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THE NEED FOR TEACHING ABOUT QUALITY AND SPREADING QUALITY CULTURE AT THE STAGE OF SCHOOL EDUCATION

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Abstract. The article concerns the need for teaching about the quality, as well as building pro-quality attitudes already at the school stage. The author presents quality issues, complications associated with its divergent understanding and its historical conditioning in Poland and also a brief explanation of the need of learning about quality since early childhood. TQM philosophy is described, as well as an overview of examples of building quality culture and education about quality in various countries of the world, together with their noticeable positive results. The current status of education on quality in Poland and quality issues affecting skills desired by employers is discussed.

Key words: quality, education, pro-quality culture, quality philosophy, TQM, quality tools

INTRODUCTION

Presently, the word quality frequently surrounds us. Advertisements, slogans, catalogs and products descriptions are overfilled with it. It is often seen as a part of names of companies from all industries¹. This situation can be viewed in two ways. First, it

¹ E.g. *Quality Group* – cleaning services, security services, real estate administration; *Lewens Quality GmbH* – human resources; *OMEPHA® Quality Group* – supporting sales process; *Certification Quality Conformity Sp. z o.o.* – certification of goods for export to the countries of the Customs Union and Ukraine; *The Quality of Life* – training and consulting services; *Hotel Quality*

proves, about the growing popularity of quality. On the other hand, however, this word any is too often overused. And the frequency of its use, unfortunately, does not go hand in hand with a real awareness of quality. The ambiguity of the word "quality" can probably lead to numerous complications caused by its various interpretations. While the specific features of a product or service (for example, weight, size, waiting time for service and price) are tangible and easy to measure, quality is a term that can mean different things to different people. It cannot be defined as something permanent, measurable and fully objective, and the complexity of the problem intensified by the fact, that it is of interest to representatives of various fields of science, including philosophers, economists, engineers, educators, each of whom understands it in his own way. Another definition will be probably provided an artist, and still another by a car mechanic. It will be understood in a different way by a manufacturer than customer. What is more, in different situations the same person can define it differently – quality of service in a restaurant will be something else than quality of the road. The driver can evaluate the quality of his car differently while driving it on a Saturday shopping, and differently, being overtaken by more modern sports car. And this is just a small part of the quality-related problems and complications.

Meanwhile, despite the importance of the problem and the growing popularity of education in the field of quality in more developed countries, in Poland this subject still seems to be negligible. Given high unemployment, common general bad attitude of staff to the quality of their work and growing competition on European and world markets, the problem of lack of common education about the quality should not be underestimated. On the contrary – Poland still carries weight of crumminess, to which the society became accustomed in the years preceding the free market economy.

ESSENCE OF EDUCATION ABOUT QUALITY

This habit is a problem worse than it might seem. Although you would think that over time it will disappear in a natural way, in fact, it currently inflicts double damage. Firstly, people still professionally active, who have not changed their attitude to the quality of work after the change of regime, often do it with the approach significantly worse than it would be generally expected. Secondly, with their wrong attitude they give new employees bad patterns. This situation resembles a vicious circle, constantly driven by workers unaware of the seriousness of the situation (Fig. 1).

There can be two reasons of such a situation – on the one hand it is a psychological factor – workers ignore the quality of their work, when the quality, in their opinion, cannot be met or is ignored by their superiors. On the other hand it is connected with the so-called internal client – employee that receives the result of the work of another employee. Receiving poor quality results makes him not only discouraged, but can also force him to repair the error. In the worst case he can ignore the error and intentionally pass it to the next stage.

System – hotel; *Quality Team* – automotive services; *P.P.H.U. QUALITY* – furnitures production; *QualityED* – implementation of management systems; *Quality Coaching* – coaching services; *LUQAM Quality Service Group* – advisory services; *Quality Tank Sp. z o.o.* – distribution of liquid fuels; *Komtel Quality Solutions* – outsourcing services for the automotive industry; *Quality Kursy Językowe* – language school.

