The phenomenon of virtual university in new age: trends and changes

Abbas Abdoli Sejzi 1, Professor DR Baharuddin Bin Aris 2, DR Noraffandy Bin Yahaya 3

1 Department of Educational Multimedia, Faculty of Education, University of Technology Malaysia
2 Department of Educational Multimedia, Faculty of Education, University of Technology Malaysia
3 Department of Educational Multimedia, Faculty of Education, University of Technology Malaysia

1Email: abdoli24@gmail.com
2Email: bba@utm.my
3Email: p-afandy@utm,.my

Abstract:

The concept and trend of virtual universities is changing in modern higher education organizations. Virtual universities will continue to change especially with the emergence of new information and communication technology (ICT). Higher education players expect virtual universities to grow and serve a more diverse set of students. Virtual universities prove that innovation is alive and well in public higher education. These virtual universities have innovate new ideas such as new organizational structures, new collaboration models, new delivery modes, new policies, new assessment models, new funding models, and new skills on the part of the students, faculty members and administrators. In this article, the researcher attempts to show the trends and changes of virtual universities in higher education, and explain some major factors that influence the virtual universities in the new age.

Key words: Virtual University; Information and communication technology (ICT); Trends and changes.

Introduction

Virtual university is an emerging concept that uses information and communication technologies for its delivery. It is flexible and convenient to the learners providing them exposure with emerging technologies.

Introducing changes to the curriculum is always challenging. This is especially true when the changes involve the integration of information and communication technology (ICT) based solutions into the curriculum. Such changes have the potential to impact on learning, academic practice and organizational arrangements (Maree, Karen, Helen, Christine, & Kayo, 2007).

The information age and the information and communication technology provided an opportunity for new levels of multi-institutional, multistate and multinational collaboration to provide postsecondary education and training through existing and emerging global network. Collaborating institutions can deliver modules, courses and degrees to individuals and groups of learners who interact with faculty and with organized learning materials, in both real-time and delayed –time (asynchronous) modes. This enriched educational environment envisioned by many academic leaders is captured in the phrase virtual university (Twigg & Oblinger, 1996).

Many believed that distance learning could expand educational access and increase economic development .Virtual universities change opportunities to explore, develop, and influence policy innovation outside of traditional structures. Then new age brought an economic downturn, hitting the technology sector especially hard and driving more realistic assessments of the realities, costs, and payoffs of distance learning. Then, whereas Internet-based distance learning slowly became a growing enterprise for individual campus-based initiatives, the virtual college and university has been questioned as a duplication of institutional responsibility and an unnecessary layer of bureaucracy especially during tight budget years (Rhonda & Myk, 2004).

According to Teare, Davies, and Sandelands, a virtual university must be a real university offering learning opportunities otherwise denied. It must be a network for lifelong learning which meets the new learning needs of a new century (Ann & Linda, 2002).

Virtual University

For many years the educational model for virtual classes was simply a talking head. Since 1996, a strategic change has been introduced to focus on the learning process rather than the delivering of information. The new model has three components--instruction, self-study, and collaboration. The instructional portion is the teacher-based model. Currently the instructional portion of courses is delivered via satellite live transmission broadcast, as well as on the Internet. The self-study portion is the student contribution to the learning process. Books, notes, Internet, and research are sources of self-study. Collaboration is the group contribution to the learning process. Technology helps this approach since virtual groups can be established through the Internet as well as at defined learning centers. Depending on the subject matter and the clientele these three modalities will be used to a greater or lesser extent (Laurence, 1999).

In a changing world, in a changing society, the environment of education changes also. Factors affecting the educational context and environment include globalization, information society and networked connections, demographic change (growth in population, and the growth of urbanization) which contributes to the increased student number in higher education, the importance of lifelong learning.

These factors, among others, constitute the context that has an emphatic effect on higher education. As a consequence of the changed social and technological context, higher education in general and the higher educational institutions have new opportunities and challenges (Krisztina, 2004).

Johnson (2005) notes four factors driving change in higher education that are influencing the use of web-based learning and virtual learning. These include:

a) Economic changes with a reduction in budgets and financial resources.
b) Societal trends and the increasing desire for convenient, mobile and flexible learning opportunities.
c) Employability trends and the demand for flexible, multitasking employees who are computer literate.
d) Computers are a stable asset in society, impacting upon every aspect of our personal and professional lives.

