

## **TQM AND MARKETING PERSPECTIVES FOR ENVIRONMENTAL EDUCATION AND TRAINING**

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**Abstract.** This paper seeks to evaluate the arguments for the proposition that students in higher education are 'customers' and should be treated as such, and investigates whether the adoption of the terminology, systems and processes of the 'student-as-customer' leads to a degradation or improvement of the quality of education and level of service delivered to higher education students, especially focused on students enrolled in the field environment science and environment engineering.

*Keywords:* total quality management, environmental education, training.

### **AIMS AND BACKGROUND**

Focusing on the management function of the teaching and learning process these processes that can be managed like any other. One possibility for achieving goals for education lies in the application of the ideas of total quality management (TQM) to the teaching and learning process. TQM is defined here as the collaborative and holistic application of the ideas of the industrial TQM model to teaching and learning. This focuses attention on the management function that transforms teacher and student effort into learning. The power of a TQM teaching/learning model lies in its ability to suggest hypotheses concerning teaching strategies that enhance learning and its emphasis on the quality of product, orientation to students, to teamwork, and a continuing desire to improve.

### **EXPERIMENTAL**

Deming has abridged his philosophy cited by Lynne and Ross, in a set of 14 principles for the transformation of an organisation<sup>1</sup>:

1. Create constancy of purpose for improvement of product and service.
2. Adopt the new philosophy. We are in a new economic age.
3. Cease dependence on inspection to achieve quality.... Build in quality in the first place.

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4. End the practice of awarding business on the basis of price alone. Instead, minimise total cost.

5. Improve constantly and forever (every process).

6. Institute training on the job.

7. Institute leadership. The aim of supervision should be to help people to do a better job.

8. Drive out fear.

9. Break down barriers between departments.

10. Eliminate slogans, exhortations, and targets ... for zero defects and new levels of productivity. Such exhortations only create adversarial relationships, as the bulk of the causes of low productivity belong to the system and thus lie beyond the power of the work force.

11. Eliminate work quotas, management by objective, management by numerical goals. Substitute leadership.

12. Remove barriers that rob people ... of pride of workmanship.

13. Institute a vigorous program of education and self-improvement for everyone.

14. Put everybody in the (organisation) to work to accomplish the transformation.

Total quality management (TQM) is a 'management approach to long-term success through customer satisfaction'; (American Society for Quality, Inc. (ASQ)). In a TQM effort, all members of an organisation participate in improving processes, products, services and the culture in which they work.

Implementation of TQM often entails forming cross-functional quality improvement teams, drawn from different levels to work on major problems, and intradepartmental working groups sometimes called quality circles.

The quality teams employ a problem-solving process with 4 broad steps:

1. Select a problem(s);

2. Diagnose the problem(s);

3. Suggest the solution(s), and

4. Hold the gain(s).

These generic steps are present in some form in all the various TQM models. For example, Coate espouses a 10-step problem-solving process that encompasses the 4 generic steps and 'begins with the customer, focuses on the root causes/barriers to improvement, and ensures that decisions and actions are based on real data'<sup>2</sup>:

1. Identify and select the most important opportunities for improvement. Start with critical processes, especially those that support divisional goals, objectives, and breakthrough items. Select team members and empower them to make improvements.

2. Determine the key customers of the highlighted processes or services. Survey the customers, using a standard format, and analyse survey data using check sheets and the Pareto diagrams.
3. Select the most important issue and write a clear issue statement.
4. Identify and flowchart the key process or processes. This enables the team to more clearly recognise opportunities for improvement.
5. Agree on which aspects of your performance you want to measure and, with your customers, set goals for continuous improvement in meeting or exceeding their expectations. To do this the teams must realistically evaluate current performance and set obtainable goals for improvement.
6. Begin to explore probable causes of the problems and barriers to improvement.
7. Gather data on the probable causes. The information collected gives the team a benchmark against which to measure its future progress.
8. Evaluate the data and show in 'pictures' – charts and graphs.
9. Brainstorm and develop permanent solutions. Implement solutions; monitor their performance; adopt them if they work.
10. If the problem is solved, standardise the fixes as normal operating procedures.

