

Reflecting on the Creation of Online Distance Learning Teaching & Learning Materials

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Abstract

In January, during the Learning and Technology World Forum in London (2010), Prime Minister Gordon Brown said that the UK could become a “global education superpower”, with e-learning as one of its fastest-growing exports. Although it is apparent that the Government is fostering this mode of education the evidence of e-learning development at a local level is not always immediately visible and it would seem as if there is a long way to go yet before Brown’s vision is realized (Tabata and Jonsrud, 2008). Although Universities encourage the growth of distance learning courses the development of staff skills, knowledge and IT development is slow and can leave staff floundering and, potentially, place online courses at risk of failure (AACSB International, 2007). According to Bielefeldt (2002) university faculties do not always recognise the need for the staff developing these courses to have access to good and continual technical support. Additionally, if the lecturing staff who work with such programmes are not competent in the complexities of the programming, or the tools that the institution requires them to work with it, it will delay the growth of such courses and compromise recruitment and retention. It is only while working with the students undertaking these courses can teaching staff truly understand how to develop and improve their course.

This paper investigates our experiences of a variety of commercial tools with the aim of enabling us to identify those that will allow us to produce excellent teaching and learning material for our students. Whilst preparing our distance learning programme the University had already introduced an authoring tool. They assured the teaching team that they would be able to use this effectively to produce quality learning material and, hence, enhance the distance learning programme. Unfortunately this was not the case. Even after training and basic skills had been learnt the tool proved to be more complicated than we had been lead to believe. Perhaps more importantly, student evaluation of the online material identified that the majority found the format and styling ‘*boring*’. So, eventually, it was considered

necessary to locate an alternative tool that was more ‘user friendly’ and that would meet the need of our student population (Maclean, McShane, and Etchason, 2001). The search was very difficult as there are many tools out there and we had to ensure the one selected was ‘fit for purpose’ and manageable within the University IT system. We now believe we have found an appropriate authoring tool. Savenye, Olina, and Niemczyk (2001) argue that e-learning tools need to be versatile and the package we have chosen seems meet this requirement. Although it is technically much more user friendly for preparing online teaching material we now have the additional task of identifying whether it enhances the experience of our distance learning students. Although it is early days yet the indication is that the students are more engaged with the online material and find the material more interesting and stimulating. The capabilities of this tool are to be further explored to ensure we continue to develop stimulating and easily accessible teaching and learning material.

Keywords:

Distance Learning, Authoring Tool, Programme Development.

Main body

This paper will explore the difficulty of finding an authoring tool that would enable the students to consider they were active learners instead of passive ones. We are aware that the way students’ learn and study is very different today from even five years ago. This generation is computer literate but impatient with what they want to do and do not want to be sedentary learners (Malburg, 2009). They do not want to spend time finding things and think information should be easily accessed via a single mouse click and then they will decide on how to process this. In last year’s evaluation the students were happy with the content *per se* but the appearance and the lack of interactivity was a problem and they evaluated this as being ‘*boring*’. During the preceding two years we had exposed the short comings of our present authoring tool and the student evaluation confirmed the need for change.

Back in 2005 when we were considering this distance learning programme we were aware that Valentine (2002) had already discussed distance learning and its relationship to emerging computer technologies. He warned that although it would offer higher education a promising future institutions must accept that it is not without its shortcomings. He regarded problems as being the need for the right technology, the degree of administrative help, the University having a specific system which enables rather than disenables and the support from the Faculty. Whereas Tabata and Johnsrud (2008) identified that perhaps the biggest problem for distance programmes is the lack of technical support. They highlight many other aspects of encouragement needed in order for success to be guaranteed the most important of these being the endorsement by department and the faculty. They viewed this as a critical element in the production and sustaining any distance education programme. Bielefeldt (2002) suggest another obstacle lecturers lack of the basic skills or hardware to fully participate in

distance education because computers, video equipment, communications software, and the like are either not available or too complex. This in turn presents challenges and frustrations to even the most enthusiastic lecturer who has a passion for this non-traditional coursework and are best suited to teach them. Over the past three years we have established that distance learning can be a perfect solution when the individual who wants to study for a degree but cannot attend a bricks and mortar school. Tabata and Johnsrud (2008) stressed that faculties who want to teach distance courses are certainly more likely to be successful than faculties that are forced to teach solely using a more traditional approach

