Quality Assurance of Distance Education Programs

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ABSTRACT: With the expansion of educational opportunities through distance education technology, quality assurance becomes a major issue. Distance education is not a window for profit-making; it is a window of opportunity provided for specific purposes and populations. Although based on many similar standards as "traditional" higher education, special consideration is required to reflect the uniqueness of distance education programs.

This paper will focus on quality standards for distance education programs at the institutional, program, and course level. The paper will integrate available quality standards with principles from six sigma. Therefore, it will focus not only on the input and output of distance education programs but also the process of offering, delivering and evaluating these programs.

INTRODUCTION

Formatted differently than the traditional higher education, distance education degrees frequently pose concerns from students, governments and businesses about the integrity and credibility of the degree and quality of graduates. There are multiple quality assurance standards used in the evaluation of distance education programs and institutions reflecting the overall quality assurance standards of higher education in different countries. In many countries these quality assurance standards document "learning outcomes, the student experience, institutional planning processes, and proof of institutional financial stability" (Mariasingam & Hanna, 2006). For example, in the United Kingdom, the Quality Assurance Agency oversees quality in all UK universities, including the UK Open Univeristy (UKOU). Therefore, recently the UKOU had to revise its quality assurance standards at thee different stages of course planning, design, delivery and assessment based on the recommendations from the British National Committee of Inquiry of Higher Education. (Dillon, et. Al., 2007).

QUALITY IN DISTANCE EDUCATION

In distance education, depending on the country, distance education institutions and programs are accredited differently; therefore, quality is defined and measured differently. However, as Parker (2003) stresses quality needs to be "constructed" not "pre-supposed" by stakeholders through consensus. This is to reflect the different needs and circumstances of the context, in which distance education programs are developed. This consensus needs to carry through different levels of stakeholders: at the institutional, program and course levels.

At the institutional and program level, usually national quality assurance and accreditation bodies extend their guidelines and standards to distance education. In the United States six regional accreditation associations offer accreditation in higher education. These associations provide guidelines for distance education institutions. These guidelines provide general principles covering five major components: institutional context and commitment, curriculum and instruction, faculty support, student support, and evaluation and assessment (Lezberg, 2003). In the United Kingdom, UK Quality Assurance Agency provides quality standards at the system design, program design, program delivery, student support, student communication and representation, and student assessment (QAA, n.d). The Canadian Recommended e-Learning Guidelines provide clear statements for institutions regarding their outcomes, processes and input). They are characterized as consumer-oriented, consensus-based, comprehensive, futuristic, distinctly-Canadian, adaptable and flexible. Lorenzo and Moore (2002) suggest another recommendation for quality of online education. It includes five pillars of quality: learning effectiveness, student satisfaction, faculty satisfaction, cost effectiveness and access.

Looking at quality at the course level, the focus shifts to content quality and design. A new initiative called "Quality Matters", QM, suggest reviewing quality at the course level using about forty best practices and standards. QM covers critical areas of course components: learning objectives, assessment and measurement, resources and materials, learner engagement, and course technology (QM, 2008).

QUALITY IN DISTANCE EDUCATION USING SIX SIGMA

The value of using six sigma in distance education is that we are not only focusing on quality product assurance but also quality enhancement by refocusing, fixing, and improving the process. Therefore, it clearly emphasizes the links between planning, delivering/teaching and assessment.

The essence of six sigma is to understand critical aspects to quality that lead to customer satisfaction. Accordingly, since learners are the core customers in distance education, their satisfaction is the key to achieve quality in

distance education programs. It is then important to understand learner needs and requirements.

Six sigma is a philosophy of management that recognizes the relationship between product defects, costs and customer satisfaction (Watson, 2003). It provides powerful quality measures for management to aspire to achieve near-perfect performance. It refers to having only 3.4 defects in a million activities. It is powerful process improvement method because it is:

- Comprehensive
- Flexible
- Sustaining
- Understanding of customer needs
- Measurable, and
- Contribute to business flexibility and success (Lientz and Rea, 2002).

Six sigma was first used by Motorola company in 1980s. Other companies adopted the method and it proved to be successful. In the first five years of use Motorola claimed savings of $16 billion, Allied Signal saved $800 million and General Electric saved $12 billion(Brussee, 2005).

Distance education development and delivery can make use of six sigma innovation process or design for Six Sigma (DFSS). The main purpose of DFSS is "to design for product, processes or services to consistently meet customer [in DE it is the learner] requirement and the organization's inherent capability to produce such results that meet that requirement" (Watson, 2003, p.229). DFSS includes five steps called (DMADV). If a process for distance education programs already exists, using six sigma is powerful in accurately pinpointing the gabs or failures in the process, the root causes for such gabs or failures and identifying, testing, implementing and controlling solutions to such gabs. In addition, data for six sigma does not only come from process input but also process output and customer needs and requirements. For example, six sigma could be used to improve the performance of any DE program that is failing or performing in less than six sigma. This process is called (DMAIC) (Islam, 2000).

DMAIC PROCESS FOR SIX SIGMA

Define Phase: (process and customer)

In this phase, you try to document and analyze the process, as it currently exists. For example, in distance education, you can do this by identifying all major steps and then all sub-steps for each stage in distance education programs/courses development as well as process and sub-processes for the delivery of programs/courses. You should identify all the people involved in your distance education development program, how they are involved, when they are involved and for how long they are involved. Once this data is available, you can perform a qualitative analysis to classify each task as customer value added (valuable to customer), operational value added (required tasks), not customer value added or not operational value added. From those you then identify the critical process issues, which you translate into critical process issues (CPI). You also identify critical customer issues which then you translate into critical customer requirements (CCR). CPI

and CCR constitute a list of the measurable criteria to be met for distance education development and delivery to be considered at six sigma quality. This list is called the critical to quality (CTQ) (Islam, 2000).

Measure Phase

Data is collected at this phase to measure. Critical customer process or product characteristics are identified. A map of activities is developed to clarify the component parts and determine reasons or areas the process might fail. Then, an evaluation of process factors is carried out and results are judged against quality standards. It is important to develop a clear data collection plan (Watson, 2003; Islam, 2000).

Analyze Phase

To analyze the data, process capability analysis is used to measure the capability of the current process to meet the previously identified CTQs. If the process was not capable to meet CTQs, a root cause analysis is performed. All possible causes for such incapability are listed, then prioritized according to their impact. To validate and verify root causes, a survey is used (Watson, 2003; Islam, 2000).

Improve Phase

Once the root causes for the process deficiency are identified, a solution is developed. However, before implementing the solution in full scale, a small-scale implementation is recommended to test and validate the impact of solution on the process. Then, you can calculate the sigma to see if the new updated process met the critical to quality (CTQ). If the solution improved the sigma, then move into full-scale implementation (Islam, 2000).

Control Phase

Once the improvement is validated, continue to do routinely measurement of six sigma "to ensure that critical customer requirements continue to be met" (Islam, 2000, p.16)

DMADV Process for Six Sigma

The first three phases are the same (define, measure, analyze). Only the last are different since in this case you do not have a process to improve on. So, you Develop the process and then Verify that the process works.

CONCLUSION

Shifting the focus from product to process reflects a shift from quality assurance to quality enhancement, for which six sigma can be used. This paper very briefly gave an overview of quality standards and levels in distance education. It also explained how to use the DMAIC process for six sigma in distance education.

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