The functions of the virtual university

1-To provide a vehicle for collaboration in the development and use of emerging technologies that are needed to develop virtual education models such as subject matter databases and learning management systems.
2- To provide leadership in the planning, design and delivery to learners of programmes, curricula and courses that are pertinent to the human resource development needs of the states involved.
3-To provide support services to students, which would include assessment of current skills and knowledge, advice regarding academic plans, quality-assured access to courses, record of learning and the provision of awards where these are not available from other organisations.

Trends:

Generally there are trends that must be mentioned as virtual universities progress. These are educational, technical, and legal (society cultural) trends (Fawzi, 2003). In this paper the authors attempt to explain these trends totally.

Trends towards Students and lecturers

The operational idea of the Virtual University is that the universities provide services that enable students to find flexible ways to study and help the university staff s in making the best use of new educational technologies. New technologies are also used to promote nationwide networking among subject fields and projects of common interest. Another factor facilitating student mobility is an agreement on flexible study rights.

Some researches show students find that online courses offer convenience, flexibility, and control. Those who feel inhibited in the face to face setting experience more interaction. Yet a few students remain dissatisfied and ambivalent about the experience (Dziuban, Moskal, Brody, and Shea, 2007; Salaway, Caruso, and Nelson, 2008).

Virtual universities were formed to open up access to higher education for new and existing students, and they continue to grow and thrive. They come in all sizes and organizational and business models, and most differ from their funding institution. However, virtual universities face more rigorous requirements for accountability and reporting. Most of those who oversee virtual universities view these requirements as a way toward constant improvement (Karen, 2009).

The rise of virtual university has truly opened doors for students. Students now have a choice of what kind of learning experience they get, whether on-line, in a traditional classroom, or blended where the two methods are mixed (Karen, 2009)

In reviewing the literature, evidence shows that by using the Internet in teaching, exciting opportunities are provided to both learners and teachers that facilitate collaborative, project based and authentic activities, which are otherwise not available through the traditional face to face mode of teaching.
In particular, online teaching and learning changes the roles and skills those traditionally were required of educators.
In recent years online education, particularly the adoption of the Internet, in academic teaching and learning has been growing rapidly.

Trends towards learning environment:

The process of going online is difficult for both faculty and institution. Faculty needs technical support, quality control of their courses, institutional rewards, and some administrative control. Faculty also want research resulting from online learning to be considered valuable and enjoy the new access to students from online interactive learning communities(Moore,2005).

Overall, both universities and individual teachers recognise that the Virtual University has generated a great deal of new knowledge and enthusiasm, as well as boosting cooperation amongst the universities. Naturally the supply of courses has been growing very rapidly. The Flexible Study Rights Agreement, will probably further accelerate the growth.

The use of virtual learning environments has become a significant feature of higher education, with the majority of institutions now incorporating this technology into their wider learning and teaching strategies. It is useful to define what is understood by a virtual learning environment (Crispin & Andrew, 2007). The Joint Information Systems Committee define a virtual learning as the components in which learners and tutors participate in online interactions of various kinds, including online learning (Weller, Pegler & Mason, 2005).

Lifelong Learning

Lifelong learning means education resulting from integration of formal, non-formal, and informal education so as to create ability for continuous lifelong development of quality of life. Learning is therefore part of life which takes place at all times and in all places. It is a continuous lifelong process, going on from birth to the end of our life (National Education act, 1999).

Changes in employment patterns and increased competition in world markets have made governments in all industrialized nations take seriously the need for lifelong training and education (Steve, Bernard, Howard, Daxa, 2000).

