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India's Steadfast Approach to Quality, Equity and Inclusion in Education: Views from Experts

Introduction

In September 2015, at its Sustainable Development Summit, the United Nations adopted the 2030 Agenda for Sustainable Development comprising 17 Sustainable Development Goals (SDGs). SDGs (2016-2030), built on the Millennium Development Goals (MDGs) (2000-2015) are much more comprehensive covering the three dimensions of development, i.e. social, economic and sustainability. This is a transformative agenda with a very robust means of implementation framework at the global and national levels and pledges to leave no one behind. The Prime Minister of India along with other world leaders signed the declaration and India has very enthusiastically welcomed this agenda. On its current trajectory, both at the centre and in States, India has already set for itself more ambitious targets in several areas of economic progress, inclusion and sustainability. Role of State governments is central to the implementation of these programmes, as well as design convergence with the SDGs in order to effectively influence all social and economic parameters to achieve the SDGs.

MDG 2 mandated achievement of universal primary education only. The SDG 4 mandates ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all. The targets under this goal cover learning outcomes, pre-primary education, secondary, tertiary and vocational education. The emphasis along with access is on equity and inclusiveness and sustainability education. NITI Aayog, in collaboration with the Research and Information System for Developing Countries (RIS) and in partnership with UN, organised a two-day

national consultation with the States in New Delhi on 9-10 February 2016, to discuss issues related to health and education (SDG 3 and 4).

In this paper we re-produce the key messages that emanated from the deliberations on SDG 4, i.e. education and attribute those to respective policymakers and experts. The presentation of the content would cover important areas in Education policy and practices that are of major relevance to India. At a time when India realises the virtue and merit of quality education for all, the incumbent SDG agenda can only strengthen the resolve towards course correction and innovative solutions in this area. Given the sheer size of the country with most diverse trajectories of social development based on regional history, there is little surprise in discovering wide divergence in education outcomes across the country. While India can boast of its economic emergence supported through higher education among a privileged fraction of the population, lagging learning outcomes at primary and elementary levels, sometimes despite physical access is a mammoth challenge. The progress achieved in terms of economic prosperity may not be sustainable unless larger fraction of the population is confident and can stand up on their own feet through mastery over knowledge and skills. Quality education brings people closer to economic opportunities. However, with very serious thoughts going into sustainability issues globally, India has to make sincere attempts at devising policy and institutions in the education sector so that beginners are better equipped to make reasonable choices for a sustainable future.

The opinions presented here highlights challenges as well as the opportunities. The thematic messages should inform policymaking at different levels both at the centre and the States to achieve better outcomes.

Prof. Ramesh Chand on Four-pronged Challenge

(Prof. Ramesh Chand is Member of NITI Aayog)

Prof. Ramesh Chand quoted Late Prime Minister Chaudhry Charan Singh to exemplify the link between education, opportunities and intergenerational inequities that lead to chronic developmental challenges. The quote runs as follows: ‘Tumhare mein aur mere mein yeh farq hai, tumhari daadiyan bhi padhi hui hain aur meri potiyan bhi unpadh hain’, which he had said while illustrating rural urban divide in India. What the former PM said was, the difference between urban and rural life is that in urban areas grandmothers are also educated whereas in rural areas even granddaughters are uneducated. This speaks plenty about education and how education creates disparity, how education creates deprivation and how education can itself help in bridging this gap.

The four-pronged challenge confronting the Indian education system is as follows:

- **Inclusiveness:** The 11th Five-Year Plan put a lot of emphasis on inclusive growth. When growth was picking up in India, many people thought that this growth is resulting in increase in inequality, this growth is jobless and jobless growth is joyless. This brought back the focus on inclusive growth. This is crucially linked with inclusiveness in education. Every citizen, notwithstanding his or her circumstances or social background has right to education. Exclusions thriving in social boundaries, gender disparities, regional backwardness, and ethnicity add to the problem.
- **Equity:** Equitable education is related to the existing gaps between levels of education. It is not sufficient to spread literacy alone. Skewed educational levels reflected in very few reaching levels of higher education and majority constrained by circumstances to venture beyond primary and elementary education is not a desired scenario. The gap accentuated by gender discrimination and other exclusions need urgent attention.