During the production of the course we discovered that the University used a specific authoring tool so it was natural for us to use this as technical support was already in place. This software was described as working like “*Like Magic*” and that Microsoft word documents could be easily converted into interactive online courses and web pages. These could then be uploaded to Blackboard “*creating engaging learning content for students*” (Sapsed *et. al.* 2008). We began our journey and tried really hard and produce a good quality teaching and learning material that looked high-quality and appealed to the students.

However, despite our best efforts, the students identified changes that they felt would enhance their learning experience and we were faced with the continuing problem of knowing how to best achieve what it is they were requesting. Our learning curve continued with conversion of teaching material remaining our most difficult task. Although we were capable of writing the material (diagram 1) and adding the appropriate commands to enable conversion (diagram 2 we underestimated the time this would take and it soon became very apparent that turning around the weekly notes for four units (modules) was going to be a significant challenge.

Diagram 1 – Screenshot of the Public Health Masters BREO - commands

Day 5 Public Health and 'Green Issues' - Removal of Rubbish - Drains, Dustbins and Spread of Diseases

Learning outcomes

Learning outcomes

To consider how the removal of rubbish can be maintained in this 'throw away' society.

To understand the need to prevent the spread of diseases.

To recognise these issues have to incorporate recycling and general green issues.

Green Issues and Public Health

Green Issues and Public Health

More and more peoples are becoming aware of the impact they have on the environment and this is especially true within the arena of Public Health. As global warming is making a major impact on the world,



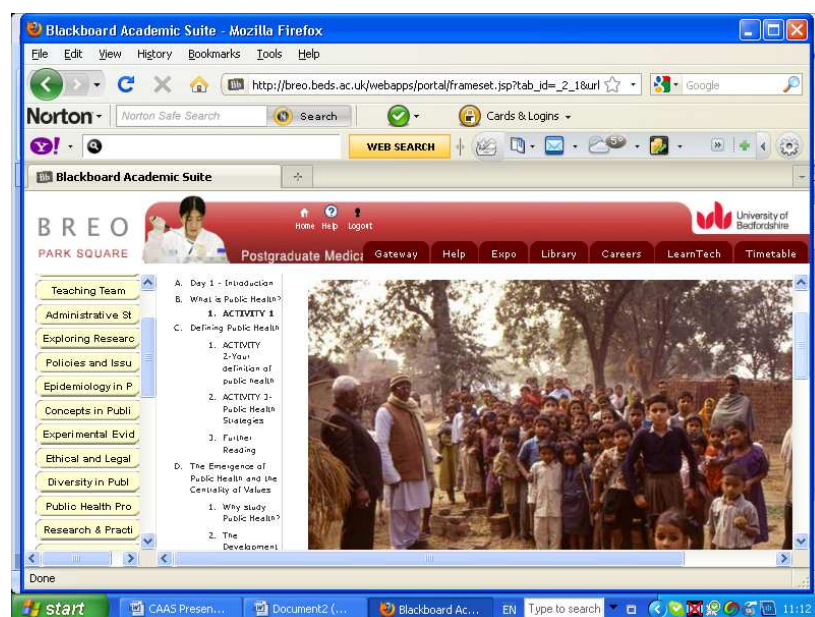
Environmental issues are at the forefront of both Public Health and business agendas. Organisations are increasing assessing their environmental obligations and continually looking at ways in which they can deal or reduce their waste. Many suppliers and manufacturers are seeing the cost saving advantages of reducing waste and recycling. Local

Authorities and companies are incorporating these policies into their daily duties, making it part of their corporate social responsibility as a result of Kyoto agreements.

