Shortage of qualified teachers: Education systems are complex and are influenced by numerous actors. But no education system is better than its teachers. UN estimates that globally, we need an additional 1.6 million teachers to achieve universal primary education by 2015. The shortage of teachers, combined with absenteeism and the lack of qualifications, is a major barrier to learning. We need a strong cohort of both female and male teachers who are paid well and respected in the community. This is not always the case. Teachers should also have opportunities for continued professional development and growth.

Lack of learning materials: Workbooks, exercise sheets, readers and other core materials to help students learn their lessons are in short supply. Teachers also need materials to help prepare their lessons, share with their students, and guide their lessons. The persistent digital divide and uneven access to information and communication technologies (ICTs) have severe implications for education. ICTs can transform not only instruction but also the learning process. They empower both teachers and learners.

Weak foundation for early learning: A significant proportion of young children never benefit from early childhood education programs, compromising their cognitive development and their preparedness for school. Those who do not learn to read or write in their first few grades carry a handicap as they try to progress to higher levels, where literacy and numeracy become tools for learning rather than ends in themselves. They struggle in school for many years and some simply quit. Around the world, primary schools give more attention to later grades, in large part to prepare students for high-stakes examinations. It would be more effective to deploy the most qualified teachers in the first four years of school when students establish the foundation for success in later years.

Challenging family environments: Challenging living circumstances affect a child's learning in many ways. When families lack electricity at home, particularly in rural areas, children have fewer hours available to study and learn. When their homes lack books and other reading material, they practice less and forget more during school breaks. And when parents themselves lack literacy and numeracy skills,

they are less able to reinforce what children are learning in school. Other factors, such as a stressful or violent home environment, can also highly impede a child's learning.

Mismatch of skills and today's livelihoods: With more than 1.2 billion young people in the world today, our youth have the potential to alter our course in history. Yet, the education system has not caught up to the 21st century knowledge-based economy. Teaching by rote curtails creative or divergent thinking. It is rigid and is not tailored to individual needs or talents. This form of learning is widespread. There is a mismatch between the competencies needed in today's world and those acquired through the current education system. Too often technical and vocational education is specific and narrow thus limiting job opportunities as skills become quickly obsolete in a dynamic and rapidly changing world.

Implementing Best Practices to Improve Quality in Education

Having detailed the barriers to imparting quality education, attention should be focused on practices in quality teaching.

Quality teaching is the use of pedagogical techniques to produce learning outcomes for students. It involves several dimensions, including the effective design of curriculum and course content, a variety of learning contexts (including guided independent study, project-based learning, collaborative learning, experimentation, etc.), soliciting and using feedback, and effective assessment of learning outcomes. It also involves well-adapted learning environments and student support services.

Experience showed that fostering quality teaching is a multi-level endeavour. Support for quality teaching takes place at three inter-dependent levels:

a. At the institution-wide level: including projects such as policy design, and support to organisation and internal quality assurance systems.

b. Programme level: comprising actions to measure and enhance the design, content and delivery of the programmes within a department or a school.

c. Individual level: including initiatives that help teachers achieve their mission, encouraging them to innovate and to support improvements to student learning and adopt a learner oriented focus.

These three levels are essential and inter-dependent. However, supporting quality teaching at the programme level is key so as to ensure improvement in quality teaching at the discipline level and across the institution. Support for quality teaching can be manifested through a wide range of activities that are likely to improve the quality of the teaching process, of the programme content, as well as the learning conditions of students. School management and leadership should actively consider implementing initiatives such as:

- A centre for teaching and learning development

- Professional development activities (e.g. in-service training for faculty)

- Teaching excellence awards and competitions for remarkable improvements

- Teaching innovation funds

- Teaching recruitment criteria

- Support to innovative pedagogy

- Communities of teaching and learning practices

- Learning environments (libraries, computing facilities, etc.)