- **Quality:** While, India has achieved significant expansion of schooling opportunities at the primary as well as the secondary levels, the concern of quality education has come to haunt policymakers. This is reflected in the fact that students achieve poor learning levels measured in terms of their comprehension and numeracy levels. While the rural-urban divide in this regard is very prominent, the deterioration in the quality of school education is telling. Difference in the quality of education between rural and urban areas also forces people to migrate. On the other hand, even in urban areas quality comes with increased cost as city schools with higher fees tend to take quality more seriously than others creating new boundaries of exclusion. This completes the full circle where inclusiveness, equity and quality reinforce each other, only to amplify the challenge.
- **Employability:** The final issue is that of divergence between education and skills which has deepened over years creating major hindrance for the Indian youth to join the organised labour market aided by self-selection characteristic of job search. Education followed through academic curricula in India is inadequate in terms of training students in technical and non-technical skills required for a wide array of modern professions across agriculture, industry and services. Widespread skill development is lacking in the Indian education system which leads to poor employability. Finally, education is not designed to promote entrepreneurship.

Ms. Rina Ray on Parameters of Assessment

(Ms. Rina Ray is Additional Secretary, Ministry of Human Resource Development, Government of India)

The very fact that we are now able to talk about quality is because about 97-98 per cent of children are actually in school today, affording us the luxury of focussing on quality which we could not have done earlier. We have also achieved lower dropout rates largely due to the right to education act provision of no detention in schools. For many school children schooling had become something of a painful chore when having failed in class they were derailed. The no detention policy has been very critical in actually retaining

children. Now the question is how do we ensure that they are actually learning.

The PM has launched the Ek Bharat Shreshth Bharat programme which is aimed at cultural integration and education plays an important component. The Ministry of Human Resource Development (MHRD) has launched Rashtriya Avishkar Abhiyan and Padhe Bharat Badhe Bharat programme. The school leadership development programme, the National Repository of Open Educational Resources (NROER) of the National Council of Educational Research and Training (NCERT), and the Swachh Vidyalaya Initiative are other flagship programmes that resulted out of PM's call that every school should have gender segregated toilets and the ministry managed to do that within one year. Swachh Vidyalaya is strongly monitored especially online with ICT initiatives. On the other hand, NCERT has now digitised all its books available online and the rating of that on google play store is 4.5.

Saransh is an initiative of CBSE to allow schools to identify areas of improvement in students, teachers, curriculum and take necessary measures to implement change by comparison of results. Shaala Siddhi another initiative designed by the NEUPA team which allows schools to self-monitor. The Unified-District Information System For Education (U-DISE) is the largest database of schools in the world. However, the drawback is that this is only a school based database and may not capture information about pupils. About fourteen states have started child tracking database including Maharashtra to monitor performance of individual pupils purely from a policymaking and policy design perspective. There is a proposal to convert the U-DISE into a national child base tracking system linked with Aadhar or any other ID based system. U-DISE covers all schools in India including the private schools. This can potentially create a database of 250 million students. However, there are sensitive issues like privacy and security. Therefore, discretion around its use has to be firmly institutionalised.

Another initiative under consideration is largely based on the Gunotsav initiative of Gujarat with other states like Maharashtra, Madhya Pradesh, Orissa, Chhattisgarh whereby every school conducts a self-

monitoring assessment which is followed up by random external evaluations to check the infrastructure and teacher attendance. Private schools should also participate on voluntary basis. Ambitious initiatives are being implemented to attain reasonable and threshold learning levels among school children at the primary levels. The instruments under such initiatives include flexible outcome approach. The States would be free to choose the process and the Centre would only be interested in the outcome.

The government is also focusing on the capacity building of teachers and monitor them through online portal. This programme would need collaboration with non-governmental organisation (NGOs) in certain cases. There are plans for volunteer programmes to give opportunities to retired teachers and retired professionals including members of the Indian Diaspora abroad who would like to contribute capacity building in schools of their choice. The MHRD is preparing a bill called the Unfair Practices in Schools to regulate arbitrary fees being charged by private schools and bring accountability. Private schools are also being encouraged to voluntarily participate in Shaala Siddhi as means of accreditation and standardisation. Experience suggests that even in the case of schooling, scale matter. Rationalisation and consolidation of schools to two to three roomed school buildings have not been very successful.

The other proposals on institutional reforms include separate cadre of headmasters and a management information system for teachers. There is a need to manage issues of job conditions of teachers that are often taken up by teacher unions. At the same time unreasonable postures and inflexibilities confronted in areas like postings to remote areas, etc., should not come in the way of fulfilling the objectives. An institutional framework that encourages teachers towards best academic commitment and accountability has to be designed.

