included in their formal education or training, selected countries**
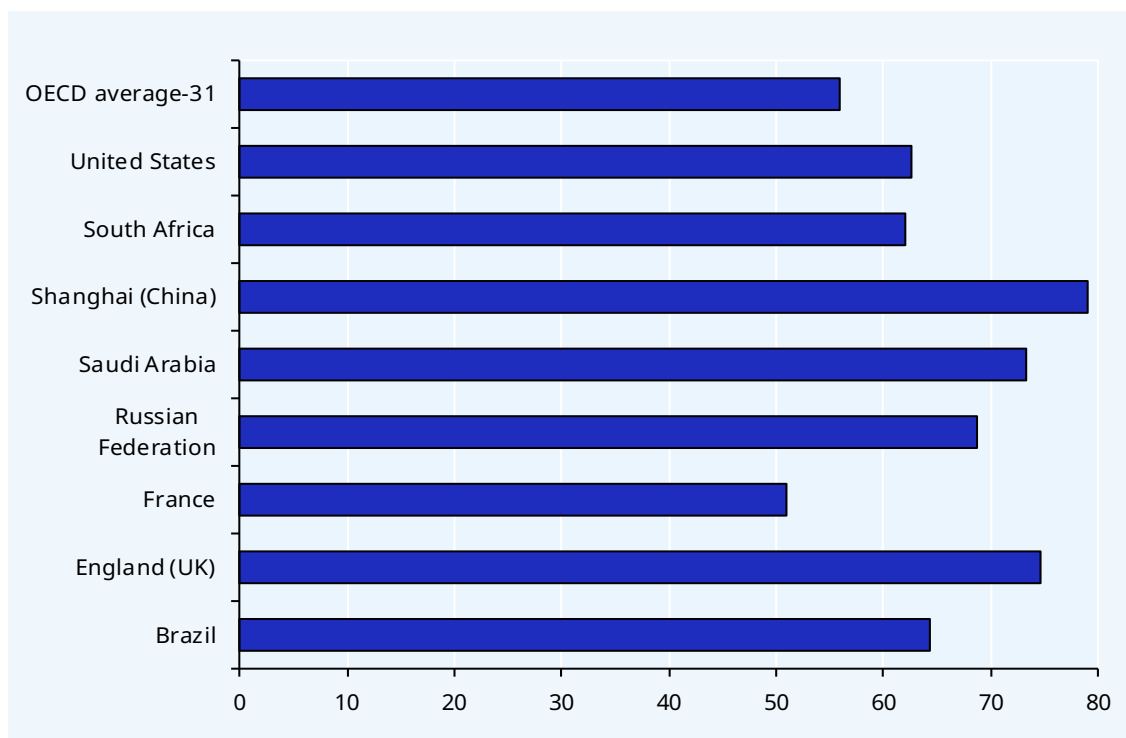
Source: OECD, TALIS 2018 database.

50. One of the main challenges for TVET systems around the world has been to ensure that teachers have up-to-date skills to teach students. Only 30 per cent of TVET institutions require new secondary-level TVET teaching staff to have industry experience. [129] One way to ensure this is to provide industry placements for teachers that provide authentic work experience through apprenticeships and traineeships in industry. In China, teachers spend at least one month in the industry per year and a significant number of part-time teachers are drawn from industry ranks. Teachers may become consultants with business projects in order to be better informed of the evolving needs of labour markets. [130] However, the concept has not received equal attention at policy or organizational levels. In low- and middle-income countries, pre-service programmes for teachers and instructors are not always in place. TVET teachers in Africa may earn more based on their number of years of experience but often do not have the opportunity for flexible pathways to professional development through industry experience. [131] In countries in which the length of pre-service training for TVET staff is short, industry placements can compensate for the lack of training. Short-term teachers with contracts may be self-dependent for maintaining and updating their industry connections. In many systems, there are few standards and guidelines on minimum requirement for the new skills and knowledge that TVET teachers should acquire and how to translate them into teaching. [132] There is a need for better qualifications and curriculum requirements for teachers and trainers in order to ensure that best practice teaching and assessment methods are included with the other key skills

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[129] UNESCO-UNEVOC, *UNESCO-UNEVOC Study on the Trends Shaping the Future of TVET Teaching*, 2020.

[130] WEF, The Future of Jobs Report 2018.

[131] European Commission, *TVET Teacher Education in Africa: Synthesis Report*, November 2015.

[132] Sarojni Choy and Sandra Haukka, "Industrial Attachments for Instructions in TVET Delivery", in *International Handbook of Education for the Changing World of Work*, ed. Rupert Maclean and David N. Wilson (Springer, 2009), 1367–1382.

required to deliver training priorities. There is also a need for initial professional development, CPD and capacity-building programmes for teachers, trainers and institution managers, including to provide the necessary level of technical, pedagogical and digital skills to enable learners to thrive in the knowledge economy. [133] Close contact and exchange between education and training institutions and private sector employers is key to ensuring the teaching of skills that are in demand by employers. [134]

51. Beyond CPD, strengthened peer networks are recognized for their potential to improve teaching. The OECD in 2013 concluded that key elements of teacher professionalism included a solid knowledge base, autonomy (defined as teachers' decision-making on matters related to their work) and peer networks, which provide opportunities for the information exchange and support needed to maintain high standards of teaching. [135] Teachers are less likely to participate in peer networks for professional development but more likely to receive direct advice from supervisors or peers and guidance for improving their knowledge base. [136] The key role of mentoring and peer networks is a policy area to be further explored as many education systems shift towards a focus on pre-service training and formal CPD rather than in-service support.