- Organisation and management of teaching and learning

- Support to foster student achievement (e.g. counselling, career advice, mentoring)

- Students' evaluation (i.e. programme ratings, evaluating learning experiences)

- Self-evaluation of experimentations, peer-reviewing, benchmarking of practices

- Community service and work-based programmes, development-based programmes

- Competence-based assessments

To improve the quality of education, school management and leadership can specifically consider implementing the following best practices.

Raising awareness of quality teaching

Quality teaching matters but not all stakeholders in school education consider it a priority, understand and recognise what constitutes quality teaching, or are willing and able to play a role in ensuring it takes place in their institutions.

Many schools continue to be challenged by the increasing diversity of students. At the same time, they are coming under greater pressure to demonstrate that they are preparing their students for the future challenges in higher education as well as for work life. In addition to this, there is added pressure by parents who are increasingly demanding to know what value students will get in return for the cost of their education

As there is a direct correlation between quality teaching and student learning outcomes, schools should consider to:

- Set quality teaching as a strategic objective for the institution to signal the institution's commitment to fostering continuous improvement in teaching

- Establish a teaching and learning framework. Develop an institution-wide framework for teaching and learning that reflects the mission, values and specialties of the institution and defines the objectives of teaching and the expected learning outcomes for students. Ensure that all specific teaching and learning frameworks at department, school or programme level are consistent with the institution-wide framework.

- Engage the whole community (full time teachers, part-timers teachers and non-teaching staff), and include students viewpoints in the development of these frameworks, to ensure a broadly shared understanding of quality.

- Align the teaching and learning process as well as student assessment to the teaching and learning framework.

- Strengthen links between teaching and research – Action Research
    - Build research capacity through the promotion of research-teaching linkages,
    - Demonstration of how research informs teaching
    - Engagement in research-inspired teaching
    - Development of students' research-skills

Developing excellent teachers

The expansion of education, increased emphasis on students' learning outcomes and the advent of new pedagogical approaches – and new pedagogical opportunities afforded by technology -- all point to the need for a new and changing skill profile for teachers in education that includes pedagogical competencies. Teachers are also more often expected to be engaged and proficient in curriculum design, project based-learning, new forms of peer and group assessments, fundraising and regional networking, as well as more conventional class teaching.

The present as well as the future needs of education demand for re-skilling the teacher to meet the growing challenges effectively. School leadership should emphasize on leading and managing change for teachers.

There is evidence that participation and engagement in professional development activities are related to the quality of student learning. "Provision of opportunities for professional learning and development, and obtaining relevant teaching qualifications, and establishing requirements that professional

development and qualifications are undertaken are indicators of an institutional climate that recognises the importance of the preparation of staff for teaching" (Chalmers, 2007).

Though school leadership is keen to provide professional development to teachers, but the reality is that professional development for teachers is often disconnected from the educational objectives of the programmes – even though the support provided may be in response to specific requests received from teachers. Thus a well-designed professional development programme needs to be an outcome of a collaborative reflection on the quality of teaching and learning that is aligned with school/educational institute values, identity and teacher expectations. This reflection requires time, conviction, motivation and openness. It assumes that not only the individual teachers are concerned, but also heads of departments and other leaders who are drivers of change. Thus the school leadership should actively consider planning and implementation of differentiated professional development programmes that have the twin objectives of meeting the school's educational objectives as well as the career aspirations of teachers and staff.

Developing teachers can be achieved through:

- Identifying and articulating pedagogical competencies required for quality teaching
- Engaging in a collaborative process to identify and articulate the pedagogical competencies that teachers need to deliver quality teaching and learning that reflects the institution's mission and core values.
- Ensuring that individual teachers, along with Principal, heads of department and other leaders who are drivers of change are involved in defining these pedagogical competencies and any associated quality benchmarks or performance standards.

- Ensuring that all teachers are aware of these pedagogical competencies and use them as an anchor for professional development and as a basis for assessing improvement in their teaching practice.

