This article outlines the global perspective around quality in education. It is the first in a series of three installments written by the Quality in Education Think Tank of the International Academy for Quality. These pieces address the meaning, scope, major concerns, and perspectives on quality in education. They provide perspective on the overall field of quality in education, setting common ground for further reflection and guidance based on a collection of international input from quality and education experts. The collected thoughts represent authors from four distinct continents and with different backgrounds, but all share a passion to promote quality in education. This first installment focuses on the meaning and scope of quality in education.

Scope

Quality is about stakeholder satisfaction—now and in the future—and is related to customers’ needs, wants, and expectations. Sometimes it’s necessary to define customers using a broad and open view. In education, where quality is about students’ competencies—both today and in the future—the definition of customers also must consider other stakeholders, such as parents, schools, and employers, as well as society at large. In a changing world, with unknown requirements for citizens of the future, quality in education is difficult to define or assess. According to David Stephens’ report to UNESCO, several aspects of quality education are considered, including effectiveness, improvement capability, value added, and equity (especially regarding gender gaps). “Quality education is a learning situation which vibrates with positive energy and where the learner and the learned both are eagerly absorbed in understanding and communicating through a knowledge construction process. The emphasis lies with the learner.”

So, quality in education is about when resources are utilized to benefit the learner and society as a whole. As such, quality in education should cover basic education, tertiary education, skills development, and lifetime learning, as well as the promotion and delivery of sound quality principles, methodologies, and tools. When discussing the topic of quality in education, three key aspects are relevant and deserve consideration.

- **Education on quality, where quality is a topic in education services.** This involves studying, promoting, and evaluating different approaches for teaching, training, and learning quality principles, approaches, and tools.
- **Quality of education, where quality and quality improvement methods are applied to education systems, processes, and outcomes.** This encompasses studying, promoting, and evaluating different approaches for achieving better quality in the way teaching, training, and learning occur.
- **Strategy, where it is determined how to accomplish the previous two aspects.** This can involve the level of a given territory; a school; or a particular class, teacher, or student, depending on the scale of analysis being pursued. This ensures that the appropriate instructors are educated on quality improvement in order to teach and incorporate the associated concepts properly.

With respect to the above contexts, a wide variety of situations may be considered under the scope of quality-in-education activities, including projects focused around specific areas of education (e.g., K-12, higher education, lifelong learning, workforce development and training, and quality professional advancement). It is also necessary to take into account what is happening in different regions of the world in order to fully comprehend the wide variety of situations and understand the concrete meaning of quality in education.

This concept extends even further if one aims to understand how to improve society, as well as the world, through better education. In areas where educational systems are not yet strong or teaching styles do not promote an innovative spirit, more affluent families often arrange for their children to attend “better schools.” This raises concerns that need to be addressed regarding equity and access to quality education.
Furthermore, the full scope of quality in education is quite large and crosses all ages because in a knowledge-based society, education covers or should encompass a learner’s entire life span from birth to death. The saying, “It’s never too late to learn,” has never been as valid as it is today. In other words, people have a lifetime to receive and provide education preferably with as much quality as possible—both as takers and/or givers. Even this distinction is not as clear as in the past, given the increasing presence of interactive learning methodologies, easy access to online content, and the emergence of flipped classroom and blended learning approaches. At such different levels, it is of utmost importance to consider training and teaching of trainers and teachers, focusing on quality improvement principles and tools as a major component in the development of quality in education. Specific projects on quality in education will likely be located in one or eventually more of the various areas or cells shown in Table 1.

There are also several essential elements in the quality discourse, such as democratic values, openness, teamwork, entrepreneurship, innovation, quality concepts and tools, and creativity that should be integrated in all curricula, irrespective of the corresponding educational levels.

How can learners gain support in their process to understand and be able to utilize the principles, practices, and tools of quality? Experiential or open learning have played an unquestionably important role, as well as dialogues and reflections. Additional important aspects to consider include educators serving as role models through leading by example, the education process being subject to quality monitoring and improvement with both teacher and student involvement, and intrinsic motivation assumed as an important driver. Mihaly Csikszentmihalyi’s flow channel is a vital reminder in all endeavors, including education. Each educator has his/her own way of supporting students’ learning and possibly the same situation applies to how each student looks into the topic; however, there is not yet sufficient systematic research in this area to validate these assumptions.