Teacher migration

52. Short-term teacher migration to promote global exchange and develop international teacher networks is a practice encouraged by the 1966 ILO/UNESCO Recommendation concerning the Status of Teachers. The international recruitment of teachers to fill shortages is still a poorly understood phenomenon. Where it occurs, it poses the same challenges as international migration of other skilled professionals. Many of migrant teachers are trained through public investment, resulting in a loss of human capital for the country of origin. In a country like India, in the state of Kerala, teachers can leave for up to 15 years to teach abroad and still return to their positions. Like other migrant workers, migrant teachers can be subject to exploitation, including fraud and economic coercion, and may not have access to social protection. In a survey by EI, 34 per cent of migrant teachers reported having been challenged with some form of discrimination right from the start of the recruitment process. In the United States, international teacher recruitment is almost entirely unregulated and worker protection rules are poorly enforced. [137] Skilled migrants are often not employed at the same level in destination countries and it becomes difficult to compare professional training and licensing requirements in different countries. It then becomes important to understand whether the migrant teacher's qualifications and competence are at the same level as that of the destination country teacher. In Commonwealth countries, efforts have been made to understand the transferability of teacher qualifications through the development of frameworks. [138]

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[133] ILO, "Shaping Skills and Lifelong Learning for the Future of Work", forthcoming.

[134] EPF, "The Role of the Private Sector in Vocational and Educational Training. Developments and Success Factors in Selected Countries", EPF Working Paper, 2017.

[135] OECD, *Supporting Teacher Professionalism: Insights from TALIS 2013*, 2016.

[136] Philippa Cordingley et al., *Constructing Teachers' Professional Identities* (EI, 2019).

[137] Marie-Louise Caravatti et al., *Getting Teacher Migration and Mobility Right* (EI, 2014).

[138] See Commonwealth Secretariat, "Commonwealth Teacher Recruitment Protocol" (2004); see also Lauwerier and Akkari.

Health, safety and well-being

53. Education can be considered part of the care sector and teaching and supporting learners involve intellectual, physical and emotional work. Teachers are affected psychosocially by the social conditions they face in the classroom and in trying to create a physically safe, emotionally secure and psychologically encouraging learning environment. A report from the United States found that 46 per cent of teachers reported high levels of daily stress, which affected their health, quality of life and performance – almost at the same levels as a nurse, making teaching one of the most stressful occupations in the country. [139] In 2015, more than 1 million United States teachers left their jobs for another job in the education sector or outside. [140] Another study in Brazil indicated that most municipal teachers' work was classified as demanding and active work with little control. [141] In the United Kingdom, a survey revealed that stress is the biggest cause of teacher absence following maternity leave. [142] Some progress on this issue has been made; according to UNESCO statistics, the teacher attrition rate (SDG indicator 4.c.6) in primary education has decreased worldwide from 6.57 per cent in 2015 to 4.41 in 2018. [143]

54. Reasons for high turnovers among teachers are attributed to lack of leadership, a negative working climate, increased job expectations (such as assessments, student behaviour, administrative tasks, social and emotional needs of students). [144] Bullying and harassment may also be a contributing factor. A study in Germany revealed that 37.4 per cent of surveyed trainee teachers experienced at least one negative incident weekly and the most common type of bullying was work-related or personal bullying. In the same study, prevalence rates were found to be higher among men (35.5 per cent) than women (16.8). [145] Teachers are also subject to sexual harassment. In the United Kingdom, a study by a teacher's union revealed that one in five of the 1,200 teachers surveyed had been sexually harassed by pupils, colleagues, managers or parents, while 67 per cent had received inappropriate comments about their appearance or body. [146]

55. Violence is also an important stress factor. According to data compiled by the Global Coalition to Protect Education from Attack, there were more than 11,000 reports of attacks on education facilities or military use of educational facilities globally between 2015 and 2019. These incidents harmed over 22,000 students, teachers and education personnel. [147] Even in countries not affected by armed conflict, violence can have an impact on education workers. In Rio de Janeiro (Brazil), for example, teachers miss their work 5.8 per cent more in years when there is violence in the schools' surroundings; in these periods, the likelihood

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[139] Mark T. Greenberg et al., "Teacher Stress and Health" (Pennsylvania State University, 2016).

[140] Preeti Varathan, "The US is Having a Hard Time Keeping Teachers in their Jobs", *Quartz*, 1 June 2018.

[141] Marcos Henrique Fernandes and Vera Maria da Rocha, "Impact of the Psychosocial Aspects of Work on the Quality of Life of Teachers", *Brazilian Journal of Psychiatry* 31, No. 1 (2009): 15–20.

[142] Ali Naghieh et al., "Organisational Interventions for Improving Wellbeing and Reducing Work-Related Stress in Teachers", *Cochrane Database of Systematic Reviews*, No. 4 (2015).

[143] UIS.Stat data extracted on 27 September 2020; the attrition rate is the number of leavers expressed as a percentage of the total number of teachers.