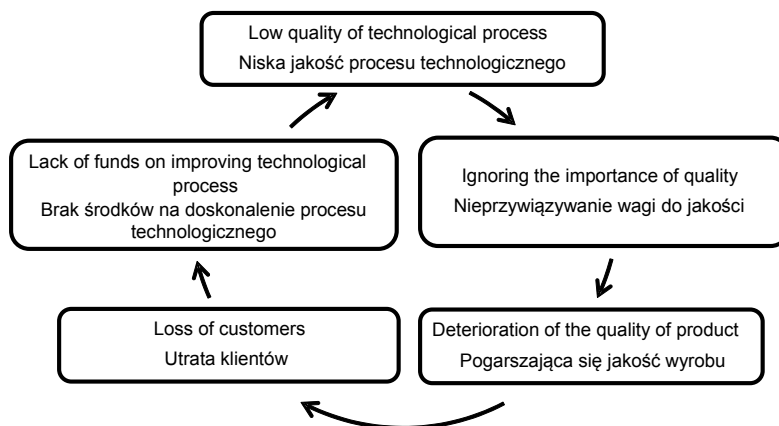


Fig. 1. Vicious circle of deteriorating quality within the organisation [Spychalski 2011]

Rys. 1. Błędne koło pogarszającej się jakości wewnątrz organizacji [Spychalski 2011]

In order to stop the mentioned vicious circle, young employees should already have a well-established, correct approach to quality. However, it requires a full understanding of its meaning, and the best way to do this, as shows the example of Japan – country rebuilt after the war, on the pillars of quality – seems to be a common, life-long teaching about quality and building in people awareness of quality and pro-quality attitudes.

The effectiveness of building pro-quality attitudes largely depends on the range of involvement in the process of various entities and organisations, because its character requires truly systemic change. The correct approach to the quality is not something you can learn like riding a bike. Building pro-quality attitudes is a complex process and it should start at family home, where pro-quality culture should be inculcated similar to personal culture. Here, however, the problem may be the close family, that may not appreciate the high quality and thus should themselves often first understand its value. This kind of “reprogramming” may be more difficult than forming pro-quality attitude from the beginning, just as it is usually more difficult to unlearn athletes bad habits than teach them correct behaviours since the beginning of their trainings. In addition to the family, in this process should be involved also mass media or even, as some sources say, children should be educated about quality culture even from cartoons and comics [Lulla 2004]. Desire to perform the duties and responsibilities in the best way should be something natural and despite the further clash with the less ideal reality, children should be fully convinced about this naturalness.

TEACHING ABOUT QUALITY – AN IMPORTANT COMPONENT OF QUALITY EDUCATION

It is an undeniable fact, that this is difficult to find a more destructive force in education, than teaching moral values and acting not in accordance with them. It is so with

teaching about quality. You cannot require from students full trust in the importance of quality, when the school does not share this belief, it does not use this knowledge in practice and students can see the school staff carrying out their duties carelessly.

In service organisation, and therefore also school, we can distinguish five main problems (5C), because of which, the work is not being done carefully enough. According to Fazlagić [2011] these are:

1. lack of commitment,
2. lack of confidence,
3. lack of cooperation,
4. lack of communication,
5. lack of care.

All of these problems can be treated, through the use of quality tools and quality philosophy, especially the Total Quality Management (TQM) philosophy.

TQM, as its name suggests, is a philosophy of comprehensive quality management. According to its idea, each employee of organisation has got an impact on the quality, so at school it concerns everyone, from technical staff up to the management. In contrast to the traditional model of work on quality, this approach is focused not only on the final quality of the product, but on ensuring high quality in each department of the organisation (shown in Figure 2).

