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"MONITORING QUALITY ON E-LEARNING"
NEW TECHNOLOGIES IN TRAINING AND EDUCATION

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ABSTRACT

The paper will describe an integrated strategy to monitoring the quality on e-learning systems.
Many different approaches have evolved for using the Internet for distance education. Evaluation and quality assurance are essential tools to ensure training programmes remain of the highest standard and continue to meet the outcomes clients have set for them. In monitoring the effectiveness of our programmes, ISQ uses a variety of techniques based on our Quality Management System (QMS) certified by ISO 9001:2000 standard, which consult everyone involved in the programme, whether they are managing (ISQ staff), delivering (instructor) or participating (trainee).

ISQ have found that course preview, monitoring, and assessment are essential from five perspectives: **Target Identification/Needs Assessment, Instructional design, Content Development**, **Course delivery** and **Course Impact.**

Using new technologies in training has given us different approaches on our management processes. Investment in up-front quality monitoring is demonstrated as having exceptionally improvements in the e-learning management system. Recognizing quality as a process, rather than an output is a key theme.

1. INTRODUCTION

Since the beginning of recorded time, physical strength (brawn) was vital in the "workplace." Most work required strength. As recently as this century, the workplace was dominated by men working on farms and in industry. To shine in farming and manufacturing jobs, workers needed brute strength and physical endurance.

Times have changed dramatically in a few short years. Our economy is based more on services than farming or manufacturing. Therefore, jobs today require more intellectual strength (brains) than physical strength (brawn). With this migration away from farming and manufacturing and toward services and information based production, workers need intellectual skills.

Our globalized economy has rid many nations and companies of competitive advantages. Most companies have access to the same tools, raw materials and markets as their competitors. One of the few remaining advantages that businesses retain is their ability to squeeze more out of the inputs by applying another input-information or knowledge-in a more cost-effective, productive fashion.

Unique applications of intellectual capital can improve the output from the commodities (labor, capital, raw materials) that are accessible to competitors. Therefore:

- Knowledge and information are the source for the new competitive advantages.
- There is a need for perpetual education in order to sustain and improve the intellectual capital.
- The education system must be more cost-efficient and effective.

The ability to address the surging demand will be aided by increasing connectivity and the World Wide Web. That is what this report is all about: understanding how increasing connectivity and the Web will enable us to address our surging need to learn. It is the world of e-learning.

e-Learning is an outgrowth of a number of far-reaching societal and technological changes that have been evolving over the last several years. Knowledge is now the raw material that fuels our economy, as the demand for skilled workers reaches all-time highs. Coupled with the increasing demand for skilled workers is the well-documented fact that prosperity and education (including training) are connected.
Working adults are going to training courses in record numbers. Many workers have
come to realize that in order to continue to have something to offer the workplace, learning
must be a lifelong activity, not just something we did back in school.

The changes we are seeing in society are converging at lightning speed with advancements in technology. One of the most powerful technological advancements that has hit the scene in recent history is the Internet, which in a few short years has become the platform for information, communication, and commerce

The term e-learning is commonly used to describe courses in which nearly all the interaction between the teacher and student takes place electronically. Electronic communication may take the form of audio, video, e-mail, chat, teleconferencing, and, increasingly, the Internet.

Distance education courses range from shortterm training workshops to undergraduate and graduate programs for college credit

2. E-LEARNING ON ISQ

In 1996 we posed the innocent question of what would be required to teach Industrial Management courses to a group of trainees that were dispersed all along the country. Since this student's don't have time to face to face training on a specific point of the country, we formulated a model of instruction using a relatively simple internet based technology. This was our beginning in the e-learning.

With this pilot project and the development of several other e-learning projects between 1996 and 2000, ISQ – Instituto de Soldadura e Qualidade learn that to take advantage of this new paradigm we most focus on a process that evaluate quality in two aspects: e-Learning should 'Function technically without problems across all users' and have 'clearly explicit pedagogical design principles appropriate to learner type, needs and context'.

The first aspect includes an understanding of the technical infrastructure issues, such as client network capabilities, investments in computers and corporate decisions to standardize personal computers software such as browsers.

The second aspect includes the principles of pedagogical design that assure the efficacy of the distance learning contents and courses.

With this pilot projects we realize that in the e-learning systems, like in every other management systems, quality shouldn't be seen in an isolate way, instead it should be looked upon as something intrinsic to the management process and which the internal or external client is willing to pay for.

3. QUALITY ON E-LEARNING

Since the life cycle of skills is getting shorter, professional training holds a very important role in the development of Society, namely in its professional and social areas.

In the present moment, the great challenge in the e-learning is undoubtedly the finding of solutions which, on the one hand, stir up the interactivity of the user and the training system and the process of training itself and, on the other, help him overcome the fact they are facing alone the learning process.

In these systems, it becomes vital to monitorize the entire management process because, more than enhancing a continuous improvement, the monitoring tools provide the basic information for something that is being largely discussed – the efficacy of the e-learning. Many companies do not invest in the e-learning since the lack of tools for measuring the results makes the perception of the advantages versus the costs difficult.