Diagram 2 – Screenshot of the Public Health Masters BREO - Notes

The teaching material often contained graphs, tables and images – all of which the authoring tool was able to deal with as long as we understood its 'idiosyncrasies'. Tables and diagrams proved to be a particular ordeal as they would move during conversion or become corrupted. However, the authoring tool did facilitate the presentation of student activities (diagram 3) which facilitated group discussion and student comment on their Wiki site.

Diagram 3 – Screenshot of the Public Health Masters BREO - Activities



During the first year of online material development we sought some technical help from a computing student. He also found this authoring tool “exasperating” as it did not work as he would have expected. Although he managed to convert most of the material the time he was allocated to do this was fully taken up and, hence, he was unable to fully explore the software’s capabilities. Our hopes that he would be able to convert the material, keep accurate (and easily understood) records of how this should best be done and then train us was not realised.

During this process it also became apparent that we needed to consider the special needs of the students who had dyslexia or eyesight problems. For these students Evett & Brown (2005) identified that not all fonts are equally easy to read. For example serif fonts such as Times New Roman are more difficult than those without serifs such as Arial, Helvetica, Verdana, CG Omega and Tahoma. They continue to suggest that these students should be consulted about the colours used. This was an immediate problem to us as we could not change the colour or the font type on the tool being used because of lack of advanced programming skills. It was also not an easy process as we could not view any changes until a full conversion was completed so it was time consuming. Chung (2002) indicates that letter and word spacing, size of font, and the use of italics and bold are all important factors that must be considered with these students and most standard letter spacing, as found for Courier for example, is acceptable but justified text can cause problems for some readers as the spacing among words plays a part in word recognition, so left aligned text is best. The font ought to be in the range of 10 - 12 point, if required larger individual notes would need to be written, lower case, and the use of italics should be minimised (Evett and Brown, 2005).

This all sounds easy but we then faced further challenges as material needed to be converted and uploaded so we were able to view the finished appearance. If we found we needed technical help with this there was a delay making the course content available to the students, which was unacceptable. At this stage we decided we needed to explore other tools that were more ‘user friendly’. We needed to manage our own time scales and manage our material ourselves.

So what was the way forward? Primarily we needed to source a tool we could operate ourselves. We need one that required no programming skills and one where we could view what the students would be looking at as we worked on converting our teaching material. But how would we know that they do ‘what it says on the packet when most seem to offer similar things as the one we had been using:

- *They are interactive, powerful, will enrich rich the content enabling it to be interactive.*
- *Rich content is easy to create and can be easily repurposed.*
- *Educational institutions are looking beyond basic course editors to AuthoringTools.*
- *Authoring tools are to simplify the production of interactive, reusable learning content.*
- *Authoring Tool produces content that is compatible with, but not permanently locked into a virtual learning environment.*
- *Course creation has never been so simple.*
- *Quickly and easily convert your Microsoft Word documents into content for your online courses.*
- *From one Word document you can generate a set of WebPages that includes navigation and interactive features that are easily uploaded in to your course.*
- *The features are described as using a combination of special styles and dialog boxes, you can add interactive features such as:*
 - Flashcards
 - Navigation
 - Formatting
 - Popups
 - Definitions
 - Insert HTML, Java, and other code
 - Table of contents
 - Hyperlinks
 - Includes
 - Self-test questions

This seemed a very good check list to have to match against programmes. Campbell *et.al.* (2007) stated ‘*that higher education is inundated with ever-changing e-learning methods and strategies. The learning curve and long-term investment vary significantly from model to model. Amid changing requirements, institutions struggle to make sense of how to balance the different approaches while operating within constrained budgets and resources. They must take an iterative approach to implementation to determine which models produce quantifiable results and positive learning outcomes*’. What foolishness to think this would be merely looking at list and cross checking the features?