The basic principles of TQM as applied to higher education are as follows<sup>3</sup>.

*Delight the customer.* Delight means being best at what matters most to customers, and this changes over time. The aim is to prevent poor-quality services from being produced or delivered in the first place by focusing on processes and emphasising prevention rather than cure. Quality assurance involves ensuring fitness for purpose.

*People-based management.* Knowing what to do, how to do it, and getting feedback on performance is one way of encouraging people to take responsibility for the quality of their work.

*Continuous improvement.* Continuous improvement or incremental change, not major breakthroughs, is the aim of all who wish to move towards total quality. Quality enhancement is more transformative and it requires a deliberate change process – including teaching and learning – that is directly concerned with adding value, improving quality and implementing transformational change. For the individual lecturer, enhancement is about improving their students work based on the premise that they want their students to do well.

*Management by fact.* Knowing the current performance levels of the products or services in the customers hands and of all employees is the first stage of being able to improve. From this perspective academic quality is a 'way of describing how well the learning opportunities available to students help them to achieve their

award. It is about making sure that appropriate and effective teaching, support, assessment and learning opportunities are provided for them'<sup>4</sup>.

## RESULTS AND DISCUSSION

The application of the industrial quality model to the management of teaching and learning requires the translation of a number of key terms. The teacher plays the role of manager. But what role does the student play? Should teachers think of students as customers of the teaching and learning process whose needs should be satisfied, or should the teacher think of students as employees who should be empowered through teamwork?

There are undoubtedly different groups of students who may have both different objectives in studying and different perspectives of their role as customers, factors possibly under-recognised by academic and administrative staff. For example, there will be differences between students relatively new to university study who are seeking a qualification before entering the world of work, compared to a mature student with substantial work experience who is undertaking study as part of continual professional development. We focus primarily on the large body of students who are in the first mentioned group, but note that there are differences between segments of this group, including substantial differences in objectives and in quality perceptions between students.

There is considerable debate in literature regarding perceived positive and negative aspects of the 'student as customer' concept, drawing upon both general argumentation and empirical studies. The principal arguments are shown in Table 1.

However, the transaction by which students pay fees does not equate to a simple exchange of money in return for a product or service. Universities not only provide a range of services, but also regulate them and set standards; this includes not awarding qualifications to students who do fail to meet these standards<sup>5</sup>. It seems to be necessary to ensure that students understand the implicit contract and the role of academic and administrative staff in facilitating the student learning opportunities<sup>6</sup>. Education may mean that students are taught a specific occupational skill, where the content of their education by and large is determined by what is considered the knowledge vital for the conduct of the occupation. This is the kind of education that characterises many institutions, e.g. in engineering. However, education may also have as its purpose to teach students a specific academic discipline that is considered to provide no other direct occupational knowledge than teaching and research within the discipline itself thinking about the value of this kind of education on the labour market beyond the specific research and teaching qualifications it may provide, we often think of more general abilities that may be useful in a range of different occupations.

Students generally do not pay the full cost of their studies<sup>7,8</sup>. Thus, even if it were accepted that students should be treated as customers because they contribute to the cost of their education, they are not the only customers; other groups who might be assumed to have entitlements include future employers, the government, families (who may assist with educational costs), and society in general, through the contribution of graduates to the economy and to issues of social equity and social mobility opportunities claimed to be afforded to graduates<sup>3</sup>.

