
ENABLING AND EMPOWERING THE DIFFERENTLY ABLED THROUGH DISTANCE EDUCATION - A CASE STUDY

*Theodore A. Fernando, Thiwankee Wickramasinghe
and Indika Bulankulame.*

Abstract

Disabled people commonly labeled as 'handicapped persons' was termed as differently-able persons, by the US Democratic National Committee. This euphemistic term was not to show sympathy but to let people know that differently-able people can reach to equal levels of accomplishments, if they are provided with the necessary logistics, equipments, clinical and augmentative support.

In recent times wars and civil strife have maimed people all over the world. Since the recently concluded war in Sri Lanka, there are many differently-able persons that are yet to regain their lives. The objective of this research is to explore through a narrative analysis how the enrolled differently-able undergraduate cope; to see if the facilities and teaching methods meet their physical and emotional needs, and the possibilities of advanced education. OUSL pioneered on line learning and their twenty six regional centers, can reach even to the remotes war affected victim.

Today, education has different connotations due to globalization and advanced technology. It is in this context that teaching to differently-able people presents new and compelling challenges. This research documents how education via communication technology can create opportunities to make a positive change in their war affected lives.

Introduction

As revealed by the 2001 censuses, Sri Lanka has a differently abled population of 247,712 dispersed across the country. The percentages of such persons as stated are-Visual disability 19%, Hearing and speaking disability 20%, Disability in Legs 24.9%, Other physical disability 3.7%. However, these numbers have not taken in to account the numbers of differently abled people, who have come to the public sphere due to the recently concluded war in the North. The Protection of the Rights of Persons with Disabilities and the National Policy on Disability for Sri Lanka, (2004) state that "a person with disability means any person who as a result of any deficiency in his/her physical or mental capabilities, whether congenital or not, is unable by himself/herself to ensure for himself/herself wholly or partly the necessities of life." The purpose of this paper is to demonstrate that the Open University of Sri Lanka, with strategically located regional centers

throughout the country, is ideally placed to cater to the different needs of the differently abled people and to empower them through distance education, especially online learning.

United States Distance Learning Association (2002) defines distance learning as “the acquisition of knowledge and skills through mediated information and instruction.” It is evident that the proliferation of personal computers in the past few decades and the availability of Broad Band facilities, especially the Internet, have led to mainstreaming of distance education. At present, distance education offers an opportunity to attract non traditional students and students in remote rural areas. The increased efficiency in course delivery, while reducing costs and the ability to offer flexible schedules that are attractive to working students, is an additional reason as to why distance education has become popular (Mehrotra, Hollister, and Mcgahey, 2001). One the primary distinctions between distance learning and conventional class-room based courses is that distance education allows for greater choices in access to information, delivery of information and assessment of learning objectives and course content (Howard and Discenza 2000; Mehrotra et al., 2001). Therefore, one of the fundamental concepts of distance education is that students and teachers are separated by distance and sometimes by time. If teachers and students are not together in the same place or together at the same time, if they are separated by distance, it necessarily follows that there should be a means that will deliver knowledge and also provide a channel for interaction between them. Thus, the use of printed materials, audiovisuals, and electronic technologies can be considered as primary forms of communication.

In its most positive application, distance education is used to cross difficult physical and social boundaries, reaching minorities, high risk learners, and the handicapped, overcoming the tyranny of time and distance, and providing equal opportunity for all. In simple words, distance education occurs when students are in one place and teachers, peer learners, or resources are in another. The gap in time and space between them is bridged with an array of familiar technologies as well as the new machines of the information age.

At first glance, distance education appears to serve only the geographically disadvantaged. In the past, public education originally turned to distance mode delivery as the most cost effective means of extending the promise of an equal education to those who did not live within close distance to an educational institution. However, today we see that distance education is well suited, and can be used for a number of different types of students, all of whom share similar characteristics. All feel somewhat distanced or excluded from the present educational system. For some, the distance is physical. For others, it is cultural or psychological, however nearby an educational institution might be. Regardless of the reason or the situation, all these students can be served and reached by distance education.

Considering that distance learners, today, do not necessarily live in remote areas, a redefinition is needed. Therefore, one can talk of dispersed or decentralized learners who are reassembled or networked to form new learning communities that are less dependent upon common space, or buildings, using old formulas to obtain knowledge and education. This is, however, a two-step process. Decentralization deconstructs and often individualizes, while networking reconstructs and opens cooperative situations.