But the last and perhaps most critical point is the whole issue of funding of education in India. We are far from the desired 6 per cent of GDP benchmark or even near that in any sense of the word. And if we are to move towards achieving the SDGs we need to work at increasing not just the government funding but leveraging funding through CSR, the public-private

and volunteer initiatives. The states have recently got larger devolution of funds under the 14th finance commission. NITI Aayog is expected to guide states in matters of education expenditure and ensure threshold bounds even as other social sector expenditure could be equally demanding. To achieve the objectives discussed earlier central ministries and departments should work together as a team with their counterparts in States.

Prof. J.B.G. Tilak on Institutional Responses to Quality and Sustainability

(Prof. J.B.G. Tilak is Vice Chancellor, National University of Educational Planning and Administration - NUEPA)

Quality of education is quite difficult to measure and monitor. But obviously it should be inclusive of almost every dimension of education, namely, personality development through cognitive or non-cognitive abilities, skill inculcation, knowledge creation, knowledge transmission and inculcation of values and attitudes besides many other aspects. We have focussed for a very long period on the infrastructure facilities like school buildings, construction of boundary walls, classrooms, drinking water, toilets and also on developed indicators based on these aspects. But among the several inputs that we have been talking about, the most important one is the teachers. Good teachers are backbone of our education system and hence unfilled vacancies for too long would delay prospective outcomes. The situation is serious with around 16 per cent vacant positions at the elementary level, as high as 57 per cent at the secondary level and about 30-40 per cent in higher education. We have high pupil-teacher ratios but we have developed good indicators for monitoring aspects like pupil-teacher ratio or class teacher ratios, female teachers as a proportion of the total teachers; and, quality of teachers in terms of the training level of the teachers. However, effectiveness of ICT aided teaching practices has not been conclusively determined at least for the primary levels.

Recently much more emphasis is being given for in-service training apart from pre-service training and also on teachers support structures at cluster centres, block resource centres, etc. However, such facilities need to be strengthened. The objective for

all these is to inculcate academic as well as leadership qualities among teachers. Major attention has been given to curriculum reforms not only to rationalise teaching load but also to introduce meaningful skill education. The future needs would be in terms of also including social, democratic and sustainability values in education.

There are also issues with respect to medium of instruction, particularly at primary schools. There are also attempts to make some assessment and examination reforms in the elementary schools and now we have continuous and comprehensive evaluation in place of regular annual examinations. One of the major programmes launched in the last 20 years is the mid-day meals programme which is said to be one of the effective programmes that would improve not only the nutritional status of the children but also increase the participation levels of the children in the schools and also their learning abilities quite considerably. Evidence indicates encouraging results in this regard.

One important area of debate in recent times is around learning versus schooling. But we should also recognise that if we shift the focus quite significantly, then we are de-emphasising the importance of school systems. We need formal school structures and good formal school structures alone can take care of good learning process. Desired results in this regard can be achieved through effective monitoring. It is absolutely necessary to realise that quality of education involves costs. One has to spend adequately to achieve quality in education. We have evidence to show that good investments in quality related inputs like textbooks and teacher training lead to better outcomes.

Finally, current schemes and policies cater to short term needs. Our vision is also short term in planning those programmes and as a result we carry out such policies for a few years and then we withdraw many of them without even evaluating their results. In fact, quite often we start a scheme and immediately start the evaluation also without giving them necessary time. Obviously most investments in education have long gestation periods. So it is very important to note that we have to have sustainable development approach to realise sustainable development goals.

Ms. Alka Tiwari on Possible Roadmap on Access and Equity

(Ms. Alka Tiwari is Adviser in NITI Aayog)

We have the demographic advantage of having a young population. Their average age is 29 years. If we want to harness this demographic dividend we need to focus on health, education and skill development. In so far as education is concerned, 12th Five Year Plan lays focus on expansion, improving quality and equal education opportunities for all segments of society. Very recently NITI Aayog has completed the mid-term appraisal of the 12th Five Year Plan. We discuss some issues that emerge out of that assessment.

To achieve the goal of universalisation of education and also to address the equity issue, the Right of Children to Free and Compulsory Education Act 2009 was put in place. It became operational in 2010. It provides for inclusive elementary education for all and 25 per cent quota in private schools for children from economically weaker sections, Scheduled Castes (SC), Scheduled Tribes (ST), Other Backward Classes (OBC) and minorities.