Did having this check really help? Sadly, not because we did not really know what it they all meant, as we did not have the technical knowledge the sales persons had and they treated us with indifference if we could not talk to them on the level they were used to pitching their sales talk. Carini (2010) said that *“The salesman knows his product inside and out, but he discovers that the customer isn't buying. He tries to make a sale based on features. But the buyer doesn't care about the technology or how well the product is crafted. Features don't sell.”* Another aspect was we were looking for something that would only be used within our department and not university wide. Hence, most were very expensive and stood outside of our budget.

Attending Conferences was no help as these also blinded us with ‘science’. After many hours we were to discover they are all very similar in what they say, but there is no mention of how an inexperienced programmer can work with them. Eventually we identified several programmes that seemed suitable but we need to know if we still did not know which, if any, was the more user friendly. Each programme matched the check list identified by Mc Gill et al. (2005):

- Effective management of information
- Easy to navigation
- Easy to access and use
- Clear directions and tasks
- Hierarchically organised
- Interactivity
- Different interface and functions for different user groups
- Flexible user and group management
- Easy to use communication tool

So what was the next step? Although many companies offered a free trial period there was the expectation that there is the time to explore its full capabilities within a narrow time frame. As we did not have this luxury this was not as good an option as we first thought. Eventually, towards the end of June 2009 one of our technical support team, who specializes in online learning, attended a conference and learnt of a new programme that appeared to be just what we were looking for. As it was a combination of two things - an authoring tool and an interaction building tool – it sounded appealing. The programme we found was describes as follows: *Elicitus is an extremely easy to use and WYSIWYG (What You See Is What You Get) authoring tool for trainers, educators and subject matter experts. Because of the WHYIWYG interface, anyone can create highly visual courses with Elicitus - without any programming. In addition to this, Elicitus offers a strong assessment engine with over 10 question types. Elicitus courses can be published and tracked with any SCORM/ AICC compliant LMS. Raptivity, the interactivity building tool, allows creation of interactions such as*

learning games, branching simulations and even virtual worlds without the need of any programming. Raptivity offers 225+ such pre-built learning interactions. Also, with the smooth integration with Raptivity, the courses can be made highly interactive and engaging – in less time and cost. Was it really as good as they were making out?

So we did what all good potential purchaser would we did a comparison and discovered the features of Elicitus offered us the following;

1. Over 10 question types
2. Offers one-click integration with Raptivity, the award-winning rapid interactivity building tool.
3. Offers complete flexibility to control the navigation in the course.
4. Unicode is completely compliant so you can create courses in multiple languages including those supported by double byte characters.
5. Supports all known formats for images and graphics.
6. Offers quick preview for each topic page which enables the course creator to see the topic page as the learner will see it.

This too had only a trial period of 18 days and introduction notes that were not easily understood. However, we managed to locate an understanding senior member of the company who understood the problems we had been having and he agreed to allow us sufficient time to explore the tools so that could ascertain if it was exactly what we were looking for. So in odd moments from July to the end of August, and via three on line tutorials from India, a lecture was finally completed. The listed features were easy to use and we were able to design and incorporate text, graphics, sound and video and, perhaps more importantly, it was a tool we would be able to use with our existing knowledge of information technology.

One of the first things we discovered was that we could use any colour combination and add in the graphics or photos to enhance the teaching material. The introductory page can have a voice over which enables the student to know what is expected in this Unit (module). Pictures can be used to enhance the text, which offers realism to what is being discussed. Likewise it easy to insert a hyperlink to appropriate web pages (see diagram 4, 5 -& 6).

