SUPPORT MECHANISMS FOR WEB-ENHANCED LEARNING IN DIVERSE CULTURAL CONTEXTS

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Abstract: Distance learning provides a relatively new method for teaching in higher education. However, the evaluation of these programmes is insufficient at present. The current study adds to the body of research providing guidance for distance educators. The qualitative data collected on 28 students in Hong Kong and Cairo indicates that there are differences based on cultural context in the following areas: communication with peers and module leaders as well as variations in willingness to discuss problems and provide recommendations to enhance the distance education programme. The conclusion points to issues that should be addressed at the module leader and administrative levels.

Key words: distance education, blended learning, culture, communication

1. Introduction

Distance education research demonstrates that many learners require support and guidance to perform effectively [1]. This support is typically provided in two forms; either as a student to teacher channel of communication and/or as a student to student interaction. Holmberg contended that distance students benefited from interaction with their teachers [2]. On the contrary, student to student interaction was not always found to be a critical factor in learning success, although institutional and pedagogical choices heavily influenced students' perceptions [3]. It has also been claimed that distance learners tend to demonstrate higher levels of performance as opposed to traditional students [4]. Nonetheless, it is not directly linked to qualitatively different attitudes toward course material. In fact, research findings indicate that no significant differences in positive attitudes toward course material are apparent between distance and traditional education students [5].

Conventional instruction is perceived to be better organised and more clearly presented than distance education [6]. It is possible, though, that the organisation and reflection needed to effectively teach at a distance improves an instructor's traditional teaching such that a structural improvement is apparent in conventional teaching following distance teaching experience.

It has been proposed that certain guidelines may be useful in enhancing the quality of the learning process. Learners value timely feedback regarding course assignments, exams and projects [6]. They were also found to benefit significantly from their involvement in small learning groups. These groups provide support and encouragement along with extra feedback on course assignments. Most importantly, the groups could foster the feeling that if help is needed it is readily available. Structured contact with the teacher has also been identified as one of the factors that might be useful as a motivational tool [7]. Additionally, an on-site facilitator could develop a personal rapport with students and increase student satisfaction with courses [8].

Inconsistent evidence was reported with regard to the role of student to student interaction. Some students reported that other learners were essential to their success in a course, while others suggested that fellow learners actually detracted from their success [9]. Recent findings have asserted that students who have a stronger sense of “availability” and “connectedness” with the institution tend to be more positive about their learning outcomes [10].

Increased academic expectations from the use of online technologies as a means of web-based education delivery has also brought to the fore a number of issues concerning quality and effectiveness of online learning as an integral part of various blended delivery modes. Research undertaken in educational settings similar to the ones examined in the current study, for example at the Open University of Hong Kong, found that the effect of online learning can vary across individual courses, and is largely affected by the way in which technology is integrated into a course [10].

1.1 The Global Campus Project

In the Global Campus (GC) project, Web technologies are widely used to offer a distance learning mode for postgraduate and undergraduate degree programmes. The key objectives are to exploit the advantages brought by the development of flexible learning arrangements for locally based students as well as to efficiently
deliver high-quality courses to partner institutions and students abroad. For that purpose, Learning Support Centres (LSCs) locally support distance students in weekly-held tutorials. First, a module reader is prepared which is similar to a textbook consisting mainly of the notes and the learning material arranged according to a five-stage pedagogical model called SCATE (Scope, Content, Activity, Think and Extra). This is accompanied by a module CD and a WebCT version for distance students to use. The module is then delivered to students in both Middlesex University, the home institution, and the LSC. Feedback is recorded throughout the semester.

The five stages of the SCATE model are shown in figure 1. Initially it focuses on the Scope of the module and specifically its learning outcomes. Next it presents Content that is delivered during a particular unit. The following two stages are Activity and Think, respectively, and consist of a number of review questions, discussion topics and activities through which students attempt to apply what has been learned to actual case studies. Finally, an Extra stage provides external resources.

A built-in emailer is used as a tool for facilitating asynchronous tutor-to-student and student-to-student communication. To an extent, synchronous communication is also used. A degree of flexibility is allowed to tutors who opt for different tools for the facilitation of this type of communication (i.e., various conferencing tools).

Students are also actively encouraged to complete online assessments and quizzes. These include multiple choice as well as free text assignments. As such, GC secures a greater degree of pedagogical flexibility and offers alternative ways to assess work. An overview of a students’ performance can be viewed through the gradebooks option of OASIS.

A navigation model provides the opportunity to use hyperlinks. The model presents the environment material using standard metaphors.

Bookmarks are an efficient tool within the VLE that saves a considerable amount of time, mainly because frequently visited pages have been bookmarked. This allows the user to access without navigation, increasing the usability of the system.

Overall, OASIS ensures that:

- There is controlled and secure access to the GC curriculum
- Student tracking and recording facilities of the system provide the essential information for administrative and tutor support
- Resources and materials are available online and are accessible for assessment and guidance
- All communication tools efficiently support synchronous and asynchronous communication for a geographically diverse student population
- There is an adequate degree of customisation which enables tutors to adapt course templates to their specific module requirements

Within this framework, it is the responsibility of the support tutors is to assist students during delivery of the learning material. The consequence for tutors is that they take on a facilitator role in the delivery of the modules.