Decentralization and net working used in distance education can appeal to learners for a number of reasons. The first is to overcome geographic isolation in order to receive a state sanctioned education. Secondly, distance education, especially online learning, can be adopted for the many types of differently abled students and people. As we know, due to multiple reasons, differently abled are isolated from institutions and from other people. The medium used by distance education, including on-line courses can link disabled students with people of similar disabilities for group support, to be addressed as a member of a more or less homogenous group for the purpose of instruction or to offer services of value to the disabled. Disability Information services in other countries, such as Canada and Chat Back of the United Kingdom are computer conferencing systems that offer examples in this area. Alternatively on-line net work can be also further used to do just the opposite, to mainstream disabled people with so called "normal" peer groups and to offer equal access to learning resources used by a heterogeneous group of students. Since members of on line peer groups do not interact with differently abled directly, they are less likely to address them as differently abled and to be pre-disposed towards their abilities.

Though the distance education brings the above benefits to differently abled students, there are potential pitfalls for them at present. According to Burgstahler (1995), "People equipped with appropriate technology, including individuals with disabilities can gain access to unlimited opportunities for interaction and learning without leaving their homes or offices". Yet, the implications for assessment and accommodations in distance education for differently abled students with many acute impediments are largely problematic. For example, should differently abled students with many impediments be encouraged to take all the distance education courses because the technology-based medium offers certain advantages, for delivery of content, demonstration of student competencies, and evaluation of learning? How should traditional accommodations, particularly test accommodations, be adopted for the virtual class rooms?

Because of the proliferation of the Internet and Broad Band technologies, most distant learning centers tend to use commercial course material packages such as WebCT, Blackboard, and Commerce.com for Internet based courses. These are software packages that include design templates for course instruction, student assessment, communication and content delivery (Mehrotra et al., 2001).

By using these course design templates, instructors, themselves, can determine the extent and type of synchronous and asynchronous communication that occur within the course for the purpose of assessment.

Instead of blindly following traditional and conventional techniques for assessment, when enrolling differently abled students for distance education, educational institutions should take into account major characteristics of distance education and their implications for student assessment if they are using Internet based distance education courses. Specifically they should note the following three, which are the bench marks of Internet based distance education: Medium of delivery and course design, virtual learning communities and digitalization of course content.

As already mentioned, technology makes it possible to continually observe students' learning problems, not just learning outcomes at discreet intervals. In addition, students' interactions and feedback are more frequent and not restricted to real time.

Having established that distance education, especially the online learning with a modified assessment system, is very appropriate for differently abled students, we suggest that it should be explored to the full benefit to empower differently abled students in Sri Lanka.

Since the recently concluded ethnic war in Sri Lanka has brought many victims of the war into the public sphere, this paper is of the view that the Open University of Sri Lanka can help the differently abled post war victims to regain their life by enrolling in a distance learning program. According to a newspaper report, at present, Sri Lanka has around 100,000 to 150,000 disabled people, mostly young men who fought during the 30 year old war in the North and East.

How do the differently abled students, already enrolled in the Open University, fare? What are their problems? What facilities are they provided with? What are the views of the Open University administration on differently abled students? For the purpose of this paper, all the differently abled students studying at the Open University were interviewed using a purposive sampling method. In order to find out the existing facilities provided at the Open University to differently abled students, and the views of the administration on the differently abled students, interviews were conducted with senior academic administrators with a view to obtaining their views and insights.

Research Method

Narrative is inherently multidisciplinary, and is an extension of the interpretive approaches in social sciences. Narrative lends itself to a qualitative enquiry in order to capture the rich data within stories. As we are aware, surveys, questionnaires and quantitative analyses of behavior are not sufficient to capture

the complexity of meaning embodied within stories. Traditional scientific theory adopts a rational and empirical approach to achieve an objective description of the forces in the world, and scientists attempt to position themselves outside the realm of study to observe. In this way traditional science falls within a positivist notion, dealing with random samples and statistical analyses. In contrast, using the story metaphor, people create order and construct texts within particular contexts. Narrative analysis then takes the story itself as the object of study. Therefore, the focus is on how individuals or groups make sense of events and actions in their lives through examining the story, and the linguistic and structural properties (Riessman, 1993).

