LEARNER CENTERED INSTRUCTIONAL DESIGN FOR

E-LEARNING CONTENT – LEARNING MANAGEMENT SYSTEM (LMS)

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ABSTRACT

E-Learning is an educational process that leverages on the opportunities of digital technologies for delivering contents, assessing Learner's competences as well as for enhancing interaction between instructors and learner. This paper aims on developing and adapting a better Learning Management System (LMS). The instructional design proposed as a complementary tool to enhance and improve the quality of teaching and learning, which focuses on Learner centered perception. The application of instructional design principles in E-learning content is to ease the learner in acquiring a better understanding as laid in the objectives of the content and facilitates a learner friendly structure. The Learner's perception toward the current content design at this higher learning institution is paid importance. The Paper recommends that benefits of the instructional design principles and strategies. These instructional design principles and strategies can be used as guidelines to design and develop E-learning contents.

Key Words: Learner centered, E-learning content, Instructional design.

INTRODUCTION:

E-learning is commonly referred to the intentional use of networked information and communications technology in teaching and learning. A number of other terms are also used to describe this mode of teaching and learning. They include online learning, virtual learning, distributed learning, network and web-based learning. Fundamentally, they all refer to educational processes that utilize information and communications technology to mediate asynchronous as well as synchronous learning and teaching activities. On closer scrutiny, however, it will be clear that these labels refer to slightly different educational processes and as such they cannot be used synonymously with the term e-learning.

The term e-learning comprises a lot more than online learning, virtual learning, distributed learning, networked or web-based learning. As the letter "e" in e-learning stands for the word "electronic", e-learning would incorporate all educational activities that are carried out by individuals or groups working online or offline, and synchronously or asynchronously via networked or standalone computers and other electronic devices.

- Individualized self-paced e-learning online refers to situations where an individual learner is accessing learning resources such as a database or course content online via an Intranet or the Internet.A typical example of this is a learner studying alone or conducting some research on the Internet or a local network.
- Individualized self-paced e-learning offline refers to situations where an individual learner is using learning resources such as a database or a computer-assisted learning package offline (i.e., while not connected to an Intranet or the Internet). An example of this is a learner working alone off a hard drive, a CD or DVD.
- Group-based e-learning synchronously refers to situations where groups of learners are working together in real time via an Intranet or the Internet. It may include text-based conferencing, and one or two-way audio and videoconferencing. Examples of this include learners engaged in a real-time chat or an audio-videoconference.
- Group-based e-learning asynchronously refers to situations where groups of learners are working over an Intranet or the Internet where exchanges among participants occur with a time delay (i.e.,not in real time). Typical examples of this kind of activity include on-line discussions via electronic mailing lists and text-based conferencing within learning managements systems.

CONTEMPORARY TRENDS IN E-LEARNING:

The growing interest in e-learning seems to be coming from several directions. These include organizations that have traditionally offered distance education programs either in a single, dual or mixed mode setting. They see the incorporation of online learning in their repertoire as a logical extension of their distance education activities. The corporate sector, on the other hand, is interested in e-learning as a way of rationalizing the costs of their in-house staff training activities. E-learning is of interest to residential campus-based educational organizations as well. They see e-learning as a

way of improving access to their programs and also as a way of tapping into growing niche markets. The growth of e-learning is directly related to the increasing access to information and communications technology, as well its decreasing cost. The capacity of information and communications technology to support multimedia resource-based learning and teaching is also relevant to the growing interest in e-learning. Growing numbers of teachers are increasingly using information and communications technology to support their teaching. The contemporary student population (often called the "Next Generation", or "Millennials") who have grown up using information and communications technology also expect to see it being used in their educational experiences (Brown, 2000; Oblinger, 2003; Oblinger and Oblinger, 2005). Educational organizations too see advantages in making their programs accessible via a range of distributed locations, including on campus, home and other community learning or resource centers.

Educational institutions need more flexibility and control over their e-learning environments to enable different schools, programmes, course, or instructors to select and deploy the most appropriate e-learning tools suited to teaching and learning process. Effective design and implementation of E-learning will facilitate the better achievement of desired learning outcomes for Learner. Effective design on E-learning content relies on instructional design process, which encompasses stages such as requirement analysis, target audience analysis, course development that includes objectives, content, delivery modes and evaluation and the implementation of the system. Particularly, a successful development of content demands a thorough understanding of content, process of instructional strategies, content organization, learning outcome assessment and Learner needs.

LMSs range from systems for managing training and educational records, to software for distributing courses over the Internet with features for online collaboration. Corporate training use LMSs to automate record-keeping and employee registration. Student self-service (e.g., self-registration on instructor-led training), training workflow (e.g., user notification, manager approval, wait-list management), the provision of on-line learning (e.g., computer-based training, read & understand), on-line assessment, management of continuous professional education (CPE), collaborative learning (e.g., application sharing, discussion threads), and training resource

management (e.g., instructors, facilities, equipment), are dimensions to Learning Management Systems.

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E-learning is an emerging technology in many academic institutions in India. It is moving towards the implementation of e-learning with the blend of classroom teaching which is also known as blended learning. In recent years, many studies have been conducted to prove the usefulness of E-learning over conventional classroom teaching. However E-learning is not to replace the classroom teaching. It plays the role as a supplementary tool to provide effective and quality learning and teaching.

Today there are many ways to access technologies for manipulating and presenting content. Many instructional designers and content developers are exposed to different ideas of what defines good layout, instruction and presentation design. The design of E-learning content influential factors includes instructional strategies and process, Learner readiness and expectations, media and format to be used, reusability and interoperability.

INSTRUCTIONAL DESIGN COMPONENTS:

Instructional Design is a set of prescription of the necessary events and activities of learning which provide a guidance function towards the achievement of specific objectives for Learner. Instruction consists of three steps such as information presentation, eliciting responses from the Learner and providing feedback to the Learner and a complete instructional package contains 4 components that are related to the 3 steps mentioned earlier. The 4 instructional components are:

(a) Intent – learning objectives and outcome

(b) Content – information is the inherent structures that give its characteristic and meaning in contextual sense.

(c) Activities – learning procedures, exercises and questions.

(d) Assessment – Progress check and Learner evaluation.

Instructional design involves the alignment of all these four components. Mismatching of these components will lead to incomplete instruction thus the learning objective design provides a focus for selecting instructional content, strategies, tactics and media (Raja Maznah, 2001).

Variety of factors should be considered in the design of materials for learning. Design elements are one the factor when planning the e-learning content. The six design elements are:

1. Activity – Rich learning activities in E-learning would provide an experience to lead Learner to achieve the desired new understanding and knowledge.
2. Scenario – An interesting context or scenario makes the activity more meaningful.
3. Feedback – Experience creates knowledge through reflection with use of appropriate criticism or feedback. Provision of feedback amplifies the learning from the experience.
4. Delivery - Aims to maximize the engagement of the LEARNER with the activity and feedback and reflection with the proper technical infrastructure.
5. Context – Includes the instructional objectives of the e-learning program, role of instructor and the longevity of the resources.
6. Influence – Influence of the design includes how it affects the Learner and to what extend the content benefits them.

These six elements pave the way to design the effective and flexible instructional strategies for the content that suits Learner needs and provide better balance between content and process. The core elements stated above can reduce the gap between educational intention and the reality of Learner experience (Andrew and Bradley, 2005).

INSTRUCTION DESIGN PROCESS:

Process of designing instructions involves 5 stages. Analysis is the process of investigating the instructional solution for the identified content and audience. Development involves the process of designing producing the leaning experience through instructional strategies. Production is the process of multimedia and data elements produced though iterative revisions before it is considered finished. Implementation involves both pilot testing and field trials (formative evaluation) of the material to ensure it suitable for Learner. In the final stage, summative evaluation involved to improve the learning materials (David et al., 2001).

- LEARNER READINESS:

In a blended learning or E-learning that focuses on Learner-instructor approach, learning objectives, activities and content materials are vital to successful learning outcomes. This definition highlights the importance of interrelationship among Learner, content and technology (Candance, 2004). However, online learning might not be suited for every Learner. Self-motivation, necessary learning skills, collaborative learning, frequent and specific feedback can lead to readiness towards its use.

- MULTIMEDIA PRESENTATION TOOL (MPT):

On-line instruction present many challenges compared to traditional classroom teaching. Therefore level of technology and software and hardware requirements is essential to create realistic expectation. There are various multimedia presentation tools available to aid the design and development of instructional content. Right choice of multimedia elements is essential to engage Learner on-line. The right selection of MPT will help to ensure the effective presentation of the content and it also responds to other factors such as less cost, no and basic training, high flexibility, cut of development time.

- REUSABILITY AND INTEROPERABILITY:

Reusability is the consideration of the independent of the learning context where it can be used in numerous learning environments and usable for many different Learner. To motivate the instructor to consider reusability, the major stimulus is not so much pedagogical but rather their need to adapt existing courses to changes in the curriculum. In blended learning, instructor makes the pedagogical

decision relating to reuse and not the LMS. If the whole course cannot be reused but a module or some learning materials within it could be reused (Betty and Allard, 2003). If the instructors themselves create the content material, it would not be a problem to identify and select materials to reuse.

Interoperability is the consideration of different function in application, hardware and software and a common interface between various components of E-learning to interchange data. There is a need for interoperability for the elements in on-line components. Instructional elements can capture data and communicate the data to other components of E-learning systems that can store and analyse it. Therefore a standard communicating methodology (protocols) between various components of E-learning is vital (Rao and Pal, n.p).

To identify the suitable instructional strategies and principles, content developers need to perform target audience analysis, requirement analysis and content analysis. In some cases, content developers might not have instructional background and instructional designer would take the responsibility of the instructional design. In this context, teamwork would be great, involving various people such as content developers, content evaluators, instructional specialist and media specialist. When learning materials are fully developed in house, content developers have the skills to identify the right material to be reused. Reusability would save the time and cost. Content should be created as an independent component freely articulating with interoperability and reusability. The content materials being used currently need more refinements based on instructional strategies and evaluation. This study in still in progress and it is subject to an experiment in the next stage. This experiment objective is to perform a summative evaluation on the refined instructional content to study how well it matches Learner learning style.

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