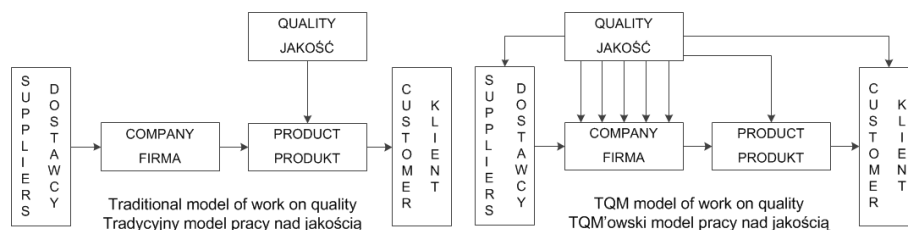


Fig. 2. Comparison of the traditional and TQM model of work on quality [Blikle 2013]

Rys. 2. Porównanie tradycyjnego modelu pracy nad jakością z modelem TQM-owskim [Blikle 2013]

TQM philosophy is based on Deming's (according to many sources – the creator of TQM) fourteen points [Deming 1986], relied on continuous improvement, collaboration and leadership. As it was rightly noted by Lunenburg and Ornstein [2011], these points in their original version may, at first glance, not match to the school, as they were created for industry. The solution to this problem was proposed by students of Mt. Edgecumbe High School, who had, in their work on quality, adapted these principles to school realities [Tribus 1990].

Implementation of TQM in the school carries a double benefit. The first one is, of course, chance for significant increase of quality of teaching. Second – in these considerations even more important – school becomes an excellent model and a kind of laboratory, where students can watch the practical application of the knowledge they acquire. In the best scenario, there is also a third advantage – students are involved in the work on the quality of the school, so they can test their knowledge in a living organisation.

One of the most spectacular and – even though it was in the 80's of the 20th century – still innovative approaches to the quality, is an example of the already mentioned Mt. Edgecumbe High School (MEHS) – a small school in the town of Sitka, Alaska [Tribus 1990, Main 1994, Dryden and Vos 2005]. The school was suffering from various problems, teachers were discouraged from working and students were discouraged from learning. This situation changed dramatically thanks to one of the teachers, D.P. Langford, who was inspired by the teachings of Deming and decided to introduce his principles to the school. He started the work with students from his class, providing students with Deming's ideas and running the course "Continuous Improvement". In addition to the theory, Langford was trying to convey knowledge in, as much as possible, practical way. Students were taught simple quality tools, and they were using them in everyday life. Each new school year was beginning with a week training of quality and building self-esteem. According to students and teachers, the task was not complete until it was done perfectly. Moreover, all students were receiving 90 minutes per week of quality-improvement training and school-wide problem-solving. And these are only examples of classroom quality activities, the positive effects of Langford were discovered very quickly. Before he involved in work related to quality management techniques, he had been observing lack of motivation of the students. Meanwhile, at the end of the semester, their enthusiasm, learning efficiency and desire to learn "Continuous Improvement" increased significantly. Surprisingly, the involvement of students moved on the teachers, engaging in work on quality most of the school. The effects of the implementation of TQM doubtless exceeded Langford's expectations. Nearly 50 percent of all graduates entered colleges. It was much more than the national average. Another fact worth noting is that about 40 percent of the students attending the school had struggled at other schools.

After he did his work in Mt. Edgecumbe High School, Langford became an international consultant, trainer and speaker, focused on quality in education. Example of the school from Sitka became, in turn, the model and inspiration for schools from other countries. Special increase of this type of pro-quality activities was reported in Australia, where local organisation Quality Learning Australia Pty Ltd (QLA), in collaboration with Langford, promotes quality in education in schools at various levels of education. In the period 1997-2004, 138 Victorian State Schools took part in the project "Quality in Schools", which involves introducing the theory, practice and tools of continuous improvement in school in classrooms. Study conducted in 2005, showed significantly positive responses, increased students responsibility for their learning, development of a culture of continuous improvement and continuing to apply what was learned [Quality Learning... 2010]. QLA proved, that quality assurance systems, combined with the use by students quality tools, can be successfully implemented in schools at various levels of education. Macleod College and Roxburgh Homestead Primary School can be good examples of that. Students of these schools, as it is shown e.g. in Figure 3, learned to use some quality tools, that are usually widely used in industry, in practice.

