

Quality Perspectives in e-Learning for Indian Domain



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Abstract

e-Learning is a modern method with vivid approaches to teach, and with increased reach and individualized learning. While, the success of conventional teaching depends on the faculty handling the sessions, equally the success of e-Learning depends on the total model and make up of the e-learning methodologies for a given topic/learner. Thus, this paper will address parameters of Quality in e-learning while identifying the need for standardized National approaches for streamlining the entire learning model in Indian Domain.

1. Introduction

During the study on " quality and e-Learning in Europe" conducted by the European e-learning team in April 2002; 61% participants from around 350 stated that overall quality of e-learning is either average or poor[2]. Well such studies may not have been done in India, nor e-Learning has taken any significant role in various learning models. This is the time to understand, appreciate and incorporate the necessary quality tools in e-Learning, so that the implementation goes with 100% quality perspective and we shall see better success out of this state-of-the art method while this model becomes popularized in the Indian Domain.

Coming to Indian scenario, we rarely conduct such integrated National events on emerging trends and technologies. Even if an event happens, there is no proper follow-up action charted. Thus most of the panel discussions end up on the last day of the events, as another technical session.

Why India shall pay attention to the e-Learning? Commercially e-Learning is going to be good success , if it can prove the results what the individual learner is looking for (unfortunately its getting degrees than

learning as on today). However, societies like ICAI, ICS, ICWA where in regular class works are conducted and mostly adults are the learners, distance education models where in contact classes need to be conducted (except for hands-on skills building models), e-Learning does give a great support. In addition to this, all the International examinations like: CQA, PMI, MCSE etc also will be a good platform for e-Learning courses. There shall be clearer distinction of use of e-Learning in Indian class rooms. My perception says that, e-Learning directly shall not lead to any degree/diploma, but will supplement the other learning models for the learner to perform better at the examinations. This will assure that, e-Learning will not be another model like: Distance education, correspondence, etc. which are presently being used mostly to earn degrees but emphasizes 'learning'. There do not exist many tested/proved and implement able quality models for different learning approaches as on today; including the formal education.

Unfortunately Indian scenario suffers from the degree linked learning than *learning* per se. We need to very soon formulate courses, which shall be named as:

Post graduate **learning course in "A GIVEN TOPIC"** (instead of Post graduate diploma....)

Thus, its time to think big, identify quality approaches and build them in e-Learning before it really gets its roots strong in the educational domain of India.

1.1 Where is the Added-Value of an e-Learning environment ?

- clear, comprehensive illustration of learning content
- anonymity: incentive for exploration
- individualization of learning:
- independent of time and space
- selection of learning content
- duration and speed of learning
- asking for tutorial support
- Able to keep content updated faster than in formal models

- Inclusion and integration various learning media (animation, multimedia, video clippings)
- learn at my place, my time and my convenience
- more time for challenging learning goals in face-to-face-sessions
- new options for interaction among learners
- Multimedia approaches
- Animation and visuals for better reinforcement

1.2 Let us look at various definitions for e-Learning across the world:

1. Use of various digital models for learning environment
2. Effective e-Learning process created by combining digitally delivered content with (learning) support and services(UK)
3. The delivery of a learning , training or education program by electronic means (Australia)
4. a method that makes educational content available on electronic media, internet, intranet extranet, interactive TV (Canada)
5. any training instrument which use a local/extended network or the internet to diffuse ,react, or communicate in a distributed environment and gives access to information sources through download or through consultation on the internet (French national network EDUCNET)
6. The use of new multimedia technology and the internet
7. **e-learning**, or electronic learning, is the delivery of courses through electronic means. That usually means over the Web but it could also include anything from CD-ROM to satellite transmission. The definition of e-learning is broader than and includes the definitions of online learning, Web-based training, and computer-based training.[3] In addition to this modern technology methods like Animation, Multimedia play very significant role in e-Learning though not directly referred, as they add value to the learning and retention methods.