[144] EFEE and ETUCE, *Report of the Research Project on Social Partners Promoting Decent Workplaces in the Education Sector for a Healthier Working Life*, 2016; The Graide Network, "The Rise of Teacher Stress", *The Graide Network* (blog).

[145] Marie Drüge et al., "Bullying and Harassment of Trainee Teachers", *Procedia – Social and Behavioral Sciences* 228 (2016): 118–122.

[146] NASUWT, "Consultation Response: Government Equalities Office Consultation on Sexual Harassment in the Workplace October 2019", 2019; Mario Piacentini, "Can Bullying Be Stopped?", *OECD Education and Skills Today* (blog), 18 July 2017.

[147] GCPEA, Education Under Attack 2020, 2020.

that a principal will quit before two years of service increased by 12 per cent. [148] The ILO Violence and Harassment Recommendation, 2019 (No. 206) recognizes that exposure to violence and harassment at work may be more likely in the field of education.

56. In the school year 2019–2020, this situation further accelerated with the onset of the COVID-19 pandemic and the switch to remote teaching, which in many cases increased teachers' workload and stress. Teachers in many cases did not have the skills to use remote teaching tools nor did they have access to adequate internet or communications. As schools reopened, educators were often expected to do both face-to-face and remote teaching, and had to manage complex arrangements with learners and parents, all adding to workload. Remote teaching also changed the psychological context of the classroom as remote classes are a challenge in terms of maintaining the group learning dynamic. As schools around the world are struggling to stay open during further waves of the pandemic, many of them lack the infrastructure to deal with infection control: in 2019, only 19.8 per cent of primary schools in Chad provided basic handwashing facilities, compared to 84.8 per cent in Costa Rica, 86.3 per cent in India and 98.4 per cent in China. [149]

Professional status

57. Teachers generally enjoy a high perception of social relevance. One survey found that teaching ranks as the third most respected profession, after medicine and engineering and ahead of such professions as nursing or policing. In a few countries, teaching is considered the most respected profession of all, including in Argentina, Côte d'Ivoire, Kenya, the Republic of Korea, Lesotho and Sri Lanka. [150] The perceived respect for the profession is often higher at higher levels of education. Yet although teachers are perceived to have high social relevance, the profession remains unattractive. Only 4 per cent of 15-year olds surveyed by the OECD envisioned becoming a teacher. [151] In many countries, teaching is seen as a low-status career of "last resort" and lacks the status of professions such as law or medicine, largely due to low pay, slow pay progression and few opportunities for promotion. In one study, teachers in the United Republic of Tanzania reported that they discouraged their own children from pursuing their profession. In Ghana, 73 per cent of rural teachers said they did not feel respected in the community. In Cambodia, entry requirements for teaching are considered easy, contributing to low prestige. [152] A study in Pakistan revealed both pride among teachers in the social relevance of their profession and despair at many of their professional and working conditions. [153]

58. Teachers worldwide tend to be women, ranging from 94 per cent of teachers at pre-primary levels to 54 per cent at secondary levels, although the picture varies between high-income and low-income countries. [154] The proportion of female primary teachers is 41 per cent in low-income countries compared to 82 per cent of high-income countries and only 23 per cent of secondary school teachers in low-income countries are women. In some cases, there is not only a shortage of teachers but particularly of female teachers. For example, in India the share of female teachers declines in relation to the remoteness of school from major

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[148] "Notas vermelhas quando a violência é presente", *O Globo*, 28 June 2016.

[149] Source: UIS.Stat data extracted on 28 September 2020.

[150] Nelly Stromquist, The Global Status of Teachers and the Teaching Profession (EI, 2018).

[151] OECD, "Who Aspires to a Career in Teaching?" in OECD, *Effective Teacher Policies: Insights from PISA* (2018), 127–154.

[152] Crawfurd and Pugatch.

[153] Munawar Mirza, Teaching Profession: Teachers' Perspectives (2010).

[154] UNESCO, "World Teachers' Day 2019 Fact Sheet", 2019.

population centres – from 60 per cent in a local government area to 30 per cent when further than 30 km away. [155] Women are also not well represented in science, technology, engineering and mathematics. [156]

59. Teacher autonomy is also an important element of status and teacher motivation. One study in England found that "teacher autonomy is strongly correlated with job satisfaction, perceptions of workload manageability and intention to stay in the profession". [157] Finland has famously bolstered teacher status with high degrees of autonomy and good working conditions. [158] While curricula and exams are set by authorities, the choice of teaching methods and approaches is left to the teacher, allowing educators to adapt pedagogy to learners' needs and their own preferences and strengths. However, with the increasing use of technology based on predetermined content for teaching aids, teacher autonomy is under pressure; in some private systems that rely on technology to deliver content, teacher autonomy is even discouraged. Education systems fixated on test results may privilege education for test preparation rather than the more holistic whole-of-learner development. Political pressures related to sensitive curricular areas such as history, sexuality, religion and certain areas of science can further constrain teachers' autonomy on how to teach. With the advent of distance learning that has been facilitated by technology, concerns have been raised about the monitoring of classes by state authorities and the harvesting of data on educators and students. [159]