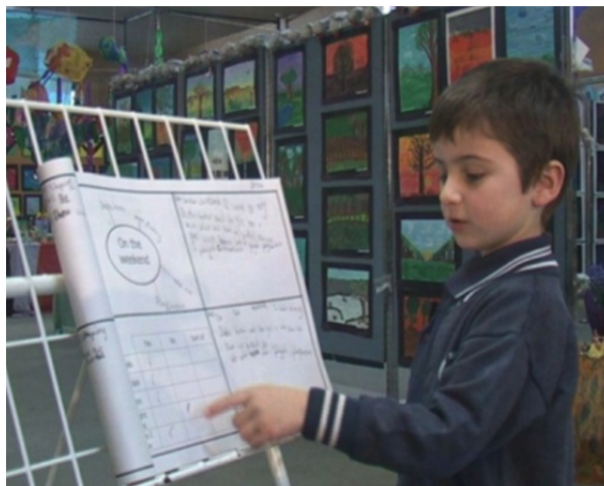


Fig. 3. Example of using the PDSA cycle by a student of Roxburgh Homestead Primary School to improve his writing [King and Kovacs 2009]

Rys. 3. Przykład cyklu PDSA wykorzystanego przez ucznia Roxburgh Homestead Primary School do poprawy pisanania [King i Kovacs 2009]

Similarly satisfactory results to those achieved in Australia, were reported also by the Re-Inventing Schools Coalition (RISC), again from Alaska. RISC is a non-profit foundation “established to transform education systems around the world and produce dramatically improved learning environments and achievement results for all children” [www.reinventingschools.org 2013]. It was formed in 2002 with support from the Bill and Melinda Gates Foundation. RISC is based on principles similar to TQM, and one of the main pillars of the adopted philosophy is continuous improvement. In contrast to traditional approach to education and “20th century classroom”, RISC philosophy puts on controlled chaos in the classroom, 100 percent student engagement and movement based on performance. According to study conducted in 2005, deployment of the RISC “Quality Schools Model” positively and significantly correlated with student achievement. Details about the differences in the performance of pupils in the years 2000-2004 are shown in Figure 4.

There are schools, where despite the implemented TQM or other forms of quality education assurance, students are not taught about these issues. This is an unused excellent opportunity to educate young people, who after getting practical knowledge about quality tools and quality philosophy, would be much more aware of the importance of quality and better prepared for its popularisation. Another thing is students’ participation in the process of qualitative change. For full and effective implementation of the principles of TQM and other quality tools, knowledge about them is required not only from the staff but also from the students [Winn and Green 1994]. Paradoxically, another feature of many of these schools, is emphasizing the importance of cooperation of workers and students in their work on quality. However, as it is indicated in King’s and

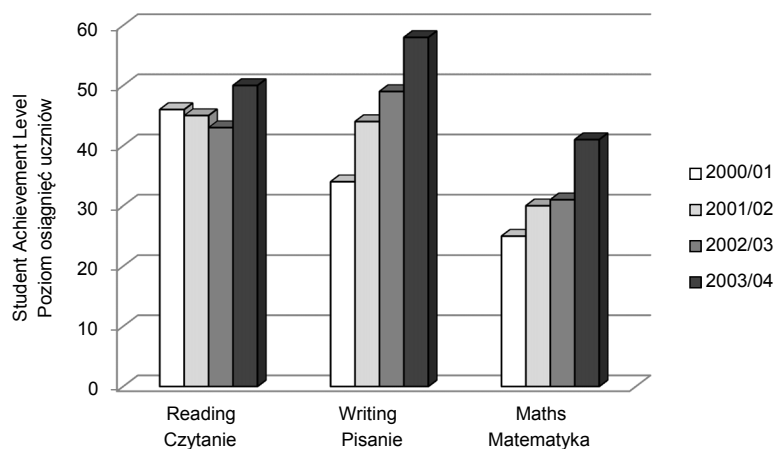


Fig. 4. Differences in the performance of pupils in the years 2000-2004 [Quality Learning... 2010]