Diagram 4 – Screenshot of the Public Health Masters BREO – Introductory page

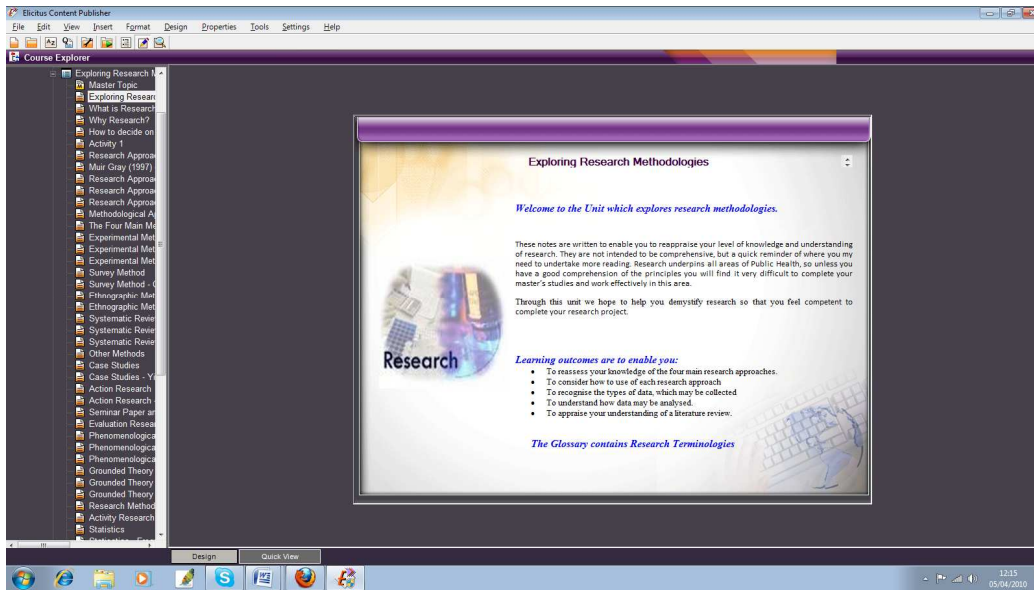


Diagram 5 – Screenshot of the Public Health Masters BREO – Voice over

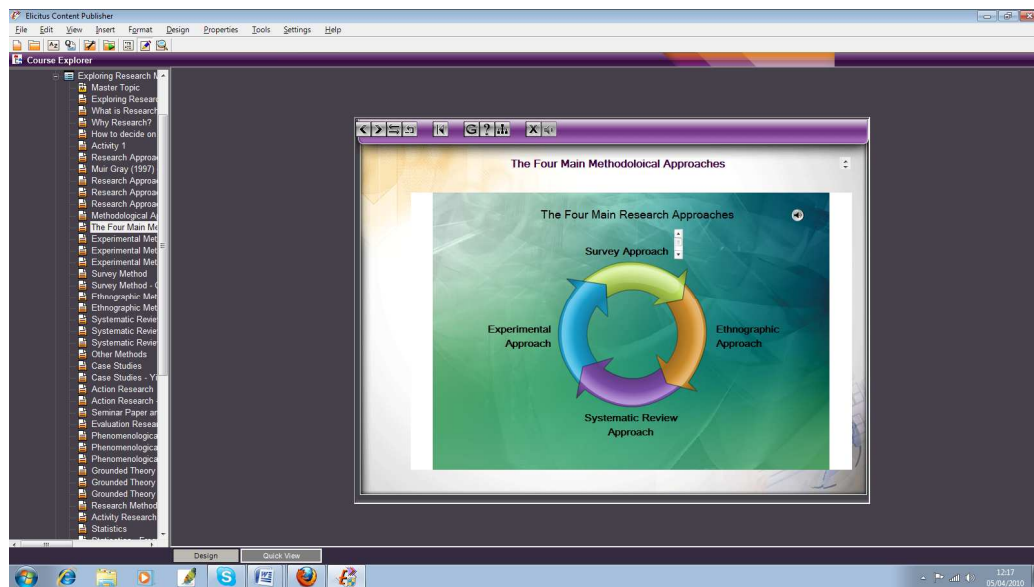
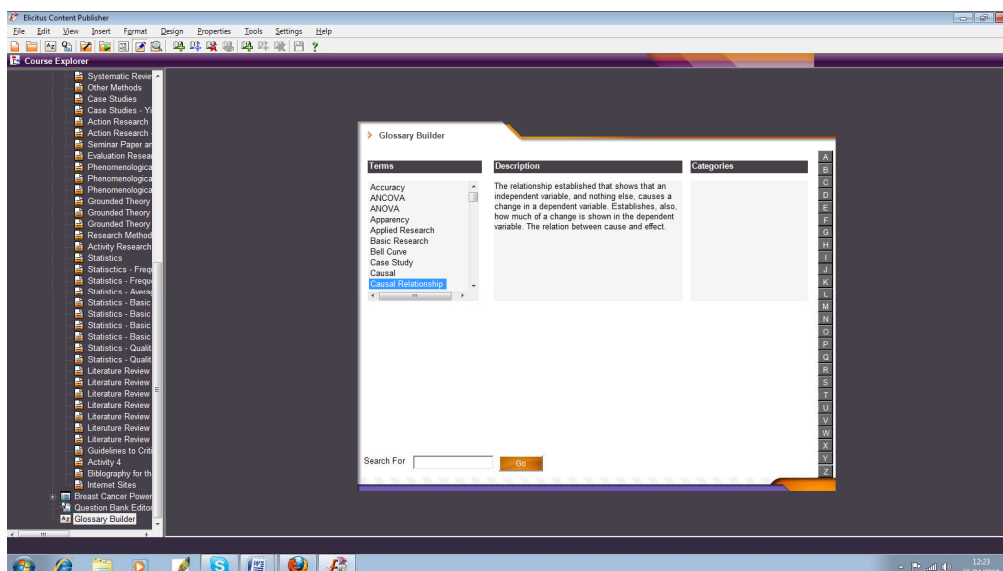


