

QUALITY ASSURANCE

**FIRST REPORT FROM TWO CORE GROUPS
FROM INDIA AND MALAYSIA**

APRIL 2008

QUALITY ASSURANCE OF MULTIMEDIA MATERIALS

In view of the importance of multi-media learning materials CEMCA-COL initiated this project to define a framework and criteria for Quality Assessment. There are two working groups- one in India and the second in Malaysia.

After initial consultations it was decided to adapt the ADDIE model(explained later) for defining the assessment framework. Both groups agreed to the model.

The India group proposed to work on Process Assessment as it considered the Process of content generation key to Quality. The Malaysia group however considered Product Assessment a more concrete and feasible approach. Notes were exchanged between the groups.

It can be seen that because the same model is adopted by both the groups, the criteria for Assessment at Design and Development phase are applicable both to Product as well as Process Assessment. Hence the Product and Process approach can be combined into an integrated approach.

It is suggested that the two groups should complete their individual reports in the next four to six weeks. Representatives of the two groups could sit together for about a week to develop an Integrated Assessment Framework and criteria. This Integrated document could be the first DRAFT for circulation to Industry and Academia in the region.

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QUALITY ASSESSMENT OF MULTIMEDIA MATERIALS

First report from the Indian core group consisting of Mr. B.S.Bhatia, Ms. Sucheta Phadke, Dr. Kiron Bansal, Ms. Savithri Singh and Dr. Vasudha Kamat, Ms. Rukmini Vemraju, Dr. R. Sreedher, Prof. V.S.Prasad, Mr. Kiran Karnik.

Introduction

The education scenario in most developing countries clearly indicates the challenges faced in the field of providing access to education to a very large young population spread over small towns and remote areas with poor infrastructure. This can be done effectively by developing Open Distance Learning Systems and providing good resources as learning materials.

Print is the mainstay of learning materials in most educational systems. However with recent developments in technology the availability of non-print materials has not only shown a dramatic increase, but the rate of growth is very high. The non-book materials earlier were limited to audiotapes and videocassettes, but with convergence of technologies, Multi-media has opened up new possibilities of Interactive media, on line learning, live interactions etc. ..It can be used effectively in the teaching learning process. It supports individual and group learning activities through techniques, which refresh and reinforce classroom teaching, enriches and extends learning opportunities for students who have mastered the core subject area by providing access to resource bases (audio, video, CD or Internet), and enhances learning experiences through simulations and by fostering collaborative learning. It makes an important contribution to the ideal of tailoring education methods more closely to individual learner needs and abilities. Multimedia and Distance Learning Systems can enhance reach like never before.

Recent developments in technology have simplified the production equipment and processes. This enables a large number of players to enter the content generation fray. Traditionally the infrastructure costs of video material production were prohibitive. This has substantially reduced. The availability of software generation packages has made the production process earlier. Thus a large number of agencies are coming into the field.

However, this has not necessarily resulted in production of better quality material. In fact there is a possibility that the bad may drive out the good. It is the consumer, who risks spending on low quality product or even worse using unauthenticated, inaccurate educational material.

The future of interactive media in education, when it is separated from the issues of technology is that of communication tool. Its dimensions and capabilities will evolve and expand as the potential to author becomes more widely accessible. The potential for students of all ages to author as part of a creative educational programme that is based on achievement of goals and competencies will assist educators to shift from teacher to

facilitator and mentor. Interactive communication tool will transform our capability to embrace an educational paradigm that deals with learning as a vital, fulfilling and continuing part of life at home and in the workplace as well as within educational institutions. As the importance of Multi-media based learning is only likely to increase, it is essential that attention is paid to its Assessment, Certification, and Standards.

A fairly strong regimen of standards exists to ensure good quality interoperable multimedia hardware systems, But while the Technology standard is fairly well defined, there is hardly any attention paid to the pedagogic standards. The emphasis is on Technological wizardry rather than quality of learning experience or outcomes. Technological parameters are vital but educational experience and outcomes have to be the focus. Unfortunately there has not been any effort at assessment or certification of these aspects of Multi-media materials. The only area in which guidelines are available for generation of Multimedia materials is regarding Fair Use Guidelines which relates to IPR of these materials.

However development of Assessment methods and standards is a long drawn process, which must be accepted by the industry and must draw legitimacy not only because of the authority implementing agency but because of its usefulness to the industry and the society as a whole. Standards are good for the economy, for the industry and for the consumer, as they tend to do some or all of the following.