Wages

60. The analysis of teachers' wages in relation to other professionals with a similar level of education is methodologically complicated. Teachers generally earn less than comparable professionals, but public teachers tend to have greater job stability and benefits and more time off. Indeed work–family balance is an important motivator for some teachers to join the profession. Nonetheless, pay conditions in many countries are not enough to attract talented entrants into the profession and retain them in what can be a difficult and exhausting job. Studies have found that teachers' pay remains unattractive in many countries. In one survey of teacher unions, only 21 per cent of the surveyed unions across all levels of education reported that their salaries were comparable to those of other professionals with similar qualifications. Data from OECD countries seem to support this perception, indicating that teachers' pay in most countries is below the earnings of full-time, full-year workers with tertiary education, although school leaders tend to exceed this mark (table 2). Pay was reported to be the highest factor in determining teachers' job satisfaction and affected their decision to remain in the profession. ECE and TVET teachers and trainers in particular earn lower salaries – only 17 per cent earn salaries comparable to those of other professionals with similar qualifications. Significant pay gaps exist between male and female teachers in some countries; for example, a qualitative study in Mexico reported that female teachers earned 10 per cent less than male teachers. [160]

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[155] UNESCO, "World Teachers' Day 2019 Fact Sheet".

[156] UNESCO, *Cracking the Code: Girls' and Women's Education in Science, Technology, Engineering and Mathematics (STEM)*, 2017.

[157] Jack Worth and Jens Van den Brande, "Teacher Autonomy: How Does It Relate to Job Satisfaction and Retention?" (NFER, 2020), 3.

[158] Pasi Saslhberg, *Finnish Lessons 3.0: What Can the World Learn from Educational Change in Finland?* (Columbia University, 2021).

[159] Yojana Sharma, "Universities Fear Online Students Face Regime Reprisals", *University World News*, 3 September 2020.

[160] Stromquist.

▶ **Table 2.** **Annual average salaries in selected OECD countries (including bonuses and allowances) of teachers in public institutions, in equivalent US$ converted using purchasing power parities for private consumption, 2017**

Country	Actual salaries of all teachers, relative to earnings for full-time, full-year workers with tertiary education				Actual salaries of all school heads, relative to earnings for full-time, full-year workers with tertiary education			
	Pre-primary education	Primary education	Lower secondary	Upper secondary	Pre-primary education	Primary education	Lower secondary	Upper secondary
Australia	0.93	0.93	0.94	0.94	1.40	1.53	1.78	1.78
Brazil	0.82	0.84	0.86	0.87	–	–	–	–
Costa Rica	1.15	1.21	1.47	1.47	1.96	1.83	2.09	2.09
England (UK)	0.81	0.81	0.92	0.92	1.47	1.47	2.14	2.14
Finland	0.66	0.89	0.98	1.11	0.83	1.23	1.42	1.49
France	0.83	0.80	0.90	1.02	1.06	1.06	1.38	1.38
Germany	–	0.91	1.00	1.06	–	–	–	–
Hungary	0.64	0.68	0.68	0.74	–	–	–	–
Israel	0.85	0.88	0.96	0.94	–	1.60	1.56	1.65
Italy	0.65	0.65	0.66	0.71	–	1.39	1.39	1.39
Turkey	0.85	0.85	0.85	0.85	0.97	0.97	0.97	0.97
United States	0.62	0.63	0.65	0.68	1.09	1.11	1.15	1.17
OECD Average (latest year available)	0.80	0.85	0.89	0.94	–	1.26	1.38	1.46
European Union 23 members in OECD (latest year available)	0.79	0.85	0.89	0.94	–	1.24	1.36	1.44

Source: OECD.Stat data extracted on 24 September 2020 from "Teachers' Actual Salaries" data for 2017; data for Brazil and Italy are from 2015 and data for Australia and Finland are from 2016.

61. In numerous developing countries and in poorer areas of developed countries, teachers' salaries remain low and payment is irregular, leading to problems in retention, teacher absenteeism and teachers needing a second job to survive. [161] A recent study of teach pay in Africa found that teachers' monthly salaries are lower than other formal sector workers with comparable levels of education and experience. However, in all those countries teachers report working significantly fewer hours than other workers, so that their hourly wage is higher. Teachers who report fewer hours are no more likely to report holding a second job, although teachers overall are nearly two times more likely to hold a second job than other workers. In countries with higher national incomes, the value of teachers' salaries rise in absolute terms but falls as a percentage of income per capita. In several countries, the wage gap between teachers on fixed-term and permanent contracts is large. [162] A similar study in Latin America also found that teachers were generally paid less than similarly qualified professionals, especially male teachers, although their pay was better in private settings. [163] An ILO study on teachers in the Ukraine found similar results. [164]