We have achieved 72.99 per cent overall literacy but still there is gender gap of 16.25 per cent and female literacy among ST is much below other categories. Enrolment has gone up, number of schools have gone up, dropout rate has come down, out of school children have come down. Gross enrolment ratio and net enrolment ratio have increased. At primary level and upper primary level, pupil-teacher ratio has come down. However, according to Annual Status of Education Report (ASER) findings, 48 per cent of Class 5 children can read at Class 2 level only. If we take National Achievement Survey (NAS) also, the picture is not much different although there is a lot of debate between ASER and NAS but basically they point to the fact that the quality of education is not very good and learning outcomes are very very poor.

The government initiated the following programmes to reduce gender gap and improving nutrition:

- Kasturba Gandhi Balika Vidyalaya: It is operational in 3602 blocks. This covers a substantial number of girls and there is a fair distribution amongst all the disadvantaged groups whether SC/ST/OBC.
- Mahila Samakhya: It has been instrumental in

women's empowerment and increasing enrolment rate among girls.

- Beti Bachao, Beti Padhao: This programme is for districts where the child sex ratio is poor.
- Mid-day Meal scheme: Apart from addressing nutritional needs it has also helped in empowering women. 80 per cent of cook-cum-helpers are women.

We still have a substantial number, 61 lakh children are out of school. This number includes street children and children with special needs. Then within SC/ST minority groups there is need to focus on the education of the girl child. We need to have additional Kasturba Gandhi Balika Vidyalayas specially in educationally backward blocks.

Gross enrolment ratio have gone up in secondary education. Drop-out rate has come down. Number of schools have gone up and according to our assessment we are on way to achieving 12th Plan targets. The equity issues need to be addressed. In higher education, our thrust area in the 12th Plan was expansion, equity and excellence. Gross enrolment ratio has gone up significantly in higher education. It is very close to the target we had set for 2017 and even the target which we have set for 2020, that is 30 per cent, it appears quite achievable. There has been an increase in the number of universities. There has been an increase in the number of colleges. Number of diploma level institutions have gone up. And in all these centrally sponsored schemes there has been increased spending and we have consolidated and upgraded central institutions and skill based programmes.

Leaving No One Behind

For tribal children who are living in remote areas we need to have residential schools. We need to have seasonal hostels for children who are migrants specially in urban areas. Unless we provide them transport facilities, they will not be able to come to school. And we have also seen that in states like Jharkhand and Chhattisgarh where the scheme of providing cycles to girls has been sanctioned, there has been an increase in enrolment as well as retention of girls.

Then on learning enhancement and supplemental instruction we see that the children who are coming to school specially from disadvantaged sections,

they do not have sufficient exposure to numeracy or literacy by the time they come to school. So they require supplemental instruction. There has to be focus on teachers training, community mobilisation and involvement of local authorities. Sensitisation of teachers through such means could be effective in bridging equity gaps.

Improving Quality

Early childhood education under Integrated Child Development Services (ICDS) scheme in Anganwadi centres has to be properly monitored. Unless pre-primary education is effective, it may be hard to achieve quality learning outcomes at a later stage. Availability of good quality teachers and adequate number of teachers across geographical locations (timely filling of teacher vacancies) lead to best learning outcomes. There has to be institutional provisions of carrot and stick to minimise absenteeism among teachers and retain them in schools in rural and remote areas. There has to be proper monitoring of unethical and unprofessional teaching practices like subletting and tuitions outside schools in order to achieve higher standards. Last but not the least decent and modern infrastructure in schools would create the right ambience and ecosystem for the pupil and teachers alike to jointly contribute to quality learning outcomes.

We need to have convergence with other programmes like National Rural Employment Guarantee Act (NREGA), Digital India for school infrastructure, toilets and digitisation, among others. Conditions of lifelong learning needs to be promoted to fulfil the objectives under the SDGs. It means that instead of basic literacy we have to concentrate on lifelong learning and we should have the capability to use information and knowledge wherever available, print, mass media or internet. Saakshar Bharat scheme caters to this goal of lifelong learning.