1.3 The Success of e-Learning Lies in distinguishing various models for

1. Adults
2. Children
3. Specialized abilities
4. Slow learners etc.
5. Various topics covering various faculties like Arts, Science, Finance, Management, Literature, History, etc.,

1.4 It shall also address training on

1. Theoretical developments
2. Skill based
3. Vocational
4. Supplementing the existing e-Learning modules with advances tools like multimedia etc.
5. Learn for fun (more at corporate sectors)
6. Advanced learning etc.
7. Learning for competitive examinations
8. Learning as need (like finance for non-finance executives etc)
9. Supplementing Learning as advancement in career (like PG courses, Diplomas), correspondence courses, examinations like Eamcet, EDCET, MCSE, CQA, ICAI CISA, etc.

2. Quality Characteristics in e-Learning environments

We will discuss quality aspects keeping in view of the above cited needs.

Professor Hermann Maurer [1] states that: “*it is not the flashiness and extensive use of media, but the availability of a sophisticated e-Learning environment for administrators, teachers, tutors and students will give success to e-Learning.most important e-Learning must be seen as knowledge transfer and thus as part of knowledge management[KM] and hence techniques from KM to be used : like active document, similarity recognition, knowledge maps, etc.,*”

From abroad:

2.1 A panel of e-Learning experts in NetTel@Africa paid attention on the four aspects of courses by e-Learning

1. Learner Support and Resources
2. Online Organization and Design
3. Instructional Design and Delivery
4. Assessments and Evaluation of Student Learning

2.2 eEurope 2005: benchmarking report says

1. Number of pupils per computer with internet connection(broadband/Nonbroadband)
2. Percentage of individuals having used internet in relation to training and education purposes;
3. Percentage of enterprises using e-Learning applications for training and education of employees

2.3 Another set of quality rules

1. functions technically without problem across all users
2. has clearly explicit pedagogical design principles appropriate to learner type, needs and content
3. Subject content is state of the art and maintained up to date
4. has a high level of interactivity

2.4 Let us look at the total stake holders in e-Learning

- ✓ Students
- ✓ Trainers
- ✓ Conceptors of e-Learning courses
- ✓ Training bodies
- ✓ Strategy / quality/ planning teams in e-Learning
- ✓ Learning management systems experts
- ✓ e-Learning platform editors
- ✓ Infrastructure providers
- ✓ Online – help teachers
- ✓ Content and methodology developers
- ✓ Innovators in making learning more fun and easy

It is evident that, if we need to bring in quality in all e-Learning modules, the support, cooperation and suggestion of all these need to be integrated and implemented in all commercial modules for overall success in e-Learning.

The customers for this learning are ultimately the "STUDENTS". Thus a greater emphasis need to be given to collect their views and ideas in formulating the quality rules for Indian e-Learning environment.

Especially special points need to be addressed in our course material content shall include:

1. Different languages
2. Different levels of economic strata
3. Varied infrastructure environments
4. Varied Need for learning
5. Various cultural b/g
6. Various levels of learner profiles
7. Varying needs for learning
8. More interest in job enrichment than e-Learning per se
9. Less infra structurally supported learning environments
10. Rural/Urban/more sophisticated learning groups
11. Courses of same nature but to varied profile of learners (say already employed, looking for employment, only for learning sake, looking for quick answers, frequently asked questions etc)
12. Train the trainer type for all the modern concepts/technologies to make faculty geared up (to modify syllabus to enrich formal student fraternity)

Keeping these points in our agenda, we can discuss about the varied quality parameters for Indian domain.

3.0 How quality needs to be built in Indian Scenario

These can be stated as the minimum bullet points to begin with:

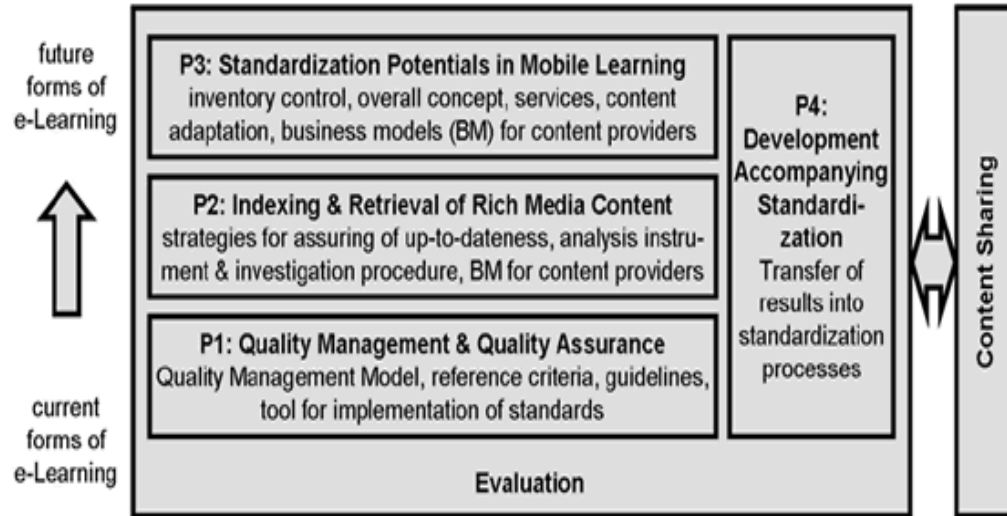
- National level bodies/forums/integrated teams to build standards and contributing to improving standards and encouraging excellence

- have a clear uniform structure in varied course models
- consistent in presentation and standard
- be comparable in rigor, depth and breadth to off-line delivery methods
- accommodate different learning styles
- challenge the learner and allow for remediation
- promote active learning and interaction with faculty/ other learners/ experts in field
- exploits the interactivity of the technology
- conform to RAID principles (re-usable, accessible, interactive and discoverable) and conforms to international technical standards for indexing
- flexible, adaptable and able to be modified
- free from copyright restrictions
- Channels for Feedback on Resources and Support
- Aesthetic Design
- Consistent and Functional design
- Accessibility
- Effective Exemplary Opportunities for Interaction
- Clearly defined Learning Outcomes
- Variety of Learning Tasks
- Effective Exemplary Opportunities for Self-Assessment
- Alignment between Objectives, Activities and Assessments
- Comprehensive Assessment Strategy
- Opportunities for Students to Receive Feedback
- Continuous modification of the content
- Pedagogy
- Standards
- Self learning fulfilled
- Vocational type needs
- Specialized learners (physically challenged)
- method of delivery
- online assignments/responses
- effective media mixed presentation
- on-line quiz, fill ups, multiple choices
- need for Indian fonts
- managing culture balances
- Accessibility
- Interoperability
- Reusability
- Durability
- knowledge of the audience and meeting their individual and collective needs

- consideration of their learning styles, gender differences and past experiences
 - providing 'point of need' support
 - the tracking of engagement and disengagement
 - their access to online resources
 - strategies for intervention
 - assistance and encouragement
 - deflection and redirection
 - raising the learning through Bloom's taxonomy (see annexure) levels
 - Pastoral and administrative support available and procedures on how to contact on line staff?
 - Procedures for staff development and training for online learning?
 - Making available resources in terms of:
 - Online journals
 - Paper-based resources needed to be purchased
 - Access to libraries
 - Access to online databases
 - Intelligent computer aided instruction models incorporated
 - Selection and presentation of material based on learner pace, responses and adaptability.
7. An interdisciplinary quality research for education and e-learning must be established
 8. Research and practice have to make sure that results are transferred and put into practice
 9. Quality development has to involve all stakeholders in negotiation processes
 10. For services in the area of the quality suitable business models must be developed
 11. Bench marking models need to be established and Indian e-Learning material need to be benchmarked across international models
 12. Development of international accredited quality standards for e-learning
 13. Wide diffusion of standards through application guidelines and easy-to-use-tools
 14. Easy use and automation of standards for complex multimedia applications
 15. Increase of diffusion rate of e-learning in SMEs
 16. Enhancements of future topics of e-learning: Flexibility and mobility of learning scenarios
 17. Bundling of interest of companies and organizations and representation in international standardization committees and association
 18. National level standards for characteristics and content presentations
 19. Guidelines for learning environments and systems in order to provide an effective and reasonable learning environment
 20. Methods like metadata for more intelligent information discovery systems
 21. Norms for evaluation and comparison of e-Learning programmes and methods for their recognition and transfer from one institution to another
 22. Development of learning technologies for educational modeling, competency based approaches within electronic learning environment and the uniformity through tools etc