Working time

62. Workload has been highlighted as one of the major reasons for high teacher turnover within the first year of being in the classroom. [165] Many factors contribute to higher workload among teachers, such as accountability schemes and administrative and pastoral duties. There are wide disparities in the statutory requirements for the working hours of teachers. For example, in Europe and Asia teachers are required to work 1,600 to 1,800 hours per year, whereas in sub-Saharan Africa they are generally required to work 800 to 1,300 hours per year. Statutory requirements do not reflect the actual instruction time or even the actual working time for teachers. [166] According to the Teacher Wellbeing Index 2018 in the United Kingdom, 74 per cent of education staff indicated that the difficulty to switch off from work attributed to a negative work–life balance. Teachers generally work 20 per cent of their 10-hour workdays before school hours, after 6 p.m. or on weekends. [167]Another analysis by the Trades Union Congress in the United Kingdom showed that teachers collectively work 9 million hours of free labour a week or 462 million hours a year. This means teachers work an average of 12.1 hours of unpaid work every week, including primary teachers, who do the most unpaid work at 13 hours, followed by secondary teachers at 12.8 hours and preschool teachers at 6.4 hours. [168] In Australia, 92 per cent of teachers in 2019 claimed that they did not have sufficient time outside classes for important tasks such as lesson planning, grading, reporting and administrative tasks. Nearly 75 per cent of teachers stated that they spent too much time on administrative tasks and nearly 50 per that they worked

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[161] Paul Bennell and Kwame Akyeampong, *Teacher Motivation in Sub-Saharan Africa and South Asia* (United Kingdom, Department for International Development, 2007).

[162] David K. Evans et al., "Are Teachers in Africa Poorly Paid? Evidence from 15 Countries", Policy Research Working Paper 9358 (World Bank, 2020).

[163] Alejandra Mizala and Hugo Ñopo, "Measuring the Relative Pay of School Teachers in Latin America 1997–2007", *International Journal of Educational Development* 47, No. 1 (2016): 20–32.

[164] Olga Kupets, *International Mobility of Ukrainian Teaching and Research Professionals* (ILO, 2013).

[165] Nick Morrison, "One in Four Teachers Works 60 – Plus Hours A Week", *Forbes*, 18 September 2019.

[166] Alice Best et al., *Topical Question on Teacher Management* (IIEP, 2018).

[167] "Grappling with Work-Life Balance", *Education Support* (blog).

[168] Caroline Henshaw, "Teachers Work More Unpaid Overtime than Anyone Else", *TES* (blog), 1 March 2019.

more than 56 hours or more per week. [169] In Japan, 63 public school teachers were reported to have died due to overwork over a ten-year period ending in 2016, as reported by the Ministry of Health, Labour and Welfare. [170] In Kazakhstan, 86 per cent of student teachers perceived that teachers were overworked routinely and 45 per cent of young teachers claimed to have experienced professional burnout due to intense workload and working conditions. [171]

Employment relationships

63. Many public system teachers work on open-ended contracts, as is often the case in public services employment. Fixed-term contract teachers have been a strategy to respond to urgent teacher needs and build in a degree of flexibility to respond to shifts in enrolment. For some educators, part-time and short-term assignments provide the flexibility to engage in studies or attend to family. Nonetheless, where fixed-term employment becomes entrenched it can pose challenges. While fixed-term education employment exists across the world in high-, middle- and low-income countries, such contracts have notably increased in South Asia, sub-Saharan Africa and some parts of Latin America. [172] In India, para-teachers or auxiliary/contract teachers are widespread in rural areas. They are usually hired from the local community and have significantly different qualifications and remunerations from those of regular teachers. Even though paid significantly less than regular teachers, their absenteeism is much lower in India. [173] While para-teachers were originally intended to assist regular teachers, in developing countries like India they are usually appointed instead of regular teachers as a result of pressure to meet the commitments of universal education. In some countries, para-teachers lack basic qualifications. [174] The lowering of entry requirements into teacher education institutions and the massive hiring of unqualified and untrained teachers, as well as the use of fixed-term contracts, have contributed to instability and teacher turnover. [175] For example, in New Delhi (India), 77 per cent of the contractual teachers who make up about one third of the teaching workforce failed to pass the basic recruitment test. [176]

64. Other countries have witnessed an increasing number of teachers on fixed-term contracts, at least in the early stages of their careers. According to a union study in New Zealand, 71 per cent of new teachers were on a fixed-term in their initial job after leaving teacher training, [177] while 72 per cent of teachers in Australia begin their jobs in temporary positions. [178] In Sao Paulo (Brazil), an estimated 40 per cent of teachers split their time between two or more schools and 55 per cent of beginner teachers are hired on temporary

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[169] Australian Education Union, "Excessive Workload Taking Its Toll on School Teachers", 6 March 2019.

[170] "63 Teachers Overworked To Death In Japan In 10-Year Period", *The Straits Times,* 23 April 2018.

[171] Aigerim Kopeyeva, "Kazakhstan's Teachers: Underpaid, Overburdened, and Undervalued", *The Diplomat,* 17 April 2019.

[172] Geeta Kingdon et al., *Systematic Review: Are Contract Teachers and Para-Teachers A Cost-Effective Intervention To Address Teacher Shortage And Improve Learning Outcomes?* (University of London, 2013).

[173] Geeta Kingdon and Vandana Sipahimalani-Rao, "Para Teachers in India: Status and Impact", *Economic and Political Weekly* 45, No. 12 (2010): 59–67.

[174] Pallavi Singhal, "Impending Crisis': 72 per cent of New Teachers are in Insecure Roles" *The Sydney Morning Herald*, 10 September 2019.

[175] CEART/11/2012/9.

[176] "Education Shocker: 77% Contractual Teachers in Delhi School Fail to Pass Basic Recruitment Test", *India Today,* 2 March 2019.

[177] PPTA, "Teachers in the Precariat: Fixed-Term Contracts and the Effect on Establishing Teachers", 2016.

