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Effectiveness of Technology to Support Online Work Based Learning: Can Sri Lanka adapt it?

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ABSTRACT

This paper discusses the outcomes of research conducted in two distinctive cultural contexts, to assess the effectiveness of delivery of higher education using non-traditional methods from the perspective of stakeholders. Higher education provision traditionally requires learners to physically attend sessions on campus. The global economic climate has shifted significantly over the past few years. Changes to student funding and the increased competitive nature of the job market have impacted on University teaching. The use of online education is an alternative and more flexible form of learning that attempts to tackle these issues. Challenges and opportunities in the initiatives of delivery of part-time online learning programmes to those who are at work in Sri Lanka and effectiveness of online learning for work based learning in the UK have shown almost similar teaching, learning and assessment contexts for all stakeholders. It enables students to learn whilst they work, therefore tackling the funding issues, and also enhance their employability through gaining higher educational and professional qualifications. Work based learning has increasingly become an area of interest for the higher education sector in the UK, North America and Australia, but is not so popular in other parts of the world including Sri Lanka. It can support the personal and professional development of students who are already in work. The focus of the learning and development tends to be on the student's workplace activities. The paper finally presents recommendations to adapt work based learning in Sri Lankan higher education sector.

1.0 INTRODUCTION

Work Based Learning (WBL) is a term used to describe courses formally accredited as university programmes that bring them together with employers in order to create new learning opportunities which meet the needs of employees [1].

WBL has increasingly become an area of interest for the higher education (HE) sector and can support the personal and professional development of students who are already in work [2]. The focus of learning and development tends to be on the student's workplace activities rather than a set curriculum [3]. How to effectively conduct distance education (DE) has been a key topic for researchers for many years. Deploying technology is one solution used to overcome the issue of increasing access to 'opportunity lost' or 'demand driven' students.

A paradigm shift has taken place in Sri Lanka with the leap from traditional print based distance learning to Technology enabled online learning (OL) within a short period [4]. The National Online Distance Education Service (NODES) [5] which was launched in 2007 has a large potential to service the education sector, employers and employees for their distance further learning needs.

WBL in the UK is moving further from traditional HE provision where learners are required to physically attend sessions on campus, towards alternative flexible forms of learning in which the focus of the learning is based around students' workplace activities. Northumbria University has been a pioneer of this mode of delivery with several WBL programmes

being delivered online over the years to learners scattered across the world.

One area that needs further attention in WBL is the support provided during the learning experience itself, and evaluating to what extent it caters for the needs of all those involved in the WBL programme. Liyanage, Pasqual et al. [6] illustrate that the expectations of various stakeholders in an online learning environment are very different from each other yet are rarely addressed. For example Chong, Martinsons et al. (2004) [7] in their study of the factors that influence the learners' perception and adoption of work-based e-training only pay attention to the learner.

2.0 PROBLEM STATEMENT

Previous research on WBL has mainly considered only two stakeholder contexts namely 'the learner' and 'the academic institution'. The significance of the UK study stems from extending the stakeholder contexts to include 'the employer' and 'the professional body' who can enrich the delivery process significantly with their inputs. The aim of the study was to assess the effectiveness of delivery of online WBL from the perspective of a range of stakeholders including students, programme leaders, academic tutors, university support services, employers and representatives from professional bodies.

3.0 WORK-BASED LEARNING AT NORTHUMBRIA UNIVERSITY

Northumbria University, a pioneering and leading institution for WBL in the UK, recognises it as a vital mode of learning for increasing participation and supporting professional development among employers and employees. Several important endeavours have taken place in the University to support WBL [8]. The Work Related Learning Services (WRLS), established in 1999, developed a portfolio of innovative and relevant work-related learning products responding to the demands of employers, students, the university and other agencies [9].