However, it is important to distinguish between qualitative analysis applied to narratives and narrative analysis as a method. In the former, general methods of qualitative analysis such as thematic, discourse and conversation analysis may be applied to the interpretation of narratives as well as other sources of data; while in the latter specific, analytic techniques have been developed for narratives alone. Narrative research methods aim to explore the meanings within individual narratives and gain a general overview of subjective experiences. There are certain features that distinguish narrative research methods within the broad field of qualitative methodology. Narrative research only deals with stories (in any media), and research is specifically designed to work with or to generate stories.

With ethnography, the first person accounts are intended as realistic descriptions, and as an alternative format from other scientific descriptions. Thus, it is the events described and not the stories created that are the object of investigation. Language, then, is viewed as a medium that reflects singular meanings. Under the narrative movement and criticisms of positivism, language is seen more as deeply constitutive of reality, not merely a device for establishing meaning.

In order to begin the research, first, an official letter was written by the researchers to all the senior Assistant Registrars of the Open University, requesting them to furnish to the names of the differently abled students, in their respective faculties with contact details. Once the contact names were received, the research team, with the help of trained research assistants, was able to contact the differently abled students who were willing to meet the researchers. Throughout the research, the narrative method of telling one's story was encouraged. With a help of a pre-prepared questionnaire, differently abled students were asked to narrate their stories. As far as possible, in order to give a voice to the differently abled people interviewed, except for grammar and clarity, narrations of the differently abled people were not edited in what ever form in this paper.

Research Focus

Keeping the above background in mind, this paper tries to investigate the following research questions:

- ◆ What are the main reasons at present for bringing in differently abled students to the Open University?
- ◆ How do differently abled students at present cope with their studies at the Open University?
- ◆ Do the facilities provided by the Open University at present meet the multiple needs of the differently abled students?
- ◆ What are the views of the administration in admitting differently abled students?
- ◆ Does the university have a suitable assessment system to evaluate and grade the gained knowledge of the differently abled students presently enrolled?

Findings

According to the respondents, the lack of alternative higher education institutions or their refusal to admit differently abled students was the prime reason that attracted them to the Open University. The emotional comment made by one of the respondents was "I was disappointed thoroughly since my application to join an English Teaching Course, conducted by one of the premier institutions in Sri Lanka, was rejected. Though I had submitted a comprehensive medical report along with my application, I had to keep on calling them to find out as to why my application was rejected. Finally, they came out saying that my hand writing was not clear. It was at that point that I got the opportunity to apply to OUSL." Most of the respondents revealed that though they were satisfied with the existing facilities, the infrastructure was inadequate as seen by the following comment: "Improvements should be made to all buildings, classrooms and surrounding areas, especially to make them accessible to the differently abled students". Another comment was, "one of the biggest difficulties that I have faced as a paraplegic wheelchair user is the inaccessibility to buildings and class rooms. I also feel that aids such as hand-rails and ramps, should be included in all the buildings and class rooms". A plea from one of the respondents was, "special software or Braille machines for blind students need to be provided by the university in the class rooms." "Within the class room I find it difficult specially in writing at the tables provided, as I cannot move my wheel chair close to the table, and it takes me double the time to write as I have to lean forward towards the desk."

Additionally, the following comments too were made: "Weekend sessions require students to spend many hours within the premises and therefore, it is vital to include special bathrooms that are friendly to differently abled people with changing and washing areas as some students might not be able to control bladder and bowel movements."

"Audio recorded books should also be provided, and time given at annual examinations should be increased".

One of the respondents made the following remark about the existing facilities of the Open University. "At the Language Department where I am studying, I have the privilege of an extra-half -an-hour at final examinations, and five minutes additional time at continuous assessment tests, due to my slow hand and eye movements. I like to commend also the Open University library staff. I am always assisted by a library worker who will support me to select the books as well as carry them to the vehicle. "

About the existing facilities or services of the Open University to the differently-abled students, one of the Senior Assistant Registrars said, "to start with, it is difficult to say this as we don't have any records of the differently abled students. The OUSL application form does not have a column to specify this". When asked whether there are any concessions to the differently abled students with regards to the course fees, he noted that based on the earlier comment "If they require, all can apply and there is no special basis". He too agreed about the inadequacy of the facilities: "No special services at all. There are no toilets, ramps or even a special place to rest. However, if we see a disabled person at registration or at exams, then we take extra effort to help them, but only at that point and not before as we don't know about them. When I was in the administration some disabled students asked for a pass for their vehicles and I considered that by getting his medical report".