[178] Singhal.

contracts. [179] In the United Kingdom, temporary teachers are arranged through employment agencies. Data from Peru suggest that 44 per cent of teachers work on fixed-term contracts. Employment status has had an impact on teachers' ability to organize themselves and act collectively. Teacher unions tend to constitute a larger share of permanent workers (65 per cent) than of those working on fixed contracts (35 per cent). Employment insecurity has also been a cited reason for young teachers to leave the profession. Japan is one of the few countries in the world where almost all (96 per cent) of the teachers in primary, secondary and special education are employed on an open-ended basis. [180] In tertiary and ECE education, fixed-term employment is widespread in some countries; one study found that 73 per cent of teaching positions in the United States were fixed-term positions. [181] In TVET, there is also the issue of the casualization and use of contractors, especially for technical and occupational specializations in which practitioners from industry are engaged to deliver training modules.

65. Access to social protection is affected by contract type. A study by EI showed that health benefits are available to about 38 per cent of full-time teachers on open-ended contracts compared to 21 per cent of full-time teachers on fixed-term contracts and about 20 per cent of teachers on fixed-term part-time contracts. Similarly, study leave is available to about 57 per cent of full-time teachers on open-ended contracts compared to 10 per cent of full-time teachers on fixed-term contracts. As of 2016, 27 per cent of teachers in public schooling in Peru had a second job, more than 50 per cent ran a small business and 13 per cent worked in private schools for additional income. It is also common for teachers to work two jobs to supplement their income in sub-Saharan Africa, in countries such as Liberia, Togo, the United Republic of Tanzania and Uganda. [182]

Early childhood education

66. Conditions of work in the early childhood education sector were addressed by ILO constituents in 2012 and 2013, leading to the adoption of the ILO Policy Guidelines on the promotion of decent work for early childhood education personnel. The ECE workforce is often expected to perform a variety of roles in the areas of health, education and nutrition, underling the importance of specialized training workers in this education sector. [183] Women continue to represent the majority in the ECE workforce in low-income (88 per cent) and high-income countries (95 per cent) as of 2018, while numerous ECE policies have stressed the importance of recruiting more men into the sector so as to address equality issues and serve as positive male role models. [184] The ECE workforce is increasingly dealing with young children from diverse backgrounds, raised by "digital natives" and in families of single parents, with an estimated two thirds of pre-primary teaching staff being trained to deal with such issues in OECD countries. As regions continue to expand pre-primary enrolment, there is a need to ensure the adequate training of teaching staff to facilitate the transition between the pre-primary and primary schooling. [185] According to an OECD survey,

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[179] Luana Marotta, "Teachers' Contractual Ties and Student Achievement: The Effect of Temporary and Multiple-School Teachers in Brazil", *Comparative Education Review* 63, No. 3 (2019): 356–376.

[180] Stromquist.

[181] GDFTE/2018; GDFECE/2012.

[182] Stromquist.

[183] Mark Canavera et al., *Social Service Workforce Training in the West and Central Africa Region* (UNICEF and CPC Learning Network, 2014).

[184] UNESCO, "World Teachers' Day 2019 Fact Sheet".

[185] Anjana Deepak, "Early Childhood Education Around The World", *ScooNews,* 12 March 2018.

only 50 per cent of the teaching staff in Iceland reported receiving pre-service training on facilitating the transition to primary schooling compared to 90 per cent of the teaching staff in Turkey. [186] The increased focus on closing achievement gaps and assessments in primary schooling has also increased the focus on literacy instruction in the early years of childhood, shifting the role of preschool to preparatory schools, pushing for greater assessments and teacher performance. [187] The role of technology also remains unclear for children in early childhood due to high emotional needs for that particular age group. [188] In countries in which early childhood education and care are delivered through an integrated model, a higher-education qualification is required of all personnel working with children before they enter primary school. [189] Unionization rates are often low among this workforce and they are less likely to be represented among teachers' unions. [190]

Tertiary education

67. In 2018, the ILO held a Global Dialogue Forum on Employment Terms and Conditions in Tertiary Education, which examined the rising trends in higher education in relation to teaching personnel. Tertiary education, including post-secondary TVET, has undergone profound changes in the past 20 years, marked by massification, growing privatization, technological advancements and changing patterns of funding and labour market demands, which have resulted in both challenges and opportunities for tertiary education. Access to tertiary education has greatly increased over the past two decades, especially for those traditionally unable to access the education system, providing greater life chances and employability for learners and teachers, while also allowing them to better adapt to changes and the increasing diversity of fields of study. These trends have in some cases resulted in understaffing, the hiring of inadequately qualified teaching personnel, the granting of low-quality degrees, variations in student fees and interference in institutional autonomy. The Forum also noted that education staff in different employment arrangements – whether full-time, part-time, fixed-term, replacement or temporary arrangements – should have access to decent working conditions and opportunities for career development. [191]

68. The COVID-19 pandemic forced the closure of institutions and the move to emergency online teaching and learning, as well as mobility restrictions for international students. Shrinking enrolment and revenues in some countries have led to the deterioration of terms and conditions or even dismissals of staff, especially those on fixed-term contracts and non-teaching staff, and have further expanded fixed-term and part-time employment trends. [192] A further issue that has been raised concerns the intellectual property rights of academic who disseminate material or lecture through remote platforms. While academic materials are normally the intellectual property of educators, some universities have revisited such

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[186] OECD, "Teachers, Assistants and Leaders and the Quality of Early Childhood Education and Care", in OECD, *Providing Quality Early Childhood Education and Care: Results from the Starting Strong Survey 2018* (OECD, 2019).