**Table 1.** Key arguments for and against the ‘student as customer’ concept, synthesised by Lynne and Ross<sup>3</sup>

Students pay an increasing proportion of their education costs; they therefore should be treated in the same way as any other purchaser of goods or services	Bejou <sup>9</sup> ; Bennett <sup>10</sup> ; Halbesleben et al. <sup>11</sup> ; Kanji and Tambi <sup>12</sup>
Students do not know what combination of skills and knowledge will best equip them for the world of work; they may not appreciate the importance of a subject until they are in employment	Clayson and Haley <sup>13</sup> ; Adkins and Radtke <sup>14</sup> ; Driscoll and Wicks <sup>15</sup>
Universities become focused on vocational training to the detriment of generic, transferable skills such as critical thinking analysis. This is coupled with reduced academic standards and rigour, together with grade inflation	Clayson and Haley <sup>13</sup> ; Ballard <sup>16</sup> ; Carlson and Fleisher <sup>17</sup> ; Rolfe <sup>18</sup> ; Scott, 1999
Students seek the easiest programmes and courses with soft assessments; conversely they may punish academically demanding staff through critical feedback. This may have a detrimental impact on future staff promotional prospects	Clayson and Haley <sup>13</sup> ; Yunker and Yunker <sup>19</sup> ; Chonko et al. <sup>20</sup>
Students transfer responsibility on to education providers rather than taking responsibility for their own learning. This results in a reluctance to conduct independent study and greater demands for all material to be provided for students to learn as if education can be simply passively consumed	Clayson and Haley <sup>13</sup> ; Rolfe <sup>18</sup> ; Tam <sup>21</sup> ; Sharrock <sup>22</sup> ; Laskey <sup>23</sup>

Higher education is very largely a private good – the benefits of university education are appropriated almost entirely by the student through enhanced life-time earnings. Accordingly, students increasingly are paying the costs of their university education. This makes the student the customer in the higher education process, and this turns education into an industry like any other, and the primary purpose of an industry is to satisfy its customers. Students are seeking the easiest way to obtain a qualification, and so expect pre-packaged learning delivered by happy, smiling service delivery staff. If the service delivery staffs fail to smile sufficiently, or insist that learning demands time, concentration and effort, or give objective grades based on assessed performance, the student-customer will exercise their legitimate right as a consumer and will complain. ‘Accordingly, educators have

come under pressure to reduce academic standards, to provide teaching materials in a style which not always reach an appropriate academic standard, and to give inflated grades for mediocre work. Students have happily relinquished responsibility for their learning to their educators, and believe that failure to achieve desired assessment outcomes should be blamed on the educator rather than the student' (based on Clayson and Haley<sup>13</sup>), but little empirical evidence has been presented to support the claims made.

Marsh and Roche<sup>24</sup> suggested that it is merely a popular myth and there is a positive association between student workload and student evaluation of teaching: students do not reward with high evaluation results those teachers who give them relatively light workloads. There is indeed a correlation between grades and student evaluations of teaching, this correlation can be explained by the fact that students who achieve higher grades believe that they have learned more, and accordingly are inclined to the view that they were better taught.

## CONCLUSIONS

There is no simple model for educating land surveyors for the next century. Nobody can be certain that any educational model chosen is correct and appropriate. The student-as-customer concept would undermine the student sense of responsibility for their own learning. It is clear that opposite to the basic education which in most cases is publicly funded, higher education in a higher percentage is a private good. It is shown the good public aspects of the higher education, but associated with the contribution of graduates to the wider community – which depend on learning and information for competitive advantage – for a highly educated workforce to sustain prosperity. We also has to note that while students are paying an increasing proportion of the costs of higher education up, in a lot of countries, higher education is still very largely funded by public funds. Students are neither the sole consumers in the higher education system, nor are they the sole customers, therefore higher education institutions must not seek to serve only the interests of students to the exclusion of other stakeholder groups.

There is little evidence that students are sufficiently short-sighted as to prefer university education that is built around easily-worn qualifications and a cheerful approach to customer service. The evidence suggests that students have a reasonably discerning approach to higher education, believe that hard work is necessary to achieve worthwhile results, and do not penalise (through poor student evaluation reports) educators who insist on hard work and objective assessment of performance. Additionally, the rights and responsibilities both of the student and the institution in all parts of the education process need to be clearly stated.

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*Received 4 July 2009*  
*Revised 28 September 2009*