When asked whether he had come across any differently abled students, he said,

"No, I have not come across any students but I have come across students who are mentally disturbed, at least five of them. Sometimes their parents tell me to give them some placement so that they are kept busy". He too saw the need to provide basic facilities. "Yes if we are going to have this system then we need especially to have disabled friendly toilets and a place to rest. None of our building have these facilities nor is the canteen accessible. I don't know how these students studied all these years". Her view of the differently abled students was "With the war there are many disabled if they want to study here especially with our Distance Education system we should be able to provide the services. We also have people who have had accidents and have become temporality disabled. I met a student like this last week. To attend to his request he had to go to block 4 and then come

back here and go to exams and that is a lot of walking so I tried to minimize it by giving him a shorter route and explaining how to get there and what to do first. That was all I could do. We should not be giving sympathy but concentrate on how to improve the services”.

When requested for suggestions for the improvements, “yes. At least we should try to do basic things like registering on line and other little things like address change, etc. This is good for all students. It saves time for us and for them too, especially because they are disabled. There is a system called *myousl* which provides this services but it is not used. I don’t know why it is not”.

The researchers were able to get the view of a former Dean of the Faculty of Humanities and Social Sciences. The following is the extract from his candid views on the differently abled students.

“Yes, I see there are challenges in our country because we do not have the facilities. It is the same for the faculty. Once there was an army officer who wrote to me when I was Head Legal studies asking for his registration to be sorted out. He had mentioned that he was disabled but did not specify the nature of the disability. I said that it is not an issue for him to come and meet me. One day he came to see me in his wheel chair carried by army officers. I felt so bad and I said that he should have called me downstairs but he said he was happy to come up as at last he had got a response to his request. We have a problem with our attitudes we need to change the way we think. Without this nothing can be done. When there is a student who is differently abled if he has friends he will be carried to the exam hall but this is not the ideal situation! I have been trying to put a ramp at least to our building and the library but it has not happened I was there at this meeting in January. I was instrumental in requesting this but it has not happened. It is not the money but the attitude they always prioritize the less important once like conferences. In this respect there is some negativity I feel.”

What kinds of improvements should you suggest to integrate the differently abled? : “At least we should have one toilet in the campus this is essential infrastructure. I don’t think we should have a quota system to take them to university. However, we should do it so that other normal people don’t feel that they have a disadvantage. If we know about the disable student then we can print in large print etc. I had a few students who had problems like dyslexia. I gave them extra time on the papers. But I had medical evidence to support this to avoid any issue with the normal people.” When asked about introducing E-learning for the differently abled students he said. “Well, it is not to say that we have the equipment but certainly it is easier for the disabled to engage in studies on an e-learning system where they will be more comfortable. For example the visually handicapped can be given the appropriate technology and likewise the deaf. The best thing is that this can be customized it is the most valued component of e-learning to overcome the challenge.”

Since this exploratory research was exclusively about the Open University, and the differently abled students studying at present, the researchers were fortunate to also get the views of senior academics on the status of the differently abled students in the university. These were some of the views: “What is your perspective on the differently able students. They should be a part of our society and should be integrated to the society. If there is a special need depending on their abilities we should put them in a different class. We should separate them only if there is a need because this may segregate them. We should give all the facilities especially toilets and other places and give access to all the buildings. We are trying to make at least the library, the Vice Chancellor’s office, and the finance accessible with ramps and lifts. The UGC has sent a circular that all buildings should have these facilities. Actually about six months back I personally talked to the Works Engineer and discussed about the ramps. We don’t need millions to do small things like this. We just got a quotation for lifts.”

When asked whether OUSL should have a pilot project to integrate the differently abled and encourage them for higher education through e-learning, he said, “OUSL already has the facilities, we only need to have partnership with a mobile provider. The Engineering Faculty has partnered with the Royal Swedish Institute of Technology and the students can access their virtual labs. An organization close to Batticaloa brought some computers that were used for people who were deaf. We can use something like this.” About the challenges faced by the OUSL, he said, “in the context of e-learning this is a good choice. Since mobility is restricted and that is the main issue this might be a more suitable option at least for the physically disabled person.”