Characterized by rapid globalization and the rise of the knowledge-intensive economy, the 21st century is an era where unprecedented changes in the political, social and economical arenas are happening at a Breakneck speed. These, coupled with technological advancement in biotech and materials science, make the 21st century an extremely challenging time to live in. Amidst the overwhelming concerns and issues, lifelong learning, though not a modern phenomenon, holds the key to survival in the 21st century. Generally, the economic rationale for lifelong learning comes from two principal sources. First, the rise of the knowledge-intensive economy means that the level of skills demanded by employers is constantly

being raised. Thus, employees need to constantly acquire new skills and update their knowledge. Failure to do so could render one obsolete or 'handicapped' in the workforce. Second, technological developments demand continuous renewal and updating of skills as job descriptions evolve and diversify rapidly under shifting market conditions. In today's corporate world, cost-cutting measures such as retrenchments are common even in industries once thought sheltered and stable. For some people, this may mean two to four career changes in their 40–50 years of working life. Thus, employees of the 21st century must be prepared to move from one employer to the next throughout their working lives/careers by keeping themselves abreast of the skills and requirements of their field or industry (Koh & teo, 2005).

Support to Industry

One of the Virtual University's most successful programs has been its services to industry. The Virtual University's support to industry requires that: staff must want to learn; sources of learning must be available; and the work environment must be aligned with the education system. The strategy focuses on collaborative learning and working, on universal competencies, and on an assumption that the participants are involved in a technology transfer process (Laurence, 1999).

A great number of professional and industrial educational programs are implemented employing facilities of the virtual universities. It is sufficient to know that in Florida 130 thousand educational programs are provided in virtual form, and that the Michigan Virtual University has provided education for 170 thousand small trade centers and their 700 thousand employees.

It should be noted that like any other activity, employment of potentials of information technology and communications in higher education requires assessment of needs, assessment of possibilities and as whole research.

There are evidences showing some of the major educational institutions as well have sometimes neglected this issue and therefore have born many losses. This is a wrong assumption that only substitution of traditional procedures of teaching with new technologies can lead to considerable promotion of education. There are numerous examples of using network communication technology for responding to high educational demand or personal improvement of efficiency. However, their neglecting of some of the principals, such as provision of useful educational experience and study of quality of educational courses, has caused not much success in this field (Carswel l, Thomas, Petre, Price, Richards, 2000).

Policy Considerations

The Virtual University has raised many new policy issues for discussion in the world. Some of them are summarized and discussed here.

1- Joint virtual education is a new departure for the universities. It requires extra resources and common policies:
All the virtual universities in one regional can sign the Consortium Agreement. Under this agreement, the Consortium Assembly is the decision-making body. It is compose of one representative from each member university. The agendas draw up by the virtual university Steering Group, which also exercises authority between meetings.

2- Virtual education entails new operational models and new services to succeed:
When universities offer virtual courses for students enrolled in other universities there must be a common portal for everything this entails. Both the teachers and the students need different kinds of support services to cope with virtual education. The virtual university portal offers various counseling services on studies and learning skills, such as a tool for designing a personal study plan, for the assessment and

improvement of learning skills; and information, support and guidance for teamwork. For teachers, it offers an interactive guide for designing online courses; an educational technology selection tool; a usability evaluation tool; and a tool for evaluating the staff's ICT skills level.

3-To enlarge study opportunities and to increase study options, universities need to sign an agreement enabling students to count studies offered by other universities towards their degrees:
On the basis of the Flexible Study Rights Agreement a student who is an enrolled Virtual student at one of the virtual university may apply for a temporary right to pursue studies that are part of studies in another virtual university. The right to pursue studies becomes effective when the receiving university has granted the student the right to pursue the studies approved by the home university.

4- University lecturers need technical and pedagogical ICT skills and support to plan
and implement Web-based courses:
This section offers to service training in the pedagogical use of ICT and in the planning of Web-based courses. In addition, nearly all virtual universities set up educational technology centers to promote the use of and research on educational technology and thereby enhance the quality of university education and teaching. The development of educational technology is increasingly seen as an integral part of the overall development of teaching.

5- The ongoing changes in the demographic and labour structures entail that measures continue to be taken to further raise the level of education and knowledge:
The development of adult education and training at all levels is one effective response to the educational needs of the adult population and the labour market. Regional development and the accessibility of education are supported by the production of virtual teaching services like the virtual university and virtual Open University services. They enable all learners, regardless of their educational background, to study higher education courses.