It is not enough to discuss quality of education. Instead, the question should be how to improve education in a systematic manner. The ways that improvement science and projects have advanced quality in healthcare may provide an interesting benchmark for those who want to increase the quality of education. The Carnegie Foundation for the Advancement of Teaching utilizes a promising approach to bring greater improvement knowledge into educational systems. Although it is not discussed directly in this article, it is a recommended resource for people interested in this topic.

**Multiscale Nature**

As with other quality areas, quality in education can be handled using a multiscale paradigm, including extended global views and benchmarks. Examples include those related to rankings and the Economic Co-operation and Development Programme for International Student Assessment results, moving down to national levels, where education policies not only can fulfill a major role but also can apply to local environments and communities, as well as individual schools, classes, or even a single student/teacher interaction. This multiscale paradigm, therefore, also encompasses smaller scales of space, which are equally or more important. To a large extent, quality in education is a challenge that must be defined and handled at the level of each school or at a local scale. Additionally, within a given school, what happens in the classroom, through interactions between students and students as well as students and teachers, is what may ultimately be most relevant for quality of education to occur from

| Table 1: Quality in Education Areas by Focus and Learner Targets |
|---------------|-----------------|-----------------|-----------------|-----------------|
| **K-12** | **Higher education** | **Lifelong learning** | **Workforce development/training** | **Quality professional advancement** |
| Education on quality | | | | |
| Quality of education | | | | |
| Strategy | | | | |
a bottom-up perspective. Every minute of teaching and learning is a moment of truth upon which quality of education depends, and then it is the cumulative effect of such micro-quality events that build quality in education, reflected in the future lives of participating students, across time.

Ensuring that consistency and appropriate alliances can be made across such different scales for building quality in education is a major critical success factor; therefore, it is quite important to consider those particular micro-scale moments that occur every day and upon which quality of education depends. In this sense, quality in education must pay attention to all the relevant details, and, in particular, not forget what happens in association with each learning opportunity that occurs not only inside but also outside the classroom. It is necessary, therefore to complement and integrate such a bottom-up view with strategies, policies, and measures aimed at promoting quality of education and education on quality from a broader, top-down perspective, dealing with particular communities, regions, countries, or even at an international level.

**Quality of Education Gaps**

Numerous studies and materials have been performed, published, and shared regarding different approaches for teaching quality-related principles, methodologies, and tools—mostly in the areas of higher education, lifelong learning, and for the quality community. However, there is a lack of similar efforts or easy access to analogous experiences in other education levels, specifically those related to K-12 students, either performed at schools or involving other learning contexts (e.g., initiatives led by quality professionals and associations or other organizations). Because this early stage of education potentially has the largest impact, it may be worthwhile to build platforms containing a virtual library for presenting experiences and research performed for students at these young ages—possibly in conjunction with awards aimed at recognizing international examples and best practices in this field. Some challenges in this regard are discussed in a report prepared by the Netherlands branch of UNESCO.5

In the highly competitive world, too much emphasis is placed on achieving a target score and less importance on the thinking processes. The metric used to evaluate students’ and learners’ performance is based on previous exam scores rather than the ability to demonstrate understanding and application of concepts associated with a particular subject. This is leading to a false sense of security when students are promoted to higher grades, entering tertiary institutions, and/or joining the workplace. This situation is exacerbated by political interventions that may distort reality. For example, key performance indicators are set for the schools and universities based on the percentage of learners who have achieved a prescribed pass rate, rather than the quality of teaching and learning delivered. Such decisions have a disruptive influence not only over the learners but also with regard to future employees. Statistics that only cover pass rates of those writing a final exam and do not include other metrics, such as dropout rates in previous grades, lead to biased views and approaches that may not benefit the improvement of the real quality of education.
Finally, another gap present in many parts of the world deals with inequalities of access to quality education. This depends not only on the wealth of families or qualifications of parents, but also on geographical issues—when one compares education quality levels that are offered in rural versus urban schools. Universal access to quality education is something that must be considered seriously, aiming not only at increasing average student performances but also at reducing the corresponding performance variabilities, regardless of differences in location, surrounding environments, or students’ families. International and national tests show that in terms of learning outcomes, significant differences can be found among countries, regions, counties, or even nearby schools, as well as related to specific social and economic features of the families. Equality of education is an issue that is far from resolved and that needs to be taken into account properly whenever quality in education is addressed.