Ms. M.S. Jaya on the Experience of Kerala

(Ms. M.S. Jaya is Director of Public Instruction, Government of Kerala)

Kerala is the first state to achieve 100 per cent primary literacy. Enrolment is more than 100 per cent in Kerala because in addition to all the children in Kerala we

have students from other states, primarily children of migrant labourers. And as far as equity goes Kerala provides free textbooks and free uniform to all children in all schools. Amenities to children with special needs are ensured in all schools and performance of the mid-day meals scheme is noteworthy. Kerala also provides different kinds of scholarships for girls, SC/ST and minorities. Appointment of resource teachers to attend to children with special needs is a Government of India scheme and it is functioning well in Kerala. Kerala has also launched special enrolment drive in SC/ST/Minority concentrated areas. Part time instructors are also provided with the help of Sarva Sikshya Abhiyan. The improvement of quality is being implemented through provision of science lab, computer lab and libraries. Other focus areas include leadership training of school heads through special programmes.

Curricular reforms are being implemented. Science and maths education is being given special stress and computer aided education has been made a must in all the schools in Kerala. Teaching and learning aids are provided to teachers and remedial teaching is also there for students who are very weak. Special attention is being given to girl students and students from economically and socially disadvantaged sections of society.

Other Initiatives

- In addition to mid-day meals, one glass of milk twice a week and one egg in a week is provided. Some corporations and local bodies and even some panchayats provide breakfast to children.
- Special coaching is given to students who are below the expected level.
- Various clubs like environment clubs, health club, science club, etc., are encouraged in each school and all the students have to be in one of these clubs.
- Schools take up the campaigns on nature conservation and carry out community awareness programmes. That is also done with the help of forest department and agricultural department.
- Vegetable cultivation is promoted in schools to encourage eco-friendly living
- Kerala organises annual school youth festival. All vegetables needed for festival feast are collected from the eco-friendly cultivation done by students.
- Many schools are declared as plastic free zones.

- Co-curricular activities include Student Police Cadet programme where students are trained by police department and these students act as deterrent against children falling prey to evils like smoking, drinking and substance abuse.
- Under internal support mission schools are visited twice a month to individually interact with teachers in the evening to understand their difficulties.
- Gifted children programme is meant for specialised training for classes 8, 9 and 10 and above.
- Under Additional Skill Acquisition Programme (ASAP), reading rooms and reading corners are provided in all schools.

Prof. Chandan Mahanta on use of ICT for achieving Quality in Education

(Prof. Chandan Mahanta is Professor of Civil Engineering and Dean Student Affairs at IIT Guwahati)

The Indian Institutes of Technology (IITs) that are the best institutions of higher learning in technical and engineering fields give equal opportunities to all, irrespective of their backgrounds, on the basis of individual merit. However, incidence of suicides among students apparently due to difficulties arising out of academic pressure and strict evaluation criteria come to question the institutional framework and might eventually become counterproductive in terms of equity considerations. IIT Guwahati has taken steps in the form of appointing psychological counsellors (of both genders) to address this issue. Appropriate institutional data management systems to monitor individual students and the variations in their academic performance should be used for effective and timely interventions. Moreover, inspiring interactions with the President and the Prime Minister over the National Knowledge Network on a regular basis has been encouraging for students. Such ICT based platforms should provide direct access to policymakers and should facilitate direct interactions with them to expedite institutional reforms aimed at student welfare.

IITs are helping in quality improvement at primary and secondary levels through demonstration projects with the aid of information technology. These activities involve training of primary teachers and science teachers across schools. Numbers achieved under such projects are quite impressive. Such efforts are extended

to provide inputs to other engineering colleges through uploading IIT course curricula and contents online. In remote areas like the North East, IIT Guwahati has helped create virtual facilities. Such instances of innovative sharing of knowledge would also inspire IIT students to pursue out of the box ideas for social development in the span of their professional career.

Prof. K. Ramachandran on Targets and Indicators for SDG 4

(Prof. K. Ramachandran is Advisor, National University of Educational Planning and Administration - NUEPA)

The only objective of education is learning. If students don't learn, there is no point in having schools or other systems in place. In this context, learning outcomes assume top most priority. The other issues under consideration are: equity and inclusion particularly gender equity and conditions of lifelong learning.

Definition of inclusion should mean access to success and not just access to schooling facilities. Access to success means learning outcomes. Two things are important for quality assessment apart from learning outcomes, firstly, relevance and secondly, the method of lesson itself. At the institutional level resource efficiency can also be a yardstick for quality.

UNICEF defines quality as a composite of learning, quality of learning environment, the inputs, quality of learning contents, the curriculum, the quality of teaching processes, the teacher and the process and quality of learning assessment. The SDG 4 covers seven outcome targets and three means of implementation. It also covers four levels of indicators, namely global, thematic, regional and national.