In 2005, Northumbria University developed a Work Based Learning Framework (WBLF) allowing organisations to offer their workforce highly relevant professional development programmes designed to fit their specific needs. The WBLF offers awards that can be customised to the learners' requirements and is designed to be flexible and accessible [10]. In addition a central university team of learning technologists (LTech) provide a service to academic staff and students on "*how to enable the best use of new and existing technologies to enhance the students' learning experience*" [11].

The current UK study builds upon a model of WBL with four pillars: the learner, the academic environment or institution, the workplace and the external context which is in this context the professional body (Figure 1 - Appendix I). The key aim was to investigate the perceptions of the various stakeholders on the effectiveness of delivery of WBL programmes and their use of technology. It draws on five contrasting programmes within the University of Northumbria including four post graduate degrees and one undergraduate degree.

4.0 NATIONAL ONLINE DISTANCE EDUCATION SERVICE (NODES)

The Distance Education Modernisation Project (DEMP) funded by the Asian Development Bank was launched by the government of Sri Lanka under the Ministry of Higher Education to modernize the distance education system in the country in 2004. The NODES established by DEMP was intended to provide all online distance education services to the nation.

NODES on one side supports online programme development for universities and any other public or private sector post-secondary educational institutions through its Content Development Unit (CDU) which has been staffed with experts in online content development [12]. The NODES also facilitates the delivery of programmes through its state-of-the-art

high speed network running on IP/VPN technology.

5.0 METHODOLOGY

The two research studies adopted the case study method with mixed method research techniques for data capture and analysis using both qualitative and quantitative approaches which is appropriate when the purpose of the research requires holistic, in-depth investigation of a phenomenon or a situation from the perspective of all stakeholders involved [13]. Triangulation is achieved within the case study by using multiple data collection techniques 'to pick triangulation sources that have different biases, different strengths, so they can "compliment" each other' [14].

The UK study examined five (5) WBL programmes being delivered by the Faculty of Engineering and Environment at Northumbria University in the UK whilst the Sri Lankan study explored all seventeen (17) online programmes available at the time of the research. All current students were asked to complete the online questionnaires while interviews were conducted with programme leaders (PLs), and a representative sample of the module tutors in both studies. In addition, in the UK context employers and relevant officials of the professional bodies were also included in the survey. The data have been analysed using a mix of qualitative and quantitative research techniques. The detailed interview samples and questionnaire response distribution among students in both studies are given in Table 1 – Table 4 in the Appendix II

6.0 FINDINGS DISCUSSION

6.1 UK study

WBL students in the UK context had mixed views about their learning experience. One student quoting negatively "*I have found distance learning very hard and feedback*

not very motivating or encouraging. I am much better suited to going to lecturers and seeing tutors face to face" whilst another felt positive quoting "*The course is designed so that academic learning is directly related to real work issues. This has strengthened the time and support I have received from my employer"*.

About the use of discussion boards (DB) and chats for communication, one student had commented "*Although DBs are helpful they cannot replace the classroom atmosphere with its spontaneous interaction.*" This was reinforced when students were asked whether they would like to have some physical classroom sessions in addition to the distance learning (blended learning) with 48% agreeing with that and a further 27% being neutral.

The quality of content is the key to success of any delivery of learning and teaching which has to be explicitly bespoke as online students mainly rely on online content. The quality of content depends on relevance, currency and interactivity. When questioned about inclusion of multimedia elements in the content, 67% of the students prefer multimedia elements in the content to aid learning/understanding, with a further 13% being neutral on this issue. One student comments "*The learning materials could have been more varied (e.g. video casts or lectures, live chats)*".

It is vital that the universities recognize the importance of this mode of education and provide due recognition and technical support therefore the IT services and online library fall into the category of 'vital'. Students have assessed them as follows:-

- ✓ IT – 70% satisfied
- ✓ Library – 75% satisfied

The students found studying while being an employee raises awareness of the work context and gives more insight into the profession. Some students did experience technical problems and did not find it easy to access student support from a distance. The students commented that the use of technology and social networking may reduce their feeling of isolation but at the same time some students felt negative about

the sterility or artificiality of online communication. They also commented that some teaching staff was more able than others in interacting online.