Implications

At present, a majority of the distance educational courses conducted by the Open University use printed text books, audio -visual material and day schools. However, the Open University is the only national university in Sri Lanka, which delivers study programs through Open and Distance Learning using multiple deliverables. Student assessments are also very similar to conventional or traditional assessment methods. As the narratives reveal, the present system imposes certain constraints and burdens on the differently abled students. According to the study done by Jayatilleke (2005), at present there are 42 online courses using Manhatton and 59 using Moodle. Though these courses are available as supplementary, blended, and online -Plus, most of the courses are meant for “normal” students, and they have not been offered to the differently abled students, since at present, there are only six differently abled students in the University.

The findings suggest that it is better to introduce online courses (E-learning) not only for the “normal” students, but also for the differently abled. Of course, existing assessment methods that are already in operation and different soft wares that are used should be adopted to suit the needs of the differently abled students.

Since the war has brought many differently abled people into the public sphere, the OUSL can do yeoman service to the nation by reaching towards the post war victims who are differently abled.

Though this is an exploratory case study limited to the differently abled students currently enrolled, it is very clear that the university has a long way to go if it wants to attract more students to the system. The introduction of ramps to the various faculty entrances after the UGC directive is a welcome sign, but the university will have to address some of the major grievances or concerns mentioned by the students as well as the university authorities. Though, at present the Open University is doing its best to accommodate the differently abled students, it is evident that more could be done. There is an urgent need to create awareness among all the members of the university staff, as to the proper manner in which the differently abled should be treated.

As this paper has pointed out, there is also a need to change the existing assessment system both online and distance, used by the university at present, to help the differently abled students suffering from various physical and mental deficiencies.

To conclude, this paper has pointed out that distance learning or online distance learning is not a panacea for all the differently abled students. Suitable infrastructure and existing assessment practices should be revisited and should be a part of the future research agenda. Distance learning educators and instructors should further take into account the increased diversity of differently abled students before enrolling them to educational courses. The researchers were happy to note that the university administration is sympathetic and wants to improve the facilities for the differently abled students. However, empowering the differently abled people with online or distance learning is not adequate; additional measures should be taken to ensure that employment opportunities are provided in order that they lead a dignified and independent life.

Reference

- Abrami, P.C., and Bures, E.M. (1996), Computer-supported collaborative learning and distance education. *American Journal of Distance Education*, 10, 37-41.
- Alavi, M. (1994), computer-mediated collaborative learning: An empirical evaluation. *MIS Quarterly*, 18, 159-174.
- Arvay, M.(1998), *Narratives of Secondary Traumatic Stress: Stories of Struggle and Hope*. Unpublished doctoral dissertation, University of Victoria, Victoria, British Columbia, Canada.
- Banergee Mangu and Brickerhoff C. Loring (2002). *Assessing Student Performance in Distance Education Courses: Implications for Testing Accommodations for Shelter With Learning Disabilities*. Retrieved on March 26th 2008 at <http://laei.sagepub.com/cgi/content/Abstract/12/3/25>.
- Brown, J.S., Collins, A., and Duguid, P. (1989), Situated cognition and the culture of learning. *Educational Researcher*, January-February, 32-42.

