This is the third and final installment in a series of articles that outline the global perspective related to quality in education. These articles, written by the Quality in Education Think Tank of the International Academy for Quality, address the overall field of quality in education, setting common ground for further reflection and guidance based on a collection of international inputs from quality and education experts. The thoughts represent authors from different backgrounds and four distinct continents, who all share a passion for promoting quality in education.

**Benchmarking in Education**

Although more data, examples, and information are becoming available, many schools still rely on looking at only themselves without considering other sources of potential improvement methods. Structured approaches for building learning communities and/or sharing practices with other schools or types of organizations—both at the national and international levels—can provide valuable insights. Searching for these learning opportunities through benchmarking activities can be very powerful for any given school’s improvement efforts. Exploring best practices used by other entities, rather than simply trying to build from its own current practices and results, has been shown to be an effective way to plan for changes, according to a recent study on the application of continuous assessment and benchmarking in schools conducted by the United Nations Educational, Scientific, and Cultural Organization (UNESCO).¹

Furthermore, in addition to more formal, school-related environments, benchmarking efforts also need to account for the information obtained from other education-focused sources, including input from families and peer-learning participants. Access to online and printed materials is readily available, which supports benchmarking and self-learning research.

When conducting benchmarking studies, it is important to determine if the source’s process aligns appropriately with the school’s situation. Processes that have been used elsewhere—particularly in developed countries—may not be applicable to situations in all schools. In other words, the value of specific benchmarks is affected by the contexts from which they were developed and used. This does not mean that only benchmarks from schools with identical contexts should be used; however, it signifies that the context associated with each benchmark needs to be understood completely so its data can be applied directly or modified to fit the investigating school’s situation.

Particular care should be taken to ensure that appropriate metrics and approaches are adopted for selecting benchmarking sources and determining if/how those benchmarks can be applied. Simply attempting to copy what happened somewhere else is not likely to lead to substantial improvements; sometimes extensive modification of the benchmarked process is necessary to ensure its efficacy in the researching school’s setting. Moreover, the indicators selected for quality assessment must also be revised on a periodic basis so that benchmarking associated with them is appropriately targeted. For instance, student-to-teacher ratios were used prevalently to select high-performing schools for benchmarking, but that metric may not be as important as in the past because educational systems move more toward learning experiences as well as online instructional approaches and curricula.

**Benchmarking Other Industries**

It is important to note that education can learn from other industries, and the reverse also is true. A good example can be found in processes which healthcare organizations use, where the emerging science of improvement has grown significantly during the past two decades. For instance, the Institute of Healthcare Improvement (operating primarily in the United States and United Kingdom)
has conducted a wide range of projects and initiatives focusing on quality improvement. Healthcare practitioners engaged manufacturing industries to help with the initial improvement work, which generated many successful results. Other healthcare-related organizations that may offer useful benchmarking sources for schools include the Institute of Medicine, which published several books that include proven approaches, such as To Err is Human. The Health Foundation sponsored an initiative in Sweden called Vinnvård, which supported research on healthcare improvement and created a platform for improvement knowledge, involving representatives from many professional bodies in the healthcare field.

Although education is clearly different than healthcare, its successful initiatives can be modified to benefit education, too. Efforts from both industries impact society in developing countries and the world in general. The United Nations included education quality as one of its 17 key goals “to transform our world” and promote sustainable development within the scope of its 2030 agenda and targets—“Ensure inclusive and quality education for all and promote lifelong learning”.

Due to the specific nature of each industry, different approaches may be needed when benchmarking outside of the education sector; however, inspiration from other sectors can drive quality improvement in education because many of the same major challenges and problems are faced—although they have very different reasons and contexts.

**Experimentation in Education to Drive Improvement**

How education takes place today is significantly different than in the past, yet there is a tendency to keep “doing education as usual”—without exploring and evaluating enough disruptive innovation attempts. Society is changing faster and faster, and new generations of students and teachers have different needs and expectations for the educational system; therefore, reinforcing various types of innovation and experimentation is essential. Additional initiatives may be needed to provide incentives for adopting new experiences and methodologies, as well as applying and evaluating them.