6.2 Sri Lankan study

The employment status of the online respondents is depicted in Figure 2 - Appendix I. A high proportion of 56% are full time, part time or even self-employed personnel. Interestingly, there are 40.3% of full time employees who gain the maximum benefit of online learning which is “learn anytime, anywhere”.

An important factor in OL is the provision of sufficient and effective learner support using technology in a cost-effective and scalable manner. However, how the stakeholders accept technology and how it affects to them is a matter of concern. It was found that technology is not necessarily the solution for all the problems. Even if it tends to be the case, in some situations certain individuals do not like it; some even are not accepting it at once; some resist the change etc. These human factors need to be carefully considered and appropriate strategies need to be adopted to convince and motivate the stakeholders. Training on new technologies and providing easy access to learning are important in this context. For institutions to adopt the modern OL approach, leadership and institutional commitment are essential.

Another major challenge is the complexity and difficulty in developing good quality, interactive content for online delivery. This is an acute problem in Sri Lanka due to lack of trained/skilled staff, insufficient experience in developing online content, lack of motivation and commitment, lack of support from the top management, and most importantly difficulty for dedicating staff time amidst other commitments. A tutor commented as “*The quality of the content is mainly dependent on strengths of multi-media and interactivity. As of now many content being delivered through NODES are flat except for few programmes. This depends on the institutional policies, standards, review processes, reputation,*

commitment, staff capabilities and capacity as well.” A programme leader commented as “*The interactivity of study content enables the learner to be engaged in the content so that he/she is not bored. However the real interactivity is how one manages to confront ideas and get the learners to interact and synthesize ideas at a higher level. The question is how much thought has gone into creating this type of interactivity. A mere drag and drop activity is only a gimmick to keep a student entertained.*”

An institutional head said, “*The level of acceptance and peoples’ reluctance to accept this new methodology is the major bottleneck in popularizing the online concept in Sri Lanka. Overall as a nation, it requires policies and procedures recognizing online learning credentials as being equivalent to credentials earned in traditional ways.*” This clarifies the challenges to be faced and requirements to be accomplished in order to make WBL popular in Sri Lanka. A foreign consultant worked for DEMP also commented as “*Online learning is comparatively new to Sri Lanka, yet it appears that there is a lot of interest and potential. In a hierarchical system like the university system, it is very important that they provide leadership, which is visible sparingly in Sri Lanka.*” Another expert said that “*It is not only the institutions’ commitment that should be examined, but also the Ministry’s and the Country’s.*” which is what NODES is lacking today. This issue of different recognition for on campus and distance programmes in Sri Lanka was viewed by another expert as “*The online degrees offered by dual mode universities should have the same degree of acceptance provided their quality is verified by national accreditation agencies.*”

7.0 RECOMMENDATIONS FOR SRI LANKA TO EMBARK ON WBL

- i. Education authorities and employers should realize the importance of WBL and formulate new policies and

- / or strengthen existing policies to promote online WBL in Sri Lanka.
- ii. A strong commitment by the Government is required to make policies and procedures recognizing online distance learning credentials as being at least equivalent to credentials earned in traditional ways.
 - iii. Problem of lack of elementary computer literacy throughout the country is a must to be addressed in the online WBL planning process together with rationalised bandwidth distribution. This is a key difference between two contexts where UK being a developed country is far ahead of Sri Lanka in terms of IT infrastructure facilities and computer literacy of the population.
 - iv. More rigorous marketing is essential for this by all potential stakeholders including NODES, Universities, employers, professional bodies and so on.
 - v. Quality assurance systems must be established and monitored right through in order for this system to stabilize and sustain. This is even a need for the UK context as students and academics had negative views on the quality of content and support from the university.
 - vi. Tutors are required to provide timely, and constructive feedback which should be monitored from time to time.
 - vii. Institutions should also make a rigorous effort to develop quality multimedia-rich online content to create interest among students and provide the technical support/expertise to enable academic staff to fully utilise what is available – such that the content is left for academics, but the technical aspects be left to those with the technical skills. However this requires investment in support staff.
 - viii. The difference between tutor-learner based existing online learning model in Sri Lanka and the proposed WBL model is the active involvement of employers, and professional bodies in the latter to make employees taking up WBL actively. This gap can be bridged by recognising and accepting the WBL model nationally such that universities and other stakeholders could collaborate in initiating industry-oriented WBL programmes in Sri Lanka.