It is usual to come upon courses which are considered excellent by their conceptores but it's very hard for them to measure the efficacy of those courses near the user. Consequently, they are faced with the risks of the user never attending the course, on the first place, or not obtaining any qualification. Furthermore, they run the risk of no one never really knowing the causes of such facts.

On other words, we can say that, although the course was developed having in attention the requisites, it is possible that it does not achieve its goals. This situation leads the manager to believe

that he has invested in the e-learning and has not obtained the profits he expected and that he has only realized that too late, after the system was ready to operate.

Monitoring the quality is essential in any training management system which aims to ensure both the requisite efficacy, from the first phase of the diagnostic of the need, and the necessity of measuring such efficacy. We can consider five phases in which it is essential for the system to have monitoring tools, such as:

3.1 Target Identification/Needs Assessment

A needs assessment is a process whereby data is gathered to establish whether training is required and what type of training.

It determinate whether training is needed, the definition of training goals, defining the final user's profile; his daily availability for attending the course; the dysfunctions in the work place and his consequent needs of training so we can define the specifications in the instructional design.

To define the training goals we need to write a statement that describes what learners will be able to do after the training program. The goal statement should describe how the gap in skill will be remedied. Defining the final user profile is fundamental for the program success. Is important to gather information regarding how much learners already know about the topic being presented. Be careful, because material that is too basic will bore the learners, in other way, material that is too advanced will discourage them.

To determinate this aspects we need to discover if poor employee performance is caused by a gap in skills. It is necessary to use data collection methods such as Interviews, Questionnaires and On Job observation.

If these aspects are well defined the percentage of abandonment and failure in the course will decrease. But more important is that these aspects give us the requisites to evaluate the program.

3.2 Instructional Design

The design of a e-learning program is dependent on the purpose of the training. Like conventional classroom training, a range of exercises, assignments and roles are used to achieve specific goals.

Designing e-learning programs involves the definition of rules according to the standard requisites in order to develop the scripts coherently and the methodology to be adopted in relation to the aimed public.

Instructional designers must consider many factors and they are creating the lessons. The easiest factors to evaluate and plan are practical considerations such as need to repurpose existing course materials, the limitation imposed by financial considerations and the boundaries created by the technical infrastructure. The more challenging factors to consider are the learning outcomes, roles of the trainers and trainees and types of interactions available.

e-learning is well suited for teaching lower-level cognitive skills to individual learners. The topics best suited for this environment are structured and can be taught using drill and practice, simulations, reading, questioning and answering, discussion forums and real time collaboration.

It is necessary a predefined template with the specifications of what is supposed to appear in the contents in order to evaluate, during, at the end and after the course, the expected results as far as the specifications are concerned. Well suited course contents will not bore the learners, so the criteria “percentage of drop outs” will tendency to decrease.

3.3 Development of the Contents

These should be set accordingly to the standards of the e-learning so they can function in every certified platform. It’s vital to check up the pedagogical, graphical, orthographical and technical levels and also to find out if the product in the computer is in accordance with the script specifications which where defined in the instructional design. In the case of self-study, the content holds a very important part by stimulating and capturing the information as far as the trainee is concerned.

3.4 Course delivery

It involves the monitoring of the trainees participation in the proposed activities by the use of platform tracking tools, by the consolidation of hours and feedback from the trainer, in the case of tutoring training. Whenever a deviation occurs in the process of learning, regarding the trainees, the tools should indicate that the pedagogical team must intervene in the course. The support processes to training, as logistics, should also be well defined through internal procedures. Such close accompaniment ensures not only the presence of trainees in the courses but also a small number of abandonment and a higher level of success.

3.5 Impact

Right after the course has finished, its impact should be measured through the feedback concerning the trainees’ level of satisfaction, the deflection from the average grade of the course in relation to the expected grade defined in the specifications and also through the pedagogical reports of the team and of the trainer. After the course has ended we should apply a methodology of accompaniment of the results (already defined in the first phase) in order to measure the accomplishment of the aimed goals. The level concerning the filling up of the diagnosed skill gaps in the first phase and the consequent profit for the company could be looked upon as two indicators of the efficacy of the e-learning.

The obtained results through the analysis of those tools show the level of the system and, whenever it’s necessary, we should revise the specifications of the very conception.

4. SUMMARY

It is important to evaluate e-learning programs during the development process. E-learning demands that many elements be brought together to produce an effective learning experience. What appeared to be clear and well-organized in the instructional design documents may not be so clear or well sequenced in the final product. It is important to check the effectiveness of the complete course since the beginning stages of development.

The use of new technologies in the training endowed the ISQ with a new vision towards the process management of the entire system. The bet on quality monitoring has proved to be essential for the

continuous improvement and efficacy of the management system of the e-learning. Furthermore and consequently it has ensured a high level of service to the client.

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