Rys. 4. Różnice w poziomie osiągnięć uczniów w latach 2000-2004 [Quality Learning... 2010]

Kovac's report [2009], you cannot require students to fully understand the quality and to use quality tools with teachers, without their knowledge about this issue. Moreover, in the quality-oriented school, students can have a big influence on the level of its quality. At this point, another of the reasons to educate students about the quality appears. Students, aware of benefits of quality, will want to receive this quality, driving the continuous improvement of the school.

TEACHING ABOUT QUALITY IN POLAND

As a result of research conducted by the Warsaw School of Economics, the American Chamber of Commerce in Poland and Ernst & Young "Competencies and qualifications sought by employers of graduates entering the labour market" [Kompetencje... 2012], competencies of "ideal" college graduate were set out. The most important of them include: effective communication, openness to learning and continuous development, activity and involvement in the work. This is just another confirmation of the importance of educating future workers in the field of quality tools and a developing in them a culture of quality, as most of these competencies, school is able to develop in students, whether directly or indirectly, precisely through education and practical application of quality tools, as well as through training them in the proper approach to quality. Although research concerns university graduates, these competencies can be deemed as desired by employers from all employees, regardless of their education. Connections between competencies, which are the most important from the point of view of employers, and the quality issues, are presented in Table 1.

Table 1. A juxtaposition of competencies of “ideal” college graduate [Kompetencje... 2012] and quality issues affecting them [own elaboration]

Tabela 1. Zestawienie kompetencji „idealnego” absolwenta szkoły wyższej [Kompetencje... 2012] wraz z przykładowymi, kształtującymi je zagadnieniami jakości [opracowanie własne]

| Specification by number of indications Miejsce według liczby wskazań | Types of competencies Rodzaje kompetencji | Sample quality issues affecting desired skills Przykładowe zagadnienia jakości kształtujące pożądane kompetencje |
|---|---|--|
| 1 | effective communication efektywna komunikacja | quality circles koła jakości |
| 2 | openness to learning and continuous development otwartość na uczenie się i stały rozwój | PDSA PDSA |
| 3 | activity and involvement in the work aktywność i zaangażowanie w pracy | TQM TQM |
| 4 | flexibility and adaptability elastyczność i zdolność do adaptacji | benchmarking benchmarking |
| 5-6 | ability to work in a team umiejętność pracy w zespole | quality circles koła jakości |
| 5-6 | knowledge of foreign languages (especially English) znajomość języków obcych (zwłaszcza języka angielskiego) | |
| 7-10 | desire to achieve results dążenie do osiągania rezultatów | PDSA, Kaizen PDSA, Kaizen |
| 7-10 | responsibility odpowiedzialność | TQM TQM |
| 7-10 | ability to formulate and solve problems umiejętność formułowania i rozwiązywania problemów | brainstorming, Ishikawa diagram burza mózgów, diagram Ishikawy |
| 7-10 | ability to use IT tools umiejętność korzystania z narzędzi informatycznych | |
| 11-13 | being enterprising przedsiębiorczość | B&BE B&BE |
| 11-13 | analytical skills umiejętności analityczne | FMEA, Cost-of-Quality Analysis, Statistical Process Control – SPC FMEA, analiza kosztów jakości, statystyczne sterowanie procesem – SPC |
| 11-13 | industry expertise wiedza branżowa | |

Although it is difficult to find direct connections between some of these competencies and quality issues, unquestionable is the fact that each school that regards quality of teaching as priority, almost automatically seems to focus on developing other, “harder” skills, such as knowledge of foreign languages, ability to use IT tools or industry expertise.