Diagram 6 – Screenshot of the Public Health Masters BREO – Glossary



Having discovered we could achieve the basics our next task was to develop a glossary, although it is a tedious activity that enables the student to access what they are looking for by clicking on the letter of the alphabet the term starts with. Although this tool had similar features to others investigated what sold it to us was the very wide range of useful aids to learning. We had fun with the vast range of games creating a 'hangman game' which would enable the students to learn definitions. It was equally as easy to devise a crossword and many other games which were made more interesting by the addition of the voice overs. An inbuilt asset was that learning theories were embedded into the tool which enabled the selection of the correct activity. So while we were working during the trial period we had a group of students assessing its suitability and they evaluated it very positively.

Diagram 6 – Screenshot of the Public Health Masters BREO – Activities





Perhaps more importantly will it meet the needs of the intended student group? Early indication from those that have reviewed the new programme, is that it meets all their requirements. Equally as important as the students welcoming the interactivity that this programme would provide was is there sufficient technical support. This aspect was very important to us as we were looking for a programme we could manage ourselves however, even when it appears that this occurs for 99% of the time there will always be an occasion where, there is a hiccup. In investigation this aspect we discovered that there could be telephone support. This had to be the selling point. In the short time we have used this programme this has been invaluable. To find a problem and make a call and have it sorted never left would excellent service, would it work? We quickly found the answer in that the support team are there 24 hours of the day and they go to all lengths to manage any problem which to-date has mainly been due to using different computer and not understanding some of the reference material.

In conclusion

Based on our findings, it is clear that developing distance learning programmes that would be acceptable to the Faculty and possibly useful across the wider university presented numerous challenges. Equally, knowing that the University is hoping to develop their portfolio of distance learning programmes it is an important to consider that this is a long term strategy and, therefore, the tools being purchased and used must be sustainable. From the limited use we have so far made of this system we are certain it will enable our programmes to be more interactive and as we develop our skills we feel it has considerable potential. Despite the challenges we feel we have made the correct select of our team.