Forces of change

Governments and international development and aid organizations are experiencing a growing sense of Urgency to respond to the challenge of providing education in a changing global market.
Following are some of the forces that are creating this sense of urgency:
1-World population in 2015 will be 7.2 billion, up from the current figure of 6.1 billion. Ninety-five
Percent of the increase will be in developing countries. People in most countries will live longer, which will add to the demand for access to education as well as health and other services.
2-The current focus on achieving universal primary education, and the further development of
Secondary systems will put more pressure on small states to increase higher education capacity.
3- Globalization, the largely unrestricted flow of information, ideas, cultural values, capital, goods and services, and people, which is driven by the global networked economy, will enhance not only the demand for education, but create need for more diversified content and greater flexibility of access to educational opportunities. Two trends that run parallel to the globalization process will have a significant impact on the development of global systems of virtual education:
4- The creation of more small and medium-sized enterprises.
5- An increasing desire to defend cultural, linguistic and religious identities.
Both trends complicate inter-institutional collaboration and militate against the flow of globalised Content across borders.
6- Exponential growth of scientific knowledge continues to be accompanied by a widening gap between developed and developing countries, the latter being unable, single-handedly, to acquire the basic infrastructure necessary to access that knowledge.
7- The emergence of a post-industrial information age, the "knowledge economy," plus the explosive growth and distributed nature of new knowledge creates a demand for continuous

upgrading education that is difficult to provide through face-to-face classes.

8- The "knowledge economy" also creates demands for greater access to tertiary education and for "work-ready" graduates.

9- There is growing reluctance on the part of governments to fund the increasing demand for higher education via traditional delivery models.

The Commonwealth of Learning has stated that "the provision of education will be the biggest challenge for most governments as they attempt to attain the ideal of peace, freedom and social justice, while Striving at the same time to position themselves to generate more wealth and compete in a global market."

And governments are recognizing that this challenge cannot be successfully met without substantive reform to their education systems (Commonwealth of learning, 2003).

The Virtual University provides online education using multimedia technologies to cover various educational levels, university and college courses, continuing education, life-long education.

Three features about virtual universities need to be underscored:

1-The virtual university is not being proposed as a university in the conventional single institutional sense. It will, in fact, be a "virtual organisation."

2-The virtual university will carry out its functions by optimising ICT applications, particularly those that enable the creation and deployment of content databases based on learning objects. It is therefore a bold and challenging vision that has the promise of enabling the consortium of member institutions to become leaders in the development of virtual education models that can be tailored to the realities of the learners they serve.

3-The virtual university will be as much concerned with adding value to conventional on-campus instruction as it is with serving learners at a distance of time and space.

Conclusion

The growth in the use of virtual learning environments to support learning and teaching should be accompanied by research to examine their effectiveness. The aim of this paper was explaining the trends and changes in virtual universities.

Overall, the Virtual University is a well-planned and structured program. In accordance with its mission, it develops high quality programs with well-defined objectives. Wherever appropriate it links with other institutions around the world. It has a well thought out instructional design as well as a strong feedback and evaluation system to improve its product. Virtual university will be able to develop learning environment because of its initial strong linkages with industry, its commitment to high quality, and its emphasis on client satisfaction.

It is scientifically proven that the learning process is much more improved and the grasp of the subject is more if the theory is applied practically. The team spirit among the students is enhanced and they develop leadership skills and team management skills. The students learn to live in such environment, the thing very basic to any type of profession later adopted by the students in their lives.

Learning is a continuous process. The students can thus slowly be made to understand this concept by adopting technology as there are fast changes in the field, and, the newer concepts and innovations continuously coming up. The students thus learn that the change is a continuous process and they have to keep up with the new developments to succeed in their profession.

Multimedia technology is becoming increasingly popular in education as a means to motivate students in their learning and to provide them with many ways to express their ideas and display

their information. It also allows the teacher the flexibility to present their curriculum in an innovative manner. If we consider virtual university as the constructivist learning mode, the teacher becomes a facilitator, a consultant or guide on the side, helping students to access, organize and obtain information to provide solutions to the problems. This learning process enables knowledge based learning community to be created whereby students, peers and teacher share knowledge and assist one another in the acquisition and transfer of knowledge. Virtual universities appears as a possible solution to the need to extend the coverage of higher education. virtual universities seems to be an appropriate educational model for the development and delivery of technical and technological programs, necessary to the existing supply of higher education. Virtual universities offer the flexibility for students to acquire education throughout their lives without restriction The emergence of new technologies in the late 20th century, combined with the different attitudes of new, technologically savvy generation, are stimulating universities to evaluate their approach to education, and even their role within society. While this process may involve some trial and error, it also represents some exciting possibilities and the capacity to figuratively shape the future.