Meanwhile, about quality education at Polish schools is usually completely ignored, and even, when the individual topics broach some issues related to quality, students often do not even realise about that. It becomes more apparent only at the stage of higher education, but even there mainly in technical fields. However the topic is almost completely ignored. And it is the school that should primarily be involved in educating about quality and building pro-quality attitudes. Its role is particularly important at the stage of upper secondary education. At that time, many of the students have first contact with the work, for example during internships. A large proportion of students also do not continue their education on university, starting to work immediately after graduation. Meanwhile, everything indicates that the number of people choosing this career path will grow, as this is the direction the Polish Ministry of National Education has undertaken – both in terms of the promotion of vocational training (for which students usually get a job immediately after graduation) and its reform, bringing vocational education closer to the labour market. However, this situation puts both parties – upper secondary education and employers – in front of a major challenge. The labour market is supplied with graduates, who do not have knowledge of the widely understood quality, and are not aware of the importance of high-quality work and its benefits. This, in turn, has a direct impact on the continuation of the vicious circle of low quality work, adversely affecting employees, their employers, customers and the overall economy. This also leads to a situation in which the employers, instead of investing time and money in their core business, use them to educate employees of the issues related to quality, such as ISO 9000, as well as raising their awareness of the benefits of paying attention to the quality of work. The situation may be even worse, if the employer is also not aware of it and he completely ignores this issue in his business, unwittingly joining the people fueling the aforementioned vicious circle.

CONCLUSION

On the basis of the examples, it can be convincingly said, that widely understood quality is extremely important already at the stage of school education. The universality of the issue allows to feel the effects of this learning quickly and at various fields – at school, in everyday life, and especially after the completion of education and starting work.

While this need is increasingly perceived abroad, in Poland this subject is still ignored. Meanwhile, it is doubly important – not only because of the great importance of pro-quality attitudes, but also because of historical conditions, related, in particular, to the kind of “legacy” of previous regime, by which Poland still bears the burden of mediocrity. Hopes to improve the general approach to the quality, do not add current trends, still favouring numbers over quality, and a great example of that are tenders conducted within the public procurement procedure.

The faster the steps – consisting, first of all, in building pro-quality attitudes already since school – to change this state of affairs will be taken, the sooner driving a vicious circle of low quality will be stopped. The growing number of foreign schools, that pay attention to this problem, is an important pattern and example for Poland to follow. On the other hand, this is also an important warning signal. As Japan, thanks to the proper

approach to quality, has gained a major market advantage over many other countries, so underestimating this issue in Poland can make it distant from the countries that have already noticed this issue.

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POTRZEBA NAUCZANIA NA TEMAT JAKOŚCI ORAZ ROZPOWSZECZNIANIA KULTURY JAKOŚCI NA ETAPIE EDUKACJI SZKOLNEJ

Streszczenie. Artykuł dotyczy konieczności edukacji na temat jakości oraz kształtowania kultury projakościowej już na etapie szkolnym. Przedstawiono w nim problematykę jakości, komplikacje związane z jej rozbieżnym rozumieniem oraz jej historyczne uwarunkowania w Polsce, a także krótkie uzasadnienie potrzeby kształcenia w zakresie jakości już

od wczesnego dzieciństwa. Zaprezentowano również filozofię TQM oraz przegląd przykładów kształtowania kultury projakościowej i edukacji na temat jakości w różnych krajach świata wraz z ich zauważalnymi pozytywnymi rezultatami. Przedstawiono także obecny stan tej edukacji w Polsce i związek zagadnień dotyczących jakości z kompetencjami pożądanymi przez pracodawców.

Słowa kluczowe: jakość, edukacja, kultura projakościowa, filozofia jakości, TQM, narzędzia jakości

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