References:

- AACSB International (2007) *Quality Issues in distance learning*, Tampa, AACSB. International
- Bielfeldt, T., (2002) Chapter 5. Teacher Outcomes: Improved Technology Skills - International Society, *Assessing the Impact of Technology in Teaching and Learning: A Sourcebook for Evaluators* Edited by Jerome Johnston, University of Michigan, and Linda Toms Barker, Berkeley Policy
- Beyth-Marom, R., Chajut, E., Roccas, S., and Sagiv, L., (2003) Internet-assisted versus traditional distance learning environments: factors affecting students' preferences. *Computers and Education*, **41**, 65–76
- Burgess, G., Holt, A., and Agius, R., (2005) Preference of distance learning methods among post-graduate occupational physicians and hygienists. *Occupational Medicine*, **55**, 312–318
- Campbell, D., Oblinger, G., *et. al.* (2007) Creating a culture of evidence tops the list of important issues as the academic technology profession moves to an "Instruction 2.0" world, Volume 30, Number 3, 2007
- Carini, M., (2010) *Selling Techniques to the Buyer: The Customer's Perspective on What and Why He Buys* : online: accessed 31st March 2010
http://marketingpr.suite101.com/article.cfm/the_customers_perspective_on_why_he_buys#ixzz0iHGeoo5Y
- Cook, G., Thynne, E., Weatherhead, E., Glenn, S., Mitchell, A., and Bailey, P., (2004) *Distance learning in post-qualifying nurse education*. *Nurse Education Today*, **24**, 269–276
- Chung, S., T., L., (2002) The effect of letter spacing on reading speed in central and peripheral vision. *Investigative Ophthalmology & Visual Science*, **43**, 1270–276
- Curry, M., and Smith, L., (2005) Twelve tips for authoring on-line distance learning medical post-registration programmes. *Medical Teacher*, **27**, 316–321
- Donnelly, A., B., and Agius, R., M., (2005) The distance learning courses in occupational medicine – 20 years and onwards. *Occupational Medicine*, **55**, 319–323
- Evet, L. and Brown, D. (2005) text formats and web design for visually impaired and dyslexic readers – Clear Text for All. *Interacting with Computers*, **17**, 453–472
- Hewitt-Taylor, J., (2003) Facilitating distance learning in nurse education. *Nursing Education and Practice*, **3**, 23–29
- Lee, M., J., and Tedder, M., C., (2003) The effects of three different computer texts on readers' recall: based on working memory capacity. *Computers and Human Behaviour*, **19**, 767–783
- Malburg, S. (2009) Ed. *Staying Healthy as a Distance Learner*, on-line: accessed 31st March 2010
<http://www.brighthub.com/education/online-learning/articles/40461.aspx>

Maclean, J., R., McShane, P., and Etchason, J., (2001) Distance learning in undergraduate education: Methods, opportunities, and challenges for institutions and educators. *Medical Principles and Practice*, **10**, 61–72

Mc Gill, L., and Nicol, D., *et al.* (2005) Creating an information-rich learning environment to enhance design student learning: challenges and approaches. *British Journal of Educational Technology* (36) 4, 629-642

Savenye, W., C., Olina, Z. and Niemczyk, M., (2001) So you are to be an online writing instructor: Issues in designing, developing, and delivering an online course. *Computers and Composition*, **18**, 371–385

Scollin, P., A., and Tello, S., F., (1999) Implementing distance learning: frameworks for change. *The Internet and Higher Education*, **2**, 11–20

Smith, L., and Curry, M., (2005) Twelve tips for supporting online distance learners on medical post-registration course. *Medical Teacher*, **27**, 396–400

Tabata, L., and Johnrud, L., (2008) The Impact of Faculty Attitudes Towards Technology, Distance Learning. *Research Higher Education* (49) 625-646

Valentine, D., (2020) *Distance Learning: Promises, Problems, and Possibilities*, University of Oklahoma, *Online Journal of Distance Learning Administration*, Volume V, Number III, Fall 2002, State University of West Georgia, Distance Education Center