The host institution in cooperation with the LSCs

- ensure that students have core texts, library facilities and access to online journals
- provide an online community which involves a “help desk” accessible by email and telephone/fax, plus a bulletin board
- provide a host for the web-based content
- provide access to computers and all major items of software and infrastructure
- provide staff to conduct face-to-face tutorials and local supervision for individual projects
- facilitate a forum for student peer assisted learning

Finally, student module and programme feedback is submitted at the end of each semester and is evaluated according to quality assurance policies.
2. Methodology

2.1 Participants

Twenty-eight students took part in 30 minute interviews with a member of the research team. These students were enrolled in a Masters in Computing Science (either MSc in Business Information Systems or MSc in E-commerce). Students ranged in age from early 20s to late 50s. The majority of the students held a full-time job. Data were collected by three researchers. Sixteen of the interviews took place in Hong Kong between late November 2003 and February 2004 while twelve interviews were conducted in Cairo in January and April 2004. The students were recruited by asking the local administrative components of the GC programme to arrange interviews with students currently enrolled in modules. Those students whose schedules allowed were interviewed. None of the students were known to the interviewers prior to the interview session.

2.2 Interviews

Semi-structured interviews were conducted with the students. The interview questions aimed to address aspects of the Masters course that are relevant to the learning technology, motivation and communication. All interviews were tape recorded.

2.3 Variables

Qualitative data collected and analysed in this paper cover the following aspects of the learning environment:
- Communication with peers
- Communication with module leaders
- Problems with the module
- Recommendation and solutions for the problems with the module

2.4 Data Analytic Procedure

The interview content was transcribed and reviewed by the two researchers who produced a list of coded concepts. The reviews were then compared and it was determined that the agreement between the two sets of ratings is 81%. This is a satisfactory level of interrater reliability. Content analysis [11] was conducted by using the software package HAMLET. The input data were the full content of the interviews.

3. Findings

3.1 Communication Style with Peers

Six of the twelve students interviewed in Cairo explicitly stated that they communicated with their peers regularly. The communication occurred in either a face to face setting, using the phone, or via email chat groups. Only one of the Hong Kong students reported on communication with his peers. He stated that he uses the phone to contact others. Although there is not a large amount of data, it is apparent that the Cairo subsample communicates with their peers on a more regular basis. It is unclear why this is the case. It is possible that in Hong Kong the style of study is such that students do not feel a need to communicate with each other on work or social topics on a regular basis.

3.2 Communication Style with Module Leaders

Interestingly, ten students from Hong Kong and ten from Cairo each revealed that they would like more communication with their module leaders. It is important to note that the Hong Kong sample provided concrete methods, for example email or phone, for communication with the module leaders. The Cairo sample, on the other hand, more frequently mentioned having the module leader travel to Cairo so that the students could speak with him or her face to face. In addition, only one student from Hong Kong and one from Cairo stated that they were satisfied with the level of communication they currently have with the module leader.

3.3 Problems with the Module

Nine of the Hong Kong students had problems in the module. The problems ranged from the topic being too difficult, be it a theoretical or technical one, to the period of time for the coursework being too short to understanding the expectations of the course. Nine of the Cairo students also reported on problems they had with the module. The focus of their concerns were different though. The Cairo sample felt that the schedule was not particularly flexible and that the students had to follow the lead of London. The other major complaint was that the material was of a different type or level than what the students expected. It is unclear if the Cairo students felt the material was simply difficult for them to understand or if they hoped for more guidance.

3.4 Recommendations and Solutions for Problems with the Module

Among the Hong Kong sample, 10 students provided recommendations or solutions to an interviewer prompt. The prompt was given in two ways. The students were asked “how do you go about resolving these problems [after they stated a particular problem]” and “do you have any suggestions for improving the learning materials?” Only five Cairo students, on the other hand, provided a recommendation or solution to problems they encountered.

What is most interesting to note is that the Hong Kong students were far more willing to provide recommendations and solutions as compared with the
Cairo sample. The Hong Kong students were able to devise a way in which to fix or consider addressing the problem. Only half of the Cairo students were willing to do so. It is possible that there are cultural differences which explain why the Cairo sample was not as willing to devise and/or discuss potential solutions with the researchers.

4. Discussion

The use of Information and Communication Technologies (ICT) and the increase in Web usage for delivering and managing distance learning programs may lead to a new generation of education operations and supporting technologies. The findings of this study provide some evidence that key aspects of technology support relate to computer mediated communication (e.g., web-enabled communication between learners and instructors or peers) and organisation of online learning environments.

