

ABSTRACT

Well-designed e-learning provides an 'informalised' environment, as it incorporates well-established teaching methodologies. Tools for chat sessions, virtual whiteboards, application sharing, desktop videoconferencing, computer telephony, multi-user simulation environments, synchronous communication, and audiographics will push the envelope of online training to a more collaborative and team oriented framework than in the past. A careful integration of e-learning tools available online can make the teacher education more cost effective and time effective. From the continuous observation and practice revealed that these tools could be effectively infused in the various stages for the reconstruction of pre and in-service teacher education programmes.

INTRODUCTION

In the modern era education is expanding globally. It has to keep up with the demand in a competitive environment. Old ideas are quickly replaced by new ideas. Classroom training is no longer the most efficient training method. The Internet is changing the way people think and education. Learning increases as a competitive weapon rather than an annoying cost factor. The success of an education depends more and more on high-quality student performance, which in turn requires high quality training. The enhancing student skills are the key to create a sustainable competitive advantage.

Combining E-digital content can create a effective teaching and learning process. E-learning is defined by the Open and Distance Learning Quality Council in UK as "the effective learning process created by combining digitally delivered content with (learning) support and services. "Embedded in this definition are the following important words: effective – learning that succeeds combining – the combination of ICTs and pedagogy makes the difference (some call it blended learning) digitally delivered content – content delivered electronically by CDs, cell phones, the computer, and the Internet support – support provided by tutors, facilitators or course coordinators. Network for Capacity Building and Knowledge Exchange (NetTel@Africa) uses the following definition: E-learning is the effective teaching and learning process created by combining e-digital content with local community and tutor support along with global community engagement."

E-learning offers online training that can be delivered anytime and anywhere through a wide range of electronic learning solutions such as Web-based courseware, discussion groups, live virtual classes, video and audio, Web chat, simulations and mentoring. E-learning enables learners to transcend distance and other organizational gaps by providing a cohesive virtual training environment. It is a vital element of success in today's global economy because the most up-to-date skills and competencies are essential for peak performance and competitiveness. E-learning can provide all these just in time.

E-LEARNING: 'INFORMALISING' THE FORMAL EDUCATION

Classroom training was the preferred method of teaching in formal education. Psychological, sociological and philosophical findings and theories support the need of 'informalising' the formal education. Even in the learner oriented educational approaches, the education becomes mere imparting of information making the learners passive. The need of life centered and activity oriented education, which evoke the natural curiosity of the learner, can make productive results. Education should be imparted by

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satisfying the basic interests of the learner with due respect of his freedom. Such system of education can make more joy out of more learning.

The best learning environments provided an integrated mix of synchronous and asynchronous learning activities in combination with dynamic opportunities for collaboration with experts and peers. This type of education also limited in providing a feeling of 'informalised' education. Well-designed e-learning provides an 'informalised' environment, as it incorporates well-established teaching methodologies and proven educational philosophies, and enhances them with a rich mix of interactive media developed in response to rapid growth and changing needs of the learning communities. A comparison of the traditional and e-learning approaches will prove the distinction between them.

Table 1

COMPARISON BETWEEN TRADITIONAL AND E-LEARNING APPROACHES

Context	Traditional Classroom	E-learning
Classroom	Physical – limited scale Time and location dependent	Unlimited Anytime – anywhere
Content	Power Point slides Textbooks Video Collaboration	Simple text, audio, animation, video, simulation, printed and online resources, online communities, collaboration
Collaboration	Perishable	Reusable Limitless
Personalization	One learning path – lowest common denominator	Learning pace and path determined by user

CHARACTERISTICS OF E-LEARNING

E-learning is beneficial in many ways. Some e-learning characteristics include easy accessibility, reduced training costs and consistent and accurate message.

Easy Accessibility : E-learning provides the ability to conduct training anywhere a student has access to the Internet. They could be at their desk, at home, in a shop,

in a work place, or in a park.

Students have training available to them at their fingertips 24-hours per

day. Students no longer are required to spend hours or days of unproductive time traveling to and attending classes or events. E-learning provides students quick and effective training that reduces travel and training costs.

Reduced Costs : The students have to pay a huge fee for getting the education that is offered through the educational institutions or organizations. They have to spend on travel, food, and lodging to attend the classes. Their productive time is lost in a classroom. The e-learning opportunities help the students to get an education without spending more for education in very flexible manner.

Consistent and Accurate Message : E-learning provides a consistent and accurate message to all students. E-learning also provides with the ability to control training materials and content from a central location. Modifications can be made to a course and it is immediately available to all students. All students receive the same training no matter where they are or what time of the day they complete the training.

Table 2

KEY BENEFITS OF AN E-LEARNING SOLUTION

Characteristics of E-learning	Benefits
Learning is a continuous, integrated part of work	Training is no longer distinct from work or an additional 'burden'
Just-in-time access to knowledge/currency	Information is always up to date
Training can occur anywhere	Substantial travel and time cost savings
Learning can be easily directed to targeted, supplemental resources	Instruction has more meaning for the learner
Learning is 'holistic' and blended	Enhanced learning experience
Instruction becomes learner-centric	Learners have more responsibility for their personal success
Addresses the needs of all learner types	Information retention rates increase



There is an increase in online course offerings as well as universities involved in e-learning. In fact, there are already more than 50,000 courses taught online and 1,000 universities developing and offering such courses (Carnavale, 2000; National Center for Education Statistics, 1999). Internet courses have clearly emerged as the technology-of-choice for part-time adult students who cannot physically attend classes, either because of situational or dispositional barriers (Edelson, 1998). Peter Drucker's prediction that universities may not survive the next 30 years may be bold and overstated, but the Web has definitely opened up new options for students. Almost every major university will offer at least some of its' courses online (Herther, 1997). The emergence of the corporate university to provide an enterprise-wide strategy for online learning is a recent national trend (Kenyon, 1999). With such rapid changes, there is much uncertainty and controversy of opinions about the directions of distance learning. E-learning is becoming more accepted and expected both in training and formal education environments (Hall, 1997).

However, according to Besser and Bonn (1997), communication specific skills and training to a fixed standard may be easier in a distance-learning environment. Despite the rapid adoption by business and industry, it is difficult to find research on e-learning within training environments. There are predictions that Web-based training will grow tremendously in adult and vocational education settings as well as in corporate training sectors (Phillips, 1998). On-line courses provide greater convenience and flexibility than traditional courses held in a classroom. Therefore, they are ideal for people, who have heavy work or family commitments, those who experience changing work hours, or those who cannot come by the distance.

Each on-line course has a designated start and end date. Courses are self-paced, but assignments or exercises are due on certain dates. Most courses are asynchronous, real-time communication and/or attendance is not required.

However, there are cases when real-time chats or discussions are arranged to enrich learning. The instructor to the on-line class announces such cases. Most courses consist of certain number of modules, with each module designed to be completed in 3 days to one and a half week's timeframe. The e-learner can access the module material any time, day or night, since there is no set class schedule and they can spend as much time as they need with it. However, each student has to finish the module by a defined date.

INTEGRATION OF E-LEARNING INTO TEACHER EDUCATION

The proliferation of web courseware technologies and collaborative tools multiply the opportunities and challenges facing higher education as well as training environments (Gray, 1999). Learning will be seen as more socially shared, active, and interactive than in the past. Dede (1996) argues that "education must help all students become adept at distance interaction because skills involving information-gathering from remote sources and collaboration with dispersed team members are as central to the future workplace as learning to perform structured tasks quickly was to the industrial revolution". Trends in teacher training often parallel those experienced in their counterparts in corporate and higher education settings. For instance, as with most workplace and college classroom settings, there are increasing demands within the teacher training for learner-centered instruction and the use of technology tools for e-learning, especially those tools that attempt to foster collaboration.

INTEGRATION OF E-LEARNING TOOLS INTO TEACHER EDUCATION

Integration of e-learning tools into teacher education requires careful thought and experimentation. Already there are experiments to use the Web for role play, such as in macro and micro teaching situations. Virtual classrooms have been created to develop teaching skills such as classroom management techniques. Tools for chat sessions, virtual whiteboards, application sharing, desktop

videoconferencing, computer telephony, multi-user simulation environments, synchronous communication, and audiographics will push the envelope of online training to a more collaborative and team oriented framework than in the past. Such interaction points also to the growing importance of collaboration, reflection, critical thinking, evaluation, and decision making skills, instead of low-level factual knowledge (Bork & Kim, 1998; Wisner, et al., 1999).

The findings of Small (1999) suggested embedding technologies that enhance student-student interaction and rapport with instructor, building experiences for interpersonal bonding, creation policies for faculty time commitments, and having successful faculty model and demonstrated e-learning activities and uses for others. Owston (1999) found positive benefits of online mentoring within writing while teacher use of a two-way television channel for searching and selection math and science videos had more limited success. Interestingly, Owston noted that clustering network-based research projects that have similar goals is more cost efficient since evaluators can often make simultaneous use of the same collection methods, instruments, procedures, and staff. Another study on him revealed that students did not make extensive use of the tutorials, but those that did found them useful, easy to navigate, and motivational.

Some other studies pointed out that cautiously presented Web courses made significant achievements to students. The use of transcripts of e-mail and online chats, group interviews, and language assessment tools to evaluate an English-as-a-second-language course for adults proved effective. Davies and Mendenhall (1998) found no significant differences between online and classroom students in a fitness and lifestyle management course, but most preferred a classroom experience. They felt live instruction provided more entertainment, friendships, and structure than online experiences.

There are various negative or mixed findings in the use of e-learning tools in the educational and training situations. There are also some promising aspects to e-

learning. In general, distance learners have more positive attitudes toward distance learning than traditional learners (National Center for Educational Statistics, 1999). Hiltz (1990) also revealed some advantages of online over traditional such as greater access to professors, increases in participation, higher course satisfaction, equal or superior mastery of course material, and enhanced interest in subject. Hiltz admitted that such gains rely on having motivated and prepared students with adequate access to technology. More recent findings do confirm that distance-learning students tend to be more intrinsically motivated and internally controlled (National Center for Educational Statistics, 1999).

Steffl-Mabry (1998) found an increase in reading comprehension for college students in a Web-based "Introduction to Reading" course over students in a traditional version of the course. Agarwal and Day (1998) discovered that Internet enhancements raised student attitudes, performance on exams and course grades, and student attitudes toward economics. In another study of college students, students who were active in an optional computer-mediated communication (CMC) exercise also received higher course grades (Althaus, 1997).

Based on these findings, it is pertinent that the e-learning possibilities open an avenue for the integration of e-learning into teacher education. It was experienced by the teacher education institutions now days, the lack of opportunities for real classroom experiences in micro and macro level of teaching. A virtual classroom situation is boon to tackle these chaotic situations. As well in the in-service training programmes, the teachers who work in the schools have to leave the working hours. It adversely affects the education of the students. E-learning is only the substitutions in such conditions.

There were some efforts made in the integration of the E-learning into the teacher education. Some isolated experimentation reported from different quarters in infusing the e-learning tools in the teacher education.

FOUR-STRAND MODEL OF E-LEARNING FOR TEACHER DEVELOPMENT

The four strand model is an adoption of the e-learning techniques for teacher development. E-learning is capable of instant updating, storage, retrieval, and distribution. The key features of the model include:

1. Share instructional and information resources and expertise to enrich the learning environment;
2. Provide courses, learning applications, and solutions that go beyond the traditional paradigm of teaching and learning;
3. Combine with traditional or other teaching methods and styles in what is referred to as blended or hybrid learning; and
4. Provide informal learning opportunities and support for communities of practice.

The definition above involves two basic dimensions: content and communication. The content dimension is a continuum with three points of reference:

Content not organized for instruction – This refers to all the sorts of resources those teachers and learners find when they use a search engine on the Web.

Pre-structured content, within a course – Unlike simply searching the Web, content may be organized within a course or sessions of lessons.

Co-constructed content and meaning – These are the results of teachers and learners working together to create or construct new resources and make them available for others on the Web.

The second dimension relates to communication and also has three points of reference:

Little or no human communication – Learners of teachers do not make use of the Internet of the Web to communicate with other people.

Enriched communication, within a course or program – With a course, learners use the Web to communicate with the teacher and with each other, as well

as with others outside the course.

The Internet may be the only way that members of a course can

communicate with each other if there are no face-to-face course components. But even when a course instructor and learners are regularly in contact with each other, they can make good use of the Internet and Web to extend their communication.

Professional communication, via networked communities – This occurs when members of a professional learning community or community of practice use the Internet and Web technologies to ask each other questions, share experiences, and provide information and ideas to each other.

In conclusion the intelligent use of the intelligent machines and online tools can make the teacher education programmes more effective. Proper utilization of the e-learning strategies will help the teachers in service to overcome their difficulties related time and cost factors. In short what is required at present in the reconstruction of the pre-service and in-service programmes integrating these e-learning technologies into the curriculum.

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