Successful approaches should be applied broadly—especially when they involve out-of-the-box thinking. This is a foundational reality for quality improvement efforts that are frequently misdirected based on solutions supported by governmental agencies or other key stakeholders—solutions that have not been validated with evidence-based research and appropriate experimental verification. Not surprisingly, the Program for International Student Assessment (PISA) results show that countries with unverified continuous reforms to educational systems regress when compared with countries whose improvement efforts are based on more stable and long-term views about educational matters.

Furthermore, the new possibilities created by digitized educational materials and internet availability have led to additional challenges and opportunities that have been difficult to foresee. Massive open online courses and flipped classrooms, an instructional strategy in which content is delivered outside of the classroom, are just two changes and challenges affecting education. Problem-based learning is also experiencing a strong revival based on its increased possibilities for simulation of realistic situations and use of gaming mechanisms.

For instance, South Africa and other counties have attempted to move to online learning and promote the use of tablets and the internet in schools. Of course, these approaches cannot solve all problems—particularly in rural districts that do not have basic services such as running water, sanitation, and a consistent power supply. The effectiveness of online content is impacted by language issues, such as those that exist in South Africa, where there are 11 official languages. Successfully moving to online learning tools while assuring equity and wide access—regardless of location, language, or family social conditions—is a major challenge.

Structured improvement methods that combine education quality with quality education can be used to increase the performance of learning processes. These are particularly beneficial for helping students achieve deeper understanding of the subject matter taught while simultaneously supporting continual improvement of processes and results.

Many higher education institutions also are moving away from the “chalk-and-blackboard” approach. Instead, they rely on tablets and downloaded lectures from the university’s intranet, where the content is available to students and/or other local and distant learners. Although this has been a great success for
the few lecturers who have adopted this approach, most have not been receptive to these changes. This has led to a mass migration of students from the classroom setting to technology-based courses. The unintended consequences of this transition include issues associated with large class sizes (often in excess of 500 students)—specifically the realization that most lecturers are not able to use the technology and provide high-quality instruction competently. Issues of this nature raise new questions and require additional research, discussion, and experimentation related to the allocation of educational resources and a proper definition of quality metrics. For example, a key question might be “When these new, technology-oriented approaches are used, is the teacher-to-student ratio—a commonly used metric—still important and worth tracking?”

**Conclusion**

Quality in education may mean different things to people in different parts of the world or who have varying roles. As has been described in this three-part series, the problem is not limited to education itself; it also involves politics, economy, and many other fields. This complex set of factors and interactions makes proposing solutions even more challenging; however, it is essential that issues with education are addressed in order to help society successfully meet future requirements within the ever-changing environment that impacts the educational process.

Although the context for quality in education tends to be quite specific, there is an opportunity to consider other industries’ approaches related to improvement efforts. Models based on education processes are available, but additional models, such as ISO 9000 standards, frameworks associated with performance excellence, and structured problem-solving methodologies and tools, also are applicable. Much experience at the national and/or international levels has been gained with these varied approaches; therefore, it is possible to draw conclusions regarding their efficacy and to adopt the best practices for addressing quality in education.

Here are a few considerations to keep in mind when selecting benchmarks and developing solutions to evaluate experimentally.

- Do not rely on anecdotal examples of acceptable and unacceptable quality in education. Instead, focus on well-defined, integrated, and holistic approaches that have been proven to work well for different contexts, classes, schools, regions, countries, etc. Look for examples of benchmarks developed in conjunction with projects that had clear purposes, goals, and milestones, as well as dedicated leadership at the appropriate level.

- Focus on learning, rather than on teaching. This should be the contextual emphasis in a knowledge-based society. The key question should be “How can we create and sustain processes that foster effective and efficient student learning throughout their life journeys?”

- Remember that benchmarks and recommended improvements only can be implemented if they are supported by current and future teachers.

The purpose of this series of articles was to outline global perspectives related to quality in education. The first article addressed the meaning, scope, major concerns, and perspectives on quality in education, providing perspectives on the overall field of quality in education. The second installment discussed the key roles that schools perform in establishing a quality foundation. This final article described benchmarking as a tool for identifying opportunities and approaches, as well as the use of experimentation to foster change in education.

**References**


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.

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.

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.

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.