Core of Quality in Education

On many occasions quality in education initiatives or programs are partially lost in a number of potential traps—primarily by not focusing on what lies at the core of true quality of education. Such deviations can be quite problematic. For instance, they may result in achieving only marginal gains of real education quality (if any at all). They also may pass along the wrong message, concepts, priorities, and tools regarding authentic education quality issues. Another potential concern is that they may promote misunderstandings and create decreased motivation regarding quality in education projects for all those students who had been exposed to such unbalanced approaches to quality. It is, therefore, critical to emphasize the importance of keeping several key points in mind when considering the quality of education:

- Quality in education has little to do with simply adding procedures, forms, surveys, or any other red-tape burdens. Documentation should be added only when it helps to build what really matters—education quality.
- Having the courage to get into the classroom and find ways to improve learning is the key aspect of improving education quality. Relying only on what surrounds the classroom (e.g., equipment, facilities, extracurricular activities) may be easier to address than getting teachers involved in seeing that classroom improvements are the best opportunities, but they are the most worthwhile way of exploring changes that impact students and the quality of education.
- Stakeholders’ perceptions should be heard and taken into account; however, long-term goals and achievement must be considered, and they must clearly define what education quality really needs to achieve. Because schools are able to transform people in a positive way across the life span, short-term views of perceptions are not sufficient to capture the complete essence of education quality. Other tools and metrics, therefore, also need to be defined, measured, and taken into account by each school looking to improve its quality performance.

Conclusion

This article outlined the global perspective, scope, and meaning of quality in education, which has three key, broad aspects—education on quality, quality of education, and strategy. To improve quality in education, a focus on education services, improvement of educational processes, and an overarching strategy are needed. Furthermore, quality in education benefits from being addressed by using multiple scales; however, it is important to not underestimate the critical role associated with each particular school, its local communities, and how it as a special kind of organization that manages both quality education and education quality. The next article in this series will discuss the international, national, regional, and/or municipality levels and the roles of educators.

References

1. David Stephens, Quality of Basic Education, https://pdfs.semanticscholar.org/73e7/9e261f5dbcf718d376546e016d84b4be0.pdf.
Bo Bergman

Bo Bergman is professor emeritus and since 1999 has served as professor in the division of service management and logistics at Chalmers University of Technology. Prior to that, he was professor of quality technology and management at Linköping University, where he was responsible for the creation of education and research in the quality field. During Bergman’s years in Linköping, approximately 500 engineering master of science students specialized in quality-related topics, 30 licentiate degrees were presented, and 11 doctoral dissertations were approved. His email address is bo.bergman@chalmers.se.

Paul Harding

Paul Harding is head of corporate quality at Nissan South Africa. He also is the managing director of the South African Quality Institute, a promoter of South Africa’s quality in schools program, and a board member of South African Sector Education and Training on Quality Training. Harding represents Africa on ASQ’s Quality Management Division Global Excellence Technical Committee. Contact him at exec@saqi.co.za.

Zhen He

Zhen He is a professor at the College of Management and Economics. His research interests include statistical process control, design of experiments, Six Sigma methods, and other similar topics. He has published more than 100 journal papers and six books in quality management and quality engineering. He can be reached at zhhe@tju.edu.cn.

Elizabeth A. Cudney

Elizabeth A. Cudney is an associate professor in the Engineering Management and Systems Engineering Department at Missouri University of Science and Technology. In 2014, she was elected as an ASEM Fellow, and the year prior Cudney was elected as an ASQ Fellow. She was inducted into the International Academy for Quality in 2010. She received the 2008 ASQ Feigenbaum Medal and the 2006 SME Outstanding Young Manufacturing Engineering Award. Cudney has published six books and more than 65 journal papers. She holds eight ASQ certifications, which include ASQ Certified Quality Engineer (CQE), Manager of Quality/Organizational Excellence (CMQ/OE), and Six Sigma Black Belt (CSSBB), among others. Contact her at cudney@mst.edu.

Pedro Saraiva

Pedro Saraiva is a professor in the Chemical Engineering Department at University of Coimbra. Among the many other roles in which he has served during his career, Saraiva was an advisor to the president of Portugal for Higher Education from 2006 to 2009. He was also the first recipient of the ASQ Feigenbaum Medal. Saraiva’s research interests include conducting process systems engineering, data analysis, innovation, entrepreneurship, and quality management. For more information, his email address is pas@eq.uc.pt.