- a) Standards define some of the characteristics of processes and/or products which should be followed to make them suitable for use, likely to succeed in the market, understandable to the consumer and consistent with offerings from other producers
- b) Standards code and diffuse state of the art technology and best practice
- c) Standards reduce transaction costs between different producers and between producers and customers
- d) Standards reduce risks as perceived by producers and by customers
- e) Companies that use standards perform better
- f) Standards can increase trade
- g) Standards helps to build focus, cohesion and critical mass in the formative stages of a market
- h) Standards capture trends in customer demand
- i) Open Standards are desirable to enable a competitive process of innovation-led growth
- j) There is an important “public good” aspect to standards
- k) Standards contribute to economic growth
- l) Standards help to protect a market against Gresham’s Law (that bad drives out good)

The Project Scope:

In view of the need to develop assessments methods, and standards for multimedia materials, CEMCA initiated an activity in this field in the form of consultations with a small group of expert. The first Round table of experts held at Bangalore accepted the need to take up an activity of this nature and provided the following guidelines.

- 1) It should be an inclusive process and shall involve all sections. It has an aspect of “Public good” and “Public institutions must intervene to ensure balanced representation.
- 2) The process should not be too long drawn or time consuming. It can start by defining best practices as guidelines and then work towards definition of standards and Certification process.
- 3) There should be a continuous check with the market trends. There should be a continuous interaction between standards defined and the actual market practice.
- 4) Defining international standards is even more involved and difficult. The representation of international interests should be ensured from early stages.

This was followed by a discussion with a large group including representatives of the Academia and Industry. It was felt that Quality Assessment, Standards, and Certification would be too wide a scope. As a first step the project would only develop a framework for Assessment and list parameters for Assessment. Efforts would be made to make the parameters as objective as possible. The discussions also provided guidelines regarding some definitions like Multimedia Materials, Quality Assessment and overall scope of the project.

Multimedia materials

The definition of Multi-media materials has evolved and substantially changed over a period of time. After print, non-print material (in a variety of forms) became available for Teaching and Learning. Not taking into account the development of Teaching/Learning aids in conventional forms, electronic materials were developed as audio and video materials. Historically multi-media packages were a combination of print, audio and video materials sometimes combined with conventional materials.

The advent of computers and the phenomena of convergence changed all this substantially. Now Text, Audio, Video, Graphics, Animation etc. were all available on a single platform. This greatly enhanced the quality of material. However, the industry and the education sector are in a phase of transition. Materials are available in all forms individually and in a variety of combination packages.

For this project it was decided that multi-media material would refer to only computer based e-learning material which may be made available on-line or off-line. It could be in the form of large centralized repositories/database or in the form of CD based individual lessons. The main parameter would be that the material would be used by either an individual or a group for learning with or without the intervention of a Facilitator/Mentor/Teacher.

Quality Assessment

There were several facets to Quality Assessment. Quality is expensive specially from the point of view of the producer or content generators. There are always efforts to cut costs at the cost of quality. However from a user perspective, absence of Quality (i.e. non quality) is more expensive than quality. If quality assessment is of the final product, there would be a need to make a detailed assessment of each product which would be a stupendous task. Product assessment does not, or rather cannot ensure uniform good quality for all products made by any one group. One piece of product i.e. one lesson could be very effective but it would in no way ensure that the second lesson would be equally good. The generation of learning materials is a creative process with a specific objective in mind and specified task on hand. It is a team works with each member of the team with different specialized. It includes the Content/Subject Expert, the Instructional Designer, the Creative Artist, the Researcher and the Project Manager. The process has to ensure that the right inputs are taken from each member of the team at the right time. Thus the quality can be assured if this **process** is strictly followed. Therefore Quality Assessment has to be a **Process Assessment** rather than a Product Assessment.

The content generator/developer has to bring together this team of experts and ensure its smooth functioning regularly and continuously over a period of time to establish a production process that will assure a certain minimum quality of output on a continuous and reliable basis.

To give clarity to the content generator/developer (industry) it is essential to define the process, the parameters that the Assessment Process/Agency would look at , and the Documents required to be generated and provided for Assessment.

The Framework

This report provides a framework of a generic production process and the parameters to be examined at each stage of the process. The five stages considered in the framework are-Analysis, Design, Development, Implementation and Evaluation. It provides a framework for Documentation which would be required for Quality Assessment. The framework provided is generic and flexible for the generators to be able to modify and use it for their process. This essentially is the Zeroth Draft and that would be revised after broad based discussion and review. As such, such a document has to be dynamic in nature, revised with experience over a period of time.

Initially this would need the acceptance of the content generators/developers (industry) that they would voluntarily try it out for their content generation process. Some exercises at retrofitting the framework to some existing products and processes may be required. This would pilot test the framework generated. After this the content generator/developer could use the framework for voluntary Self Assessment. When the industry and the ultimate user (learner) and the other stakeholders see the utility of the process this could be formalized further into an Assessment Process eventualult leading to a Certification Process.

The Assessment agency will need evidence of the process followed in the form of Process Documentation. By examining the Process Documents and some sample products the Assessment agency can get a fair idea of the process and quality of product. This could form the basis of any conclusion and/or certification.