The challenges facing the incumbent indicator framework are multifaceted. Starting with quality measurement of equity is equally challenging. That involves gender equity, regional equity and of course the income equity. In the Indian context, we have to add one more and that is social category gap. Five of seven education targets deal with learning outcomes. That is effect of education on individual children, young people and adults.

Target 4.1 covers effective learning outcomes. Target 4.2 covers primary education and learning readiness as a learning outcome. Target 4.4 includes

relevant skills including technical and vocational skills for employment, decent jobs and entrepreneurship. Skills should include variety of skills including skills like communication skills, problem solving skills, critical thinking skills, creative thinking skills and finally employability skills. Target 4.6 covers literacy and numeracy. Target 4.7 covers knowledge and skills needed to promote sustainable development.

On goal specific means of implementation, Target 4.8 talks about effective learning environment. Target 4.c seeks to substantially increase the supply of qualified teachers. In the context of the 2030 agenda and education, investing in teachers would be one of the key strategies. The second most relevant strategy would be quality curriculum in the first place that takes care of the needs of inclusion and equitable education apart from skills. The declaration adopted clearly indicates that all students at all levels from pre-primary to higher education level should be taught by well-qualified and professionally trained, well motivated and well-supported teachers.

In terms of indicators on assessment of academic competencies of children in primary and secondary education we need to understand the statistical challenges and methods. We have been conducting learning assessment in India, grade 3, grade 5, grade 8 and grade 10. The National Achievement Survey being conducted by NCERT does this. A State level assessment takes care of Class 3, Class 5 and Class 8. Given India's statistical preparedness, India is well placed to comply with the global indicator framework in this regard.

On minimum proficiency measurement, the focus is only on school going children and hence does not cover children who are out of schools. This challenge need to be tackled and understood. Second is administration of a nationally representative learning assessment considerations of health, learning and psychosocial wellbeing needs to be accounted for.

We need to discuss this and arrive at certain critical questions on this which can be captured either through the national family health survey or through something like MICS (the multiple indicator cluster survey). Moreover, no survey captures digital literacy skills that spread through formal and informal means and may not be directly linked with academic attainment.

Functional literacy is important since India is a country with more than 280 million illiterate adults and adult education continues to be important for India and hence conditions of lifelong learning are extremely important. To capture the above the frequency of most of our surveys and assessment reports must be made annual. Indicators measuring understanding of issues relating to global citizenship and sustainability talk about percentage of 15-year-old students in secondary school demonstrating atleast a fixed level of knowledge across a selection of topics in environmental science and geo-science.

Learning environment is a global indicator which we are collecting through U-DISE. It includes facilities like drinking water, single sex basic sanitation facilities, basic handwashing facilities, electricity, internet access, computers for pedagogical purposes and adapted infrastructure and materials for students with disabilities. Target 4c that indicates teachers, pre-primary, primary, lower secondary, upper secondary, meaning higher secondary who have received training, etc., are being captured in U-DISE. On equity, SDG 4 indicators need to capture not just national average or aggregate value of an indicator but also variation across different sections of the population. Individual characteristics such as sex, gender, wealth, location, rural/urban, social category or disability are important and we must aim at them. As mentioned in the beginning inclusion means access to success and therefore the emphasis should be on learning outcomes. And, learning outcomes can be achieved only through fostering quality education and with a special focus on teacher.

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all: Targets and Indicators	
4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes	4.1.1 Proportion of children and young people: (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex
4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education	4.2.1 Proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being, by sex
	4.2.2 Participation rate in organized learning (one year before the official primary entry age), by sex
4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university	4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex
4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	4.4.1 Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill
4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations	4.5.1 Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) for all education indicators on this list that can be disaggregated
4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy	4.6.1 Percentage of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex
4.7 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 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	4.7.1 Extent to which (i) global citizenship education and (ii) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in: (a) national education policies, (b) curricula, (c) teacher education and (d) student assessment
4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all	4.a.1 Proportion of schools with access to: (a) electricity; (b) the Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) adapted infrastructure and materials for students with disabilities; (e) basic drinking water; (f) single-sex basic sanitation facilities; and (g) basic handwashing facilities (as per the WASH indicator definitions)
4.b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries	4.b.1 Volume of official development assistance flows for scholarships by sector and type of study
4.c 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	4.c.1 Proportion of teachers in: (a) pre-primary; (b) primary; (c) lower secondary; and (d) upper secondary education who have received at least the minimum organized teacher training (e.g. pedagogical training) pre-service or in-service required for teaching at the relevant level in a given country