[187] Lynn Ang, "Preschool or Prep School? Rethinking the Role of Early Years Education", *Contemporary Issues in Early Childhood* 15, No. 2 (2014): 185–199.

[188] OECD, "Teachers, Assistants and Leaders and the Quality of Early Childhood Education and Care".

[189] OECD, "Starting Strong III: A Quality Toolbox for Early Childhood Education and Care", 2012.

[190] ILO, *Women and Men in the Informal Economy: A Statistical Picture: Third Edition*, 2018.

[191] GDFTE/2018/7.

[192] Teresa Tjia et al., "Australian University Workforce Responses to COVID-19 Pandemic: Reacting to a Short-term Crisis or Planning for Longer Term Challenges?" (University of Melbourne, 2020).

arrangements to claim rights over material created or disseminated through institution-owned platforms. [193]

69. A recent paper by the SDG-Education 2030 Steering Committee has highlighted issues concerning equality and inclusion for higher-education teaching staff. While considerable advances have been made on gender equality, with roughly 42 per cent of tertiary teaching personnel (worldwide) being women, the proportion of women in science, technology, engineering and mathematics disciplines remains low. There are still significant gender imbalances in senior and leadership positions, while pay and contract security gaps between female and male academics persist in all regions. Minority ethnic, indigenous and other disadvantaged groups, including disabled persons, are in many cases under-represented in academic positions. [194]

▶ 5. Social dialogue

70. Stakeholders in education include governments, social partners, education enterprises, academic, parents and students. Educators in the public sector in general remain a highly unionized profession and unionization appears to be increasing in countries like Brazil, Canada and the Republic of Korea, whereas in other countries it is declining markedly (see table 3). In private education, the unionization rate of teachers remains lower. The unionization rate of ECE workers and tertiary education educators is also lower. Education support personnel are often affiliated to unions other than teacher unions, although in recent years education unions have begun to reach out to these sectors as well.

▶ Table 3 – Union density (%) in education in selected countries, 2004–2016

Country	2008	2016	Variation (%)
Australia	40.3	32.5	-19.4
Brazil	28.2	30.2 (2015 data)	7.1
Canada	67.4	69.9	3.7
Estonia	26 (2005 data)	22.5	-13.5
Germany	34.0	–	–
Greece	53.0	–	–
Hungary	29.3 (2004 data)	19.0 (2015 data)	-35.2
Republic of Korea	10.5 (2011 data)	15.8 (2013 data)	50.5
Latvia	57.0	38.1	-33.1
Netherlands	30.5	–	–
New Zealand	33.5	–	–
Romania	83.0	–	–

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[193] Colleen Flaherty, "IP Problems", *Inside Higher Ed*, 19 May 2020; American Association of University Professors, "Defending the Freedom to Innovate: Faculty Intellectual Property Rights after Stanford v. Roche", 2014.

[194] SDG–Education 2030 Steering Committee, *Making Higher Education More Inclusive* (UNESCO, 2020).

Country	2008	2016	Variation (%)
United Kingdom	54.2	48.0	-11.4
United States	33.1 (2010 data)	30.2	-8.8

Source: ICTWSS 6.0; data extracted from AIAS/ICTWSS database on 18 September 2020.

71. Private school associations exist for elite schools in many countries. Unionization rates in private schools tend to be lower than in the public system [195] and there is little global information on collective bargaining in private education. In a number of countries such as Denmark and Norway, public teacher unions can bargain on behalf of certain private schools; in other countries such as Switzerland, private school teacher associations can conclude agreements at the subnational level. In Jordan, the General Trade Union of Private Education Employees and the Private Schools Owners' Association concluded a collective agreement in 2017 that covered the conditions of private school teachers. [196]

72. Within public education, collective bargaining is still a common approach to setting teacher working conditions, either at the central or municipal level, in particular in Africa, the EU countries and the Americas, although less so in Asia and the Arab region. While numerous challenges to freedom of association and collective bargaining have been reported to the ILO's Committee on Freedom of Association in relation to education (see section 6 below), there are also examples of social dialogue allowing governments and teachers' organizations to make progress on education reform (see box 2). Some governments, such as those of Chile and South Africa, have set up permanent bodies to bring together governments, unions and other stakeholders to work on education policy. In 2010, the European Trade Union for Education and the European Federation of Education Employers launched the European Sectoral Social Dialogue Committee in Education, which meets annually to undertake negotiation and planning in terms of education policy. The COVID-19 pandemic has challenged social dialogue in some countries, as policies governing school closures and remote teaching arrangements were not always made with teacher unions. [197]

▶ **Box 2.   Social dialogue in education**

Costa Rica

Since 2017, the Government has developed a series of initiatives for extending and implementing a dual vocational system in Costa Rica, including through tripartite seminars and social dialogue meetings. With the aim of defining guiding principles for the promotion of dual vocational training in Costa Rica, the Government initiated a social dialogue process with employer and worker representatives, with technical assistance from the ILO, to establish a common conceptual framework around dual quality vocational training. Based on this framework, which adopts a tripartite approach, the pillars for a new model of dual training are to be implemented.