References:

Ann, H. D & Linda, L .B.(2000). Creating the Minnesota Virtual University Assessing Results and Readiness Criteria, Virtual University, EDUCAUSE QUARTERLY.

Carswel l, L, Thomas,P, Petre,M, Price,B, Richards,M. (2000) .Distance education via the Internet :The student Experience .British Journal of educational Technology .vol 31,No1,29-46.

Commonwealth of learning. (2003).A virtual university for small states of the commonwealth, 15th conference of commonwealth education ministers, Edinburgh, Scotland.

Crispin, D. & Andrew, L. (2007). A Wolf in Sheep's Clothing? An Analysis of Student Engagement with Virtual Learning Environment, Journal of Hospitality, Leisure, Sport and Tourism Education, 6(2), ISSN: 1473-8376.

Dziuban,C.,Moskal,p.,Brody,J.,and Shea.(2007).Student satisfaction with asynchronous learning ,Journal of Asynchronous learning Network,11(1),87-95.

Fawzi, A. (2003).Virtual education: Cases in learning and teaching technologies, London, IRM Press, publish off innovative scholarly and professional information technology titles in the cyberage.

Johnson, C. (2005). Lessons Learned from Teaching Web-Based Courses: the 7-year itch. Nursing Forum, 40 (1), 11-17.

Karen, V. (2009).What to expect from a virtual university, new directions for higher education, no 146, published online in Wiley inter science (www.interscience.wiley.com).

Koh H, E. &Teo, S, T. (2005).Lifelong learning: The New Imperative for Living in the 21st Century, NUS Extension Publications Officer, CDTL.

Krisztina, C.(2004).The virtual dimension of higher education ,The Global and the Local in Mobile Communication – Conference , Section of the conference: Mobile communication and local lif,Budapest, June 10-11.

Laurence, W. (1999).Technologies at work, the virtual university, Mexico: The virtual university of the technological institute of Monterrey, TechKnowLogia, November/December, Knowledge Enterprise, Inc. www.TechKnowLogia.org .

Maree, G, Karen, W, Helen, M, Christine, D & Kayo .N.(2007). Selecting ICT based solutions for quality learning and sustainable practice, Australasian Journal of Educational Technology, 23(2), 227-247.

Ministry of Education. (2004). Development Plan for Education and Research 2003−2008. Publication of the Ministry of Education, Finland 2004:8. www.minedu.fi/julkaisut/koulutus/2004/opm08/opm08.pdf

Moore. (2005).A synthesis of Sloan-C Effective practices, Journal of Asynchronous Learning Networks, 9(3), 55-73.

National Education act of B.E. 2542. (1999).Office of the national education commission, office of the Prime Minister Thailand.
http://planipolis.iiep.unesco.org/upload/Thailand/Thailand_Education_Act_1999.pdf

Rhonda, M. E. & Myk, G. (2004). Virtual Universities: Real Possibilities, EDUCAUSE Review, vol. 39, no. 2 (March/April 2004): 28–39.

Salway,G.,Caruso,J.,and Nelson,M.(2008).The ECAR study of Undergraduate students and Information Technology,(Research study,vol.8).Bulder,colo.EDUCAUSE center for Applied research ,from http://www.educause.edu/ecar.

Steve,R,Bernard,S,Howard,F,Daxa,P.(2000).The virtual university ,the internet and resource-Based learning,London, Kogan Page Limited .

Twigg,C,A & Oblinger , D.G.(1996).The virtual university: A Report from a joint educom/IBM Roundtable, Washington ,DC, November 5-6.Reporter Patricia Bartscherer, Administrative Assistant , educom.

Weller, M, Pegler, C & Mason, R. (2005). Students' Experience of Component Versus Integrated Virtual Learning Environments. Journal of Computer Assisted Learning, 21, 253–259.