4.0 Action steps and activities for future

1. The Learner's involvement as a co-producer of quality is of high importance
2. It is important to develop a quality culture in the field e-learning and education in general
3. Quality must play a central role in education policies
4. Quality should not be a integrated activity of Large organizations only
5. Support structures must be furnished, which support organizations during their development of quality competently and service-oriented
6. Open quality standards must be further developed and used on a broader base



Q.E.D. - The Quality Initiative of E-Learning in Germany (www.eqo.info) - CAN BE a beginning idea FOR india

Reference

[1]. www.iicm.edu/iicm_papers/Necessraty_aspects_of_quality.doc
 [2]. www.e-Learning.co.uk
 [3]. E-Learnin: Rhetoric vs Reality, by Gautam Ghosh, Sr. *Executive –e-Learning and KM Satyam Learning Centre, Satyam Computer Services Ltd*
 [4]. Handbook of best practices for the evolution of e-learning effectiveness ; Qual E-learning; 2004
 [5]. www.officeport.com/edu/blooms.htm



ANNEXURE

Bloom's Taxonomy * [5]

Benjamin Bloom created this taxonomy for categorizing level of abstraction of questions that commonly occur in educational settings. The taxonomy provides a useful structure in which to categorize test questions, since professors will characteristically ask questions within particular levels, and if you can determine the levels of questions that will appear on your exams, you will be able to study using appropriate strategies.

- Knowledge:** arrange, define, duplicate, label, list, memorize, name, order, recognize, relate, recall, repeat, and reproduce state.
- Comprehension:** classify, describe, discuss, explain, express, identify, indicate, locate, recognize, report, restate, review, select, translate,
- Application:** apply, choose, demonstrate, dramatize, employ, illustrate, interpret, operate, practice, schedule, sketch, solve, use, and write.

4. **Analysis:** analyze, appraise, calculate, categorize, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, and test.
5. **Synthesis:** arrange, assemble, collect, compose, construct, create, design, develop, formulate, manage, organize, plan, prepare, propose, set up, write.
6. **Evaluation:** appraise, argue, assess, attach, choose compare, defend estimate, judge, predict, rate, core, select, support, value, evaluate.

Competence	Skills Demonstrated
Knowledge	<ul style="list-style-type: none"> • observation and recall of information • knowledge of dates, events, places • knowledge of major ideas • mastery of subject matter • <i>Question Cues:</i> list, define, tell, describe, identify, show, label, collect, examine, tabulate, quote, name, who, when, where, etc.
Comprehension	<ul style="list-style-type: none"> • understanding information • grasp meaning • translate knowledge into new context • interpret facts, compare, contrast • order, group, infer causes • predict consequences • <i>Question Cues:</i> summarize, describe, interpret, contrast, predict, associate, distinguish, estimate, differentiate, discuss, extend
Application	<ul style="list-style-type: none"> • use information • use methods, concepts, theories in new situations • solve problems using required skills or knowledge • <i>Questions Cues</i> apply, demonstrate, calculate, complete, illustrate, show, solve, examine, modify, relate, change, classify, experiment, discover
Analysis	<ul style="list-style-type: none"> • seeing patterns • organization of parts • recognition of hidden meanings • identification of components • <i>Question Cues:</i> analyze, separate, order, explain, connect, classify, arrange, divide, compare, select, explain, infer

Synthesis	<ul style="list-style-type: none">• use old ideas to create new ones• generalize from given facts• relate knowledge from several areas• predict, draw conclusions• <i>Question Cues:</i> combine, integrate, modify, rearrange, substitute, plan, create, design, invent, what if?, compose, formulate, prepare, generalize, rewrite
Evaluation	<ul style="list-style-type: none">• compare and discriminate between ideas• assess value of theories, presentations• make choices based on reasoned argument• verify value of evidence• recognize subjectivity• <i>Question Cues</i> assess, decide, rank, grade, test, measure, recommend, convince, select, judge, explain, discriminate, support, conclude, compare, summarize