8.0 CONTRIBUTION TO NEW KNOWLEDGE

The contribution to new knowledge in online WBL research is through a “Four-Pillar model” which has been developed to reflect the stakeholder contexts. Consideration of this model helps ensure online WBL programmes cater for the current demands from the labour market. Also, the three most influential factors in the effectiveness of delivery of online WBL were found to be: quality, access and support. There is a tendency in WBL to focus on the needs of the students and academic staff, rather than the other stakeholders such as employers, workplace mentors and professional bodies, who may serve to enrich the overall effectiveness of such courses [15]. The originality of this study comes from consideration of all four stakeholder contexts in the four pillar model to create an efficient and effective WBL provision for all. This way, Sri Lanka should consider introducing the benefits of WBL concept to employers and professional bodies so that the universities could work with them to design, develop and deliver WBL programmes for the needs of potential employees.

The findings of this study include factors which facilitate and/or obstruct the effective implementation of online WBL programmes whilst identifying feasible strategies to overcome those challenges and share them with all stakeholders of online WBL.

In summary, the study has revealed five main areas as influential for effective use of technology in terms of delivery of online WBL as:

1. Virtual Learning Environment (VLE)
2. Online Communications
3. Online Assessment
4. Online Content
5. Technological support to students

The study also observed the limitations of using technology in the areas of:

1. Incompatibilities in terms of different systems
2. Students' and staffs' below-standard digital literacy
3. Use of synchronous video conferencing with geographical dispersion
4. Sustainability over time with the rapid development of technology

9.0 CONCLUSION

The learning experience of work-based learners is very different to on campus learners where remoteness of the learners makes it challenging to facilitate their learning. The rapid development of ICT in the 21st century offers successful means to address most of the voids experienced during early phases of DE but the pace of professional development of learners and academics in these technologies is much slower and thus there still remain a number of challenges in exploiting this technology to its full potential. Readiness of stakeholders and institutions is a must. Developing high quality interactive content is another challenge. These in depth case studies of two geographical contexts has shown some similarities as well as differences between work-based learners in terms of their learning experience, perceptions, motivation, and adoption of technology.

The results of the comparison address the use and diversity of stakeholder perspectives and experiences for more effective delivery of WBL for all. It also investigates whether WBL is an exclusively

Western notion or if there other cultural, academic paradigms or perspectives that can inform the suitability of WBL for Sri Lanka. It is observed that students are generally positive about using ICT whilst there is a reluctance to embrace ICT among some academic staff in both contexts. For example there is a lack of creativity and imagination in the use of ICT by academic staff where often platforms such as virtual learning environments are used simply as repositories for presentation slides, hand-outs, etc. However, one thing is important as also highlighted in the final report of Joint SFEFC/SHEFC e-Learning Group "e-Learning is fundamentally about learning and not about technology. Strategic development of e-learning should be based on the needs and demands of learners and the quality of their educational experience." [16].

Finally this paper looks at how these results could apply to encourage WBL uptake in a third world developing country like Sri Lanka which is starting from a zero base. Sri Lanka is yet to embark on WBL formerly although online distance learning is more of a reality. The existing tutor-student based online distance learning model in Sri Lanka can be converted in to a WBL model similar to the UK provided a strong support and involvement from other stakeholders are guaranteed. The results of the study conclude or rather remind all involving parties to pay more emphasis on quality of online programme delivery by embracing technology and use it in novel and imaginative ways to provide a learning and teaching provision fit for the twenty first century [17].

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