As a consequence of this process, a pact was signed in August 2018 between the National Learning Institute, the Chamber of Industries in Costa Rica, the Adenauer Foundation, the Business Alliance for Development, the Education Trade Unions from Costa Rica, the General Confederation of Workers, the Single Workers' Confederation and the Rerum Novarum Workers Confederation.

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[195] ETUCE, *The State of Funding in Education, Teachers' Working Conditions, Social Dialogue and Trade Union Rights in Western European Countries,* 2016.

[196] ILO, "New Collective Agreement Will Provide Better Working Conditions for Mostly Women Private Schools Teachers in Jordan", 10 March 2017.

[197] ILO, "COVID-19 and the Education Sector".

> **Uganda**
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> In 2015, a broad consultative process was launched to develop the Teacher Social Dialogue Framework in Uganda. Institutionalizing the Framework – thereby involving teachers in all stages of strategic planning, monitoring and evaluation of programmes and initiatives – was recognized as key to both realizing the objectives noted above and preventing further losses of qualified teachers. In its operationalization, the Framework is meant to be tripartite-plus, meaning that it will involve representatives of the government, private sector employers and teachers in both the public and private sectors, unions, civil society organizations, development partners, church leaders, parents and communities. It aims to involve teachers in nurseries, primary and secondary schools, vocational training institutions and higher education institutions in decision-making. All activities of social dialogue in education will be planned and coordinated by the National Teacher Council, the tripartite-plus body created within the National Teacher Policy.
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> ILO, "Handbook on Social Dialogue in Education", forthcoming.

▶ 6. Educators and international standards

73. Teachers and educators are covered by international labour standards and fundamental principles and rights at work. Since its establishment in 1951, the Committee on Freedom of Association (CFA) has examined more than 300 allegations of violations of freedom of association and collective bargaining concerning teachers' unions. In its recommendations, the CFA has held that most workers in the education sector, including teachers, are not "essential workers" in relation to the right to strike, although in some instances school administrators as well as school food workers and cleaners may be considered as such. The CFA has further held that teachers, like all other workers, should benefit from the right to freedom of association, while instructors hired on a contract basis, teaching assistants and researchers should also be able to establish and join organizations of their own choosing. [198] Teachers have been cited by the ILO's supervisory bodies as important actors in promoting gender equality and fighting forced labour, child labour and discrimination. At the same time, the supervisory bodies have examined cases in which teachers were victims of forced labour (such as in mass national mobilization for harvests) or victims of policies that discriminate against women, such as polices that discriminate against pregnant workers. In some cases, allegations concerned cases in which education institutions were perpetrators of child and forced labour, such as cases in which schools had engaged in the practice of recruiting children to work in agriculture or to beg. The supervisory bodies have also examined a number of cases related to irregular or late payments of education sector wages under the Protection of Wages Convention, 1949 (No. 95).

74. The 1966 ILO/UNESCO Recommendation concerning the Status of Teachers and the 1997 UNESCO Recommendation concerning the Status of Higher-Education Teaching Personnel remain the only international standards that cover educators specifically. Many of the issues that the Recommendations address – from freedom of association and working and professional conditions to epidemic response – remain relevant and have served as the basis for more recent guidance documents on teachers. [199] Nonetheless, the overview of

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[198] ILO, "Compilation of Decisions of the Committee on Freedom of Association".

[199] See for example, International Task Force on Teachers for Education 2030, UNESCO and ILO, *Supporting Teachers in Back-to-School Efforts: Guidance for Policy-Makers*, 2020; EI and UNESCO, *Global Framework of Professional Teaching Standards*, 2019; and UNESCO, *Teacher Policy Development Guide*, 2019.

future of work issues presented in this report indicates some evident gaps in the Recommendations, including in the following areas:

(a) professional and working conditions of education support personnel, who are increasingly seen as a vital part of the education systems;

(b) specific issues related to TVET trainers and teachers;

(c) specific issues related to early childhood educators;

(d) teacher preparation and professional development on such issues as ICT skills, digital literacy and ethics, sustainable development, mental and physical health, and nutrition;

(e) teacher migration and mobility;

(f) access to the internet and ICT infrastructures;

(g) integration of gender issues, such as parental leave;

(h) work–life balance issues;

(i) integration of representatives of employers' organizations and private school associations in social dialogue and policymaking on education; and

(j) protection of education personnel from violence and harassment.

75. As the worlds of work and education evolve, it is clear that there are enormous expectations being placed on education and training systems and the people who work in them. The lifelong learning outcomes that they are expected to deliver encompass not only subject matters but a wide range of foundational, emotional, psychological, entrepreneurial and social skills and knowledge. The tools and means to do this have evolved beyond the chalkboard and as a result the role, status and working and professional conditions of educators have changed as well. As technology advances, equity and equality in education remain a concern. For the ILO, its constituents and the wider multilateral system, the challenge will be to respond to the Centenary Declaration's appeal for "effective lifelong learning and quality education for all" and to develop adequate policy responses to ensure that the people who are expected to deliver on global education goals have the support and means to do so, including the benefit of decent work.