4.1 Existing use of Networked Learning in Higher Education

In 2001, a project with a similar research methodology to the current one was completed in the Centre for Studies in Advanced Learning Technology at Lancaster University [12]. The approach included interviews with 60 students in 6 courses, a survey of 300 networked students and a telephone survey of 90 staff from 9 disciplines [13]. It was argued that the “richest examples of networked learning involve interaction with on-line materials and with other people”. [12] The current study corroborates the 2001 finding in that the use of online materials sufficiently defines networked learning since communication with peers and module leaders plays a significant role in the learning process.

Research priority areas identified for networked learning include: (i) the use of asynchronous communications technologies to support collaborative learning among geographically distributed student groups and (ii) approaches blending web resources with asynchronous interpersonal communications [13]. It should be noted that due to the time zone differences between the academic resources located in GC in London and the local centres where the interviews took place, synchronous communication is not encouraged. Several key technologies are identified as possible mechanisms for enhancing learning, namely (i) asynchronous computer conferencing, (ii) groupware supporting group work at a distance, (iii) groupware supporting group work on campus, (iv) facilitation tools for interpersonal communication on campus, (v) tools enabling asynchronous communication on campus, (vi) computer aided learning and (vii) the world wide web [13].

4.2 Enabling Web-based Education Through Advanced Learning Technologies

For many years, several education institutions have attempted to keep up with the dynamic environment of constantly evolving technology, unclear user requirements and lack of widely accepted pedagogical models. Distance education operations have evolved through four generations [14]. They are, (i) the Correspondence Model based on print technology, (ii) the Multi-media Model based on print, audio and video technologies, (iii) the Telelearning Model based on applications of telecommunications technologies to provide opportunities for synchronous communication and (iv) the Flexible Learning Model based on online delivery via the Internet.

Currently, there is a shift towards a fifth generation of distance education that makes full use of the Internet and the world wide web through advanced learning technologies. According to Taylor [14], this Intelligent Flexible Learning Model attempts to enable web-based education through:

- Online interactive multimedia
- Internet-based access to web resources
- Computer mediated communication using automated response systems
- Campus portal access to institutional processes and resources

The GC project has employed most of these technologies by providing virtual learning environments for all modules taught in courses. GC uses threaded discussions, chat rooms, web mail and messaging for instructor-learner communication between the central office in London and the local Learning Support Centres (e.g., Hong Kong, Cairo). Intranet is used for university processes and resources in parallel with a web-based project assessment and monitoring system.

4.3 Operational Changes to Learning Organisations

Even the fourth generation of distance education applied ICT in a learning context. For example, in the USA, the number of distance education degree programmes almost doubled from 1995 to 1998 [15]. The current research findings focus on communication between instructors, learners and peers and problems with content and structure of modules delivered remotely. According to Flowers [16], educational providers should “take advantage of the perceived need for online education in technology education.” High quality online learning experience is concerned with: (i) depth of content, (ii) accommodations for significant interpersonal interaction and (iii) the facilitation of a wide variety of learner needs and capabilities.

In other words, an operational transformation is taking place in learning organisations. In the case of GC, such
transformation has led to: (i) using the SCATE model as the basis for a series of reports on 'guidelines for the creation of e-learning educational material' aiming to increase the depth of 'Content' 'Activity' and 'Thinking', (ii) providing video conferencing facilities between module leaders from GC and the Learning Support Centre tutors and (iii) using the OASIS virtual learning environment as a platform to satisfy any requirements for access to content, communication and assessment feedback.

5. Conclusion

This study has provided a range of findings with respect to cultural differences, communication patterns, and concerns with the blended learning format. To begin with, the Hong Kong sample did not feel a need to engage in communication with their peer group as much as the Cairo sample did. It is possible that because Asians believe that silence is useful for higher order levels of thinking [17] in the classroom, this has been extended to interacting on particular school-related topics. That is to say, students do not feel a need to communicate with their fellow classmates and instead prefer to read and process the material independently.

Both groups of students placed a high value on communicating regularly with their module leaders. Research indicates that teachers make a valuable contribution towards creating a positive learning environment in class. This is done through teacher interaction and/or communication with students [18]. As such, it is likely that students feel that not having regular contact with the module leaders is detrimental to their learning process. This has been explicitly demonstrated in previous research, conducted in diverse cultural contexts [19]. GC should make every effort to encourage students and module leaders to be in contact with each other on module related topics throughout the semester so that students feel that their needs are being met. In addition, this may enhance student academic performance.

Not surprisingly, both groups of students reported having problems with the module. It was expected that when asking a group of students about what could be improved in their academic courses that many would provide such information. What is interesting with respect to this set of data though, are the differences in the type of problems students reported. The Hong Kong sample readily indicated that some of the topics of the courses were too difficult or that they were unclear about what they should be accomplishing. This indicates these students are having a student-programme integration problem. Clarifying the module requirements or providing more guidance during locally based seminars might assist these students with their problems. The Cairo sample, on the other hand, stressed problems with the programme itself, rather than an integration problem. For example, complaints about the materials or a rigidity of the teaching schedule clearly implies something about which the students can take no action. Rather, the only method to fixing these sorts of problems are at the administration level. The Hong Kong students appear to acknