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Andragogic Quality through Creation of E-Contents

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KEY WORDS

Andragogic quality,
e-contents,
ADDIE model,
perceived importance

ABSTRACT

This research study was conducted to investigate the perceived benefits of creating e-contents at higher level, determining user friendly tools for its creation and its incorporation and use for improving andragogic quality. Qualitative systematic review helped to select, appraise, summarize and combine qualitative evidences in order to answer the research questions. Literature review supported that e-contents have perceived benefits for active- teaching learning process. Creation of e-contents is dependent on Analyse, Design, Develop, Implement, Evaluate (ADDIE) model, which helps to set boundaries for it. Multiple available softwares help to convert traditional content into e-contents. Andragogic quality can be improved by using e-contents but institutional and individual support is required to fulfil this purpose. It was recommended that in order to avoid unhealthy learning environment, e-contents may gradually be introduced. Old pedagogy cannot be discarded but a mix or blend can be created to provide fulfilling and rich learning experiences to learners.

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Introduction

Information and communication technology (ICT) has not only transformed our personal lives but has created a deep rooted effect on our social institutions as well. A general analysis indicates that information and communication technology has taken charge from on-line banking to watching television, from computer games to wars, from online shopping to holiday bookings, yet it has shown minimal impact in educational arena (Worthington, 2017). Indeed, many educators have realised its importance and are using it as a strong tool for reconceptualising the curricula and pedagogy, but still the holistic picture of education sector indicates that a state of denial exists about the relevant use of information and communication technology in revitalising teaching learning environments. Due to advent of the latest technologies, it is need of the day to reinforce existing educational practices and catalyse educational innovations through their proper use (Heterick, 2002).

The rapid growth in the use of information and communication technology has indicated an increase the use of on-line technologies for achievement of educational goals also, especially for educational programs being carried out for adult learners. ICT helps in creating a comprehensive e-learning environment in which internet, CDs, videos, power point slides, simulations, photographs etc. can be used as learning tools. All these tools are helpful in delivering e-contents to learners in effective and efficient manner (Nachimuthu, 2011).

Adult learners are considered to be self-directed learners, having intrinsic motivation. Adult learners are autonomous, more experienced and like to explore problem centred, active learning approaches. ICTs supplement andragogy and improve the teaching- learning process at universities. Levine (2003) has very rightly argued that for andragogic quality, three types of institutions exist. They are “brick universities”, or traditional institutions of higher learning, “click universities”, or institutions working with full-fledged ICTs; and “brick and click” universities, a combination of the other two approaches. Globalization demands have affected andragogy and ICT has supported the quality enhancement of andragogy. ICT use for andragogic quality is a newer trend for those universities with brick and click concept and click concept specially.

Content creation is defined as contribution of authentic information to a media. Nowadays, this terminology is being used as contribution of relevant information to digital media for a specific audience/end user in specified contexts. Internet and information technology are major drivers of change and innovation in research and social change. Internet has put a deep impact on all walks of life, of which education has been effected most. Electronic media has been influencing the field of education since long such as use of radio and print material for teaching learning environment. But these days, content delivery has become increasingly sophisticated through the use of

various electronic tools which combine text material with images and sounds to make it more interesting. Due to emergence of technological advancements, need of e-content creation has become inevitable and it requires huge amount of creativity not only at 'information level' but at 'technology level' as well. E-contents include web pages, on-line print material, audio-video graphics, recordings of lectures, youTube videos, external links to web pages, wikis, content generated on web collaboratively, on-line learning modules and interactive scenarios (Yelland & Tsembas, 2008).

Of course, it is obvious that academicians involved in higher education have to accept this change in the behaviours of adults due to advent of technologies. These technologies have to be incorporated in our higher education systems which are under close scrutiny due to globalization effects as well. ICT provides a base for creating and absorbing multiple tools for e-learning. But academicians have to play their role in devising the framework on which e-contents have to be created. Such a framework would include following propositions:

- Delineating objectives of the e-contents: This will include setting those objectives which are required to meet the needs of the learners who are going to benefit from those e-contents.
- Permeating the e-contents in the course: At this stage, such technologies will be selected which will enhance learning of students and develop critical thinking among them.
- Outlining ways of using e-content: Academicians will decide how and when the e-contents can best be used. Considering ways of evaluating learning. At this stage, linkage between effective delivery of e-content and achievement of objectives is developed through multiple patterns of assessment (Bashorun, Isah, & Adisa, 2011).

Statement of the Problem

This study aims at investigating perceived benefits of creating e-contents for higher education, the tools which can possibly be used to create electronic content and its successful incorporation in higher education for improving andragogic quality.

Objectives of the study

1. To investigate the perceived benefits of creation of e-contents in higher education.
2. To determine the tools that can be used to create e-contents in higher education.
3. To explore successful use of e-contents in improving andragogic quality in higher education.

Research questions

1. What are the perceived benefits of creation of e-contents in higher education?
2. What tools can be used to create e-contents in higher education?
3. How can e-contents be successfully used to improve andragogic quality?

Literature Review

Perceived Benefits of Creating E-contents for Teaching Learning Environments in Higher Education

Digital content which is also known as electronic content (e-content) and it refers to the content and information delivered through a network of electronic devices or is available on computer network such as internet. Oxford dictionary states that e-content is a package that satisfies the conditions of learning such as cost effectiveness, minimization of distance, space and time, adaptability to local conditions and user friendliness.

The entire world is moving towards new technologies and digitization in this era. Evolution of internet has affected all spheres of life including education. World Wide Web (WWW) has made information sharing very easy and accessible. Students at higher level of education specially judge the competence of their teachers through the knowledge and skills they behold. Adult learners come to their class rooms not as blank slates but as active creators of knowledge and they need those teachers who can guide and facilitate them in knowledge construction. Now it is need of the day that teachers use ICTs in productive and creative ways. Moreover, ICTs provide tremendous channels for storing, capturing, communication and disseminating a wide range of information to a large audience (Bansode & Pujar, 2008).

Wide variety of electronic content is available on line which is either free of cost or can be used, re-used or modified with minimal restrictions. Students are switching over to this content as textbooks have become too expensive to afford. Digital course material facilitates teachers also and it gives a great opportunity of social collaboration and interactivity. E-contents are becoming popular because these provide flexibility in pace of learning, space and time. Any type of content disseminated through electronic media comes under the domain of e-contents, thus providing a vast variety.

It is available at almost every level of education and in many subjects but sometimes it has to be searched out properly in order to check its authenticity and relevance to the targeted audience. It can be easily shared with a large number of learners having diversified needs, interests and skills. It has significant implication for distance learning institutions also (Shuling, 2007).

Results of a mapping survey conducted in 249 higher education institutions from 38 countries included in European Union for the importance and use of e-contents in European higher education institutions revealed that 87% teachers and students confirmed to the importance and use of e-contents as these help in establishing student-centred learning environment. The respondents agreed on this point that students are using mobile devices, social media and applications informally every day and if these get incorporated for implementation of e-content, then it will become beneficial for both. 77% respondents agreed that e-contents are able to provide interactive teaching learning experiences to a larger group of students engaged in higher level of education. 76% respondents stressed that e-contents are self-instructive in monitoring individual progress in study and collection of data for the comprehensive analysis of student learning (Gaebel, & Kupriyanova, 2014).

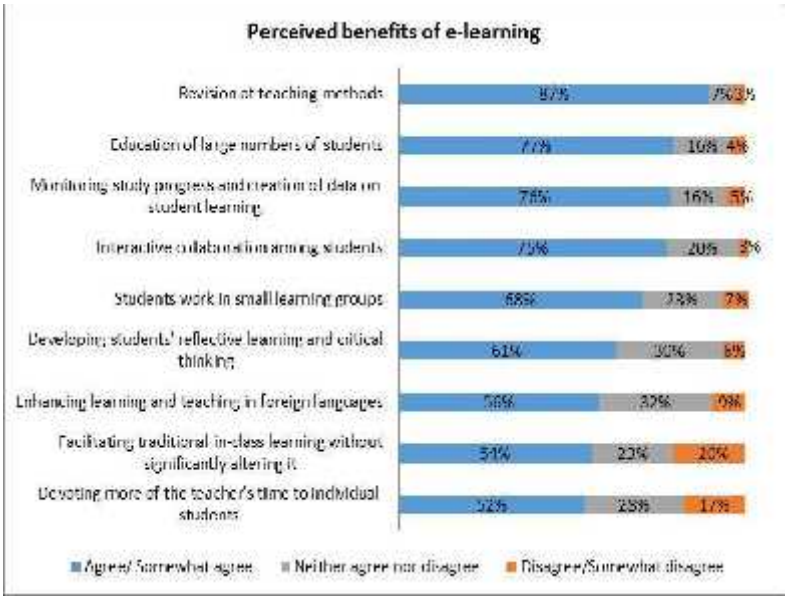

Figure 1: Perceived benefits of creating e-content

Source: www.eua.be

Another survey for technologically enhanced learning conducted in 96 universities of UK enhanced that some major disciplines have realised the importance of e-learning through e-content. About one sixth of the universities stated that e-content is important and must be used for enhanced learning in all disciplines (Walker et al., 2014). Following table shows the perceived importance for the use of e-content for e-teaching and learning in all disciplines being carried out in UK universities.

Table 1
Disciplines and their perceived importance of e-contents by faculty

All Disciplines	%age showing perceived importance of e-content by faculty
Business and management	37%
Education, teacher training	34%
Mathematics, informatics	33%
Engineering, technology	33%
Social sciences	27%
Humanities	21%
Medical sciences	19%
Natural sciences	18%
Law	14%
Architecture	4%
Arts and design	4%

Source: https://www.ucisa.ac.uk/~/.../Tel%202014%20Final%2018%20August.ashx

It can be advocated that e-content is the most powerful tool in the whole process of e-learning. Now it is up to the users to use it efficiently and effectively in order to achieve diversified objectives of higher education (Jethro, Grace, &Thomas, 2012; Kuimova, Kiyanitsyna, & Truntyagin, 2015; Kumar, 2013).

Creation of E-content Tools

The basic purpose of e-contents creation is to develop such material which can empower the students to receive, create, share, and utilize the given information for their educational progress. If e-contents are well designed, properly developed and validated by experts of the field, these will serve as effective virtual teachers for the students. E-content creation and development depends on the nature of the learners and the content. Many models exist for this purpose but a general and most popular model is ADDIE model. It includes following five phases:

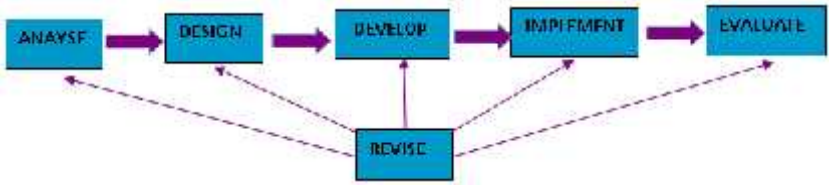

Figure 2: Phases of e-contents based on ADDIE model

Source: http://www.riemysore.ac.in/ict/econtent_and_open_educational_resources.html

Explanation of this model is as follows:

i. Analyse: the first phase of model is related to analysing leaner needs for examining the suitability of e-content which has to be developed. This phase is further broken down into:
   a) Contextual analysis: Data collection about context of learning environment.
   b) Learner analysis: Collecting data about learners' attributes and academic levels.
   c) Task analysis: stating purpose of e-content creation; whether it is educational for some kind of professional training.
   d) Content analysis: preparation of content outline
ii. Design: This phase is concerned with designing clear, measureable and realistic learning objectives and stating the learning strategies for achieving these objectives.
iii. Develop: It involves scripting the entire course content.
iv. Implement: At this phase, the comprehensively developed material is handed over to the target learners.
v. Evaluate: Formative and summative evaluations are carried out for diagnostic and revision purposes and the results of these evaluations are considered as feedback to revise the whole process. Revision is also done at every phase and adjustments made accordingly (Muruganantham, 2015).

E-contents can be created in a variety of ways, using many tools through implementation of ADDIE model. Researchers and experts of the field have suggested that Freeware, Propriety software, Open source software and public domain software in addition to Microsoft office software package can be used to serve the purpose. Further to elaborate this, Wevideo, Magisto, Wavepad, Drawpad, Videopad are latest software programs for graphics, audio-video creating and editing. Similarly, authoring tools can also be used to create e-content with minimal skill and expertise. Authoring tools are easier and faster to use. For example, Microsoft power point converters are powerfully used for authoring purposes. In addition to this, eXe Learning and Xerte are free and open authoring tools to be used by educators. Software demonstrations, simulations and random quizzes can be easily created through Adobe Captive. Authorware is a leading authoring tool for creating e-content but needs some expertise to operate (Cook & Dupras, 2004; Moore, Deane, & Galyen, 2011).

There are many free tools (application software), many of them web-based, that can be used to develop digital learning content. The advantages of using web-based tools are very obvious: No download and installation are required. Most of the web-based tools are also easy to use. However, good internet connection is essential to facilitate the development process. Apart from web-based tools, some of the tools for content development are

available free for downloading. Essential tools for creating e-content include presentations and video sharing platforms, podcasting, screen casting, free video editing tools, e-books, social learning platforms, Moodle's and creating blogs.

Improvement in Andragogic Quality through Successful Incorporation of E-content

ICT has changed the trends in educational scenario drastically, so instructional technology has become an inseparable part of the learning environment. Research suggested that five quality benchmarks are required for successful integration of e-contents to improve andragogic quality. These include: Institutional support, teaching and learning environment, course structure and development, faculty and student support, and assessment and evaluation

Implementation of e-contents in andragogy would mean reconstituting the current roles of faculty members. In most scenarios, it would be expected from faculty to undergo immediate and total transformation from traditional teachers to e-content developers. Expectations from faculty members increase and they cease to exist as mere teachers but are required to become e-content creators, instructional experts, graphic designers and programmers. The result of this role change is resistance from teachers as they may become burdened to perform multiple roles. But this statement does not infer that faculty cannot transform into these roles, instead they have to be enabled and empowered to transform in a reasonable amount of time.

Faculty members should be rewarded for taking initiative of developing e-contents. Rewards may be in monetary as well as non-monetary forms so that the faculty does not consider e-contents creation as a punitive task. In the starting phase, smaller chunks of content must be incorporated as e-contents and after observing the success of the e-learning process, more e-contents should be developed and incorporated rigorously. Managing and storing e-contents is a major task. Similarly the interfaces using e-content should also be learner friendly so that the students are able to take full benefit from it (Govindasamy, 2015; Harandi, 2015; Hasan et al., 2010; Jethro, Grace, & Thomas, 2012).

Many researchers have argued that incorporation of e-content for improvement in learning environment has to be adopted carefully instead of making hasty decisions. Hiltz and Turoff (2010) believed that e-contents can be seen as a substitute for traditional content delivery but it has to be carefully adopted because disruptions may occur due to technological addition to the teaching learning process. Mapava and Mayengawa (2010) have explained that certain obstacles may occur with the decision of implementing e-content at higher education level. They pointed out that changed work patterns are the most important obstacle in this regard. Stodberg and Orre (2014) have indicated that staff development is inevitable

especially in the era when new approaches to andragogy are being introduced in the form of ICT. Dialogue and training about these new approaches should be taken seriously because introduction of elements of e-learning will affect organizational practices and educational landscape at various levels.

Research Methodology

Qualitative systematic review was adopted as the research design and primary sources in the form of previously published articles under the relevant topic were explored extensively. The researcher identified the research questions through coherent and intentional analysis of previously done qualitative studies in this field. In the next phase, those studies were critically analysed which helped in selecting, appraising, summarizing and combining qualitative evidences to address the three research questions which were based on the objectives of the research study.

Findings

Three research questions were addressed in the literature review and their findings are given below:

1. What are the perceived benefits of creation of e-content in higher education?

   Some of the perceived benefits of using e-content at higher levels are:

   - Learning will be life wide and lifelong.
   - New basics in e-teaching will emerge, thus transforming the work of educators.
   - Technology will become central focus for all type of learning.
   - E-contents are more easily accessible and flexible to the learner needs and can be updated more easily.

2. What tools can be used to create e-contents in higher education?

ADDIE model helps the e-content creators and developers to draw a framework for its development. Microsoft software, open source software, authoring software, PowerPoint converters and Adobe can be used to develop e-contents easily.

3. How can e-content be successfully used to improve andragogic quality?

Implementation of e-contents to improve pedagogic quality means restructuring the role of faculty as well as the students. Training and development of both participants will be an added factor for successful implementation of e-contents. Institutional and individual support is required to achieve this target. Drawbacks are there such as technological disruptions, in ability to handle latest technology, non-affordability but if blended content is implemented first, then gradual movement towards complete

dependency on e-content is possible.

Discussion

Proper application of e-contents will have a significant impact on teaching learning process. Technology is becoming user friendly with every passing day and it is a good sign for teaching community also. E-contents development and application create a lot of space for self-learning and makes the whole atmosphere interesting and motivating. Using e-contents for e-teaching is an emerging trend but it is also not devoid of its limitations. It is a fact that students get motivated when they are fully involved in learning process through use of ICT but it also takes much of teachers' effort and time to make the students active learners. Teachers have to get fully empowered to convert the regular learning material into e-contents and then engage students in the process. Andragogic quality is improved when using e-contents as students become more responsible towards their information management, manifest team work and ultimately move towards self-management and self-direction. But this aspect of technology is not devoid of the short comings also. Some of the draw backs of total reliance on e-contents is that students may get involved in internet games and net surfing, or they may find ways of cheating during quizzes/ exams/ assessments. Technical problems may also be a hindrance towards effective use of e-contents (Waggener, 2012).

Higher education institutions may consider implementing e-contents on trial basis with the traditional contents, thus giving way to blended content. Examination of several approaches discussed earlier in this research paper is also required. Instead of rushing and facing disastrous results, institutions may create and implement e-contents on trial basis and examine the results. In fact, e-contents are in its infancy, and education gurus still have time to reframe and redesign the curricula using e-content models and tools.

Research studies have shown that faculty have varied perspectives on the creation and use of e-content. So educational leaders must openly communicate and engage the faculty in making major decisions regarding e-content. Many faculty members in higher education institutions are publishing their research work for decades. If a faculty member chooses such a publisher who publish his content in an accessible manner, institution may lose some of the important chink of knowledge base. So, education campuses must provide guidance and support to faculty members to build such an accessible e-content from which all institutional members can benefit. If faculty takes initiative about this, then the good behaviour must be incentivized on monetary and non- monetary basis.

A major problem for students may be inaccessibility of e-contents once they pass the semester as their log in is associated with their stay in the same class/ semester. To make the use of e-contents lifelong and life wide, access rights must be long term. In addition to this, technical and physical support

is required at all organizational levels so that the faculty and the students do not feel left out alone in the hands of technology and its adversities.

Conclusion

E-learning is a powerful process which can be accomplished through effective use of e-content. E-contents improve knowledge processing and sharing through use of replenished educational resources, expansion of educational services, provision of freedom of choice and time thus enhancing students' level of working independently with responsibility and self-discipline. But researches have shown that some individuals are not fully able to engage in self-directed learning because they lack resources, independence and confidence. So the organization of higher learning cannot implement e-contents fully. But it can be supplemented with face to face sessions and paper-pencil tests. Old pedagogy cannot be discarded but a mix or blend can be created to provide fulfilling and rich learning experiences to learners.

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