- Defining a set of indicators of excellence in teaching (as well as in other areas) that the institution may use to encourage improvement, evaluate performance, and take into account in decisions concerning tenure and promotion.

- Upgrading pedagogical skills through professional development. Provide professional development that responds to the educational goals of the institution and fits in with its core values, reflects the pedagogical competencies required for quality teaching, and engages teachers.

- Assigning explicit and more specific objectives to professional development (e.g., "embedding learning outcomes in assessment methods" rather than "improve teaching").

- Providing resources and ensure that appropriate experts are available to support the professional development of teachers (e.g., curriculum design, teaching skills and market, assessment of student learning, using technology in teaching, etc.).

- Providing an effective venue for discussions and experience sharing on teaching and learning practices (e.g., a Learning and Teaching Centre), that is visible and valued by the academic community, either at institution, department level.

It is important to remember that teacher development is a process which requires considerable investment of time, resources – both financially as well as people. Therefore, the school leadership and management should view this as a long term investment to build its talent pool and remain committed to this programme.

Highlighting Innovation as a Driver for Change in Schools

Innovation can be one of the main drivers of quality teaching improvement when supported at school level. Innovations in teaching and learning can be spurred by a number of factors. Research and development stimulates the search for creative solutions for problems and challenges at various levels and promote new forms of student learning by problem-solving. Pressure from stakeholders and students (including an increasing proportion of lifelong learners) to deliver learning outcomes more relevant to societal demands and work life, including skills such as critical thinking, self-management, teamwork and communications, as well as technical or discipline-specific skills.

Internationalisation can be a powerful driver to spur change and innovation in teaching and learning practices by providing exposure to new and different practices. It can also help institutions to think outside the box in response to new challenges. Preventing student drop-out and attracting disengaged or at-risk students can also lead teachers to innovate in order to better adapt to students' needs.

School leadership should work closely with their heads of department, coordinators, and teachers to develop an environment where innovation is encouraged. While doing this, it is important to ensure that they involve students and their parents, who benefit the most, in this process.

School leadership can consider the following:

- Innovation typically requires experimentation with alternative pedagogical approaches and alternative teaching practices that mostly occur at the curriculum or class level.
- Scaling up successful innovations and ensuring they become common practice requires appropriate provisions and managerial capacities.
- Encourage teachers and students to be active innovators. Encourage experimentation and innovation in teaching practices, while recognizing that experiments that fail are also important learning opportunities.

- Foster exploratory approaches and incremental changes, including pilot testing and careful evaluation of innovative teaching methods.

- Instill a research mindset at every level as it brings about fundamental changes in the way education is delivered: research-minded students are more used to engaging in critique, challenging tradition and contradicting existing academic practice.

- Encourage collaborative innovation across the institution, including through inter-disciplinary, multi-disciplinary curriculum design and support team approaches to innovative teaching and learning.

- Adapt the evaluation of teachers' performance to encourage and reward innovation appropriately.

- Strengthen institutions as "learning organisations".

- Deepen capacity to diagnose teaching and learning situations, anticipate challenges (e.g. through research), pinpoint the institution's most critical issues, and identify internal and external factors conducive to, or inhibiting innovation.

- Undertake meta-evaluation to identify predominant and recurring issues.

- Promote a climate of continuous reflection on the relevance and effectiveness of the educational offering and question beliefs and mindsets, values, traditions and habits underpinning educational practices.

- Sustain collaborative learning about quality improvements of innovations, learn from failures and engage reflection on the scope and potential pitfalls of scaling-up the innovation.

- Encourage the use of assessment for learning (formative assessment) as well as assessment of learning in evaluating the impact of innovative practices.

Conclusion

We have considered the various barriers that prevent implementing quality in education. Thrust areas for school have been identified and implementation recommendations have been detailed. School education system stands at the threshold of transformation, thus embracing change is imperative to ensure student preparation as lifelong learners.

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