- Bruner, J. (1990) ***Acts of Meaning***. Cambridge :Harvard University Press.
- Barron, B.L., Schwartz, D.L., Vye, N.J., Moore, A., Petrosino, A., Zech, L., Bransford, J.D., and The Cognition and Technology Group at Vanderbilt (1998), Doing with understanding : Lessons from research on problem and project based learning. ***Journal of the Learning Sciences***, 3/4 271-312.
- Burgstahler, S. (1995). Distance Learning and the information highway. Retrieved 15th November 2010 from <http://Washington.edu/Sherylb/Tra.95.html>.
- Dede, C. (1996), Emerging technologies and distributed learning. ***American Journal of Distance Education***, 10(2), 4-36.
- Dede, C. (2000), Advanced technologies and distributed learning in higher education. In D. Hanna (Eds.), ***Higher education in an era of digital competition: Choices and challenges***. 71-92, New York: Atwood.
- Edelson, D.C., Gordin, D.N., & Pea, R.D. (1999), Addressing the challenges of inquiry-based learning through technology and curriculum design. ***The Journal of the Learning Sciences***, 8(3&4), 391-450.
- Evensen, D. H., & Hmelo, C.E. (Eds.). (2000), ***Problem-based learning: A research perspective on learning interactions***. Mahwah, NJ: Lawrence Erlbaum Association, Publishers.
- Gomez, L. M., Gordin, D. N., & Carlson, P. (1995), ***A case study of open-ended scientific inquiry in a technology supported classroom***. In I.G reer (Ed.), ***Proceedings of AI-Ed '95, Seventh World Conference on Artificial intelligence in Education*** (pp. 17-24). Charlottesville, VA: Association for the Advancement of Computing in Education.
- Gordin, D. N., Polman, J. L., & Pea, R. D. (1994), The Climate Visualizer: Sense-making through scientific visualization. ***Journal of Science Education and Technology***, 3, 203-226.
- Howard, C., and Discenza, R. (2000), The emergence of distance learning in highr education: A revised group decision support system typology with empirical results. In L.Lau (Ed.) ***Distance Learning Technologies: Issues, Tends and Opportunities*** (pp. 142-155).
- Jayatilleke B.G (2005), A preliminary study on the initial experience of rTeachers' using On-line Learning Environment at the OUSL. Silver Jubilee Academic Sessions, November 24-25, 2005, Open University of Sri Lanka, Colombo (19-23).
- Lecompte, M.D. & Schensul, J.J. (1999), ***Analysing & Interpreting Ethnographic Data***. Walnut Creek, CA: Altamira Press.
- Lincoln, Y. & Guba, E. (1985), ***Narrative Enquiry***. Beverly Hills, C.A: Sage
- Ma Leod, J (1994) ***Doing Counseling Research***. London, England, Sage.
- Manique Gunaratne, (2010) www.lankabusinessonline.com/fullstory.php?mid=1263702371,
- Metrotra, C.M., Hollister, C.D., and McGahey, L (2001). ***Distance Learning: Principles for effective design, delivery and evaluation*** (1st ed.) Thousand Oaks, CA: Sage. Publications, Inc.
- Maykut, P & Maehasue, R. (1994), ***Beginning Qualitative Research: A Philosophic & Practical Guide***. London .England: P Falmer.
- Naidu, S. (2004). ***Learning design as an indicator of quality in teacher education***. Paper presented at NAACCOL Roundtable on Innovations in Teacher Education, Bangalore India.

- Pea, R.D. (1994). Seeing what we build together: Distributed multimedia learning environments for transformative communications. *The Journal of the Learning Sciences*, 3 (3), 285-299.
- Poling, D.J. (1994). Email as an effective teaching supplement. *Educational Technology*, May-June, 53-55.
- Rapaport, M. (1991). *Computer mediated communications: bulletin boards, computer conferencing, electronic mail and information retrieval*. London: John Wiley & Sons. Inc.
- Ricoeur, P. (1984). *Time and Narrative* (Vol.1) Chicago: University of Chicago Press.
- Riessman, C.K.(1993). *Narrative Analysis, Qualitative Research Methods Series, No.30*. Newbury Park, CA.: Sage.
- Salmon, G. (2000). *E. Moderating: The key to teaching and learning on-line*. London: Kogan. Page.
- Salmon, G. (2003). *Activities: The key to active online learning*. London: RoutledgeFalmer
- Schank, R., Fano, A., Jona, M., & Bell, B. (1994). The Design of Goal-Based Scenarios. *The Journal of the Learning Sciences*, 3(4), 305-345.
- Spiro, R.J., Feltovich, P.J., Jacobson, M.J., and Coulson, R.L. (1991). Cognitive flexibility, constructivism, and hypertext: Random access instruction for advanced knowledge acquisition in ill-structured domains. *Educational Technology*, 31 (5), 24-33.
- The Cognition and Technology Group at Vanderbilt (1990). Anchored Instruction and its relationship to situated cognition, *Educational Researcher*, 19(6), 2-10.
- The Pacific Rim Declaration For Disability –Inclusive Millennium Development Goals. April-May (2010). WWW.UN.Org/disabilities/default.asp?id=1534. accessed on 6th October 2010.
- United States Distance Learning Association.(2002) Retrieved on May 8, 2008 from <http://www.usdla.org/html/aboutUS/researchInfo.htm>.
- Velayao, R.S. (1994). Supplementary classroom instruction via computer conferencing. *Educational Technology*, May/June, 2026, 20-26.
- Willems, J. (2005). Flexible Learning: Implications of “When-ever”, “Where-ever” & “What-ever”. *Distance Education*, 26(3), 429-435.
- WWW.lankabusinessonline.com/fullstory.php?mid=1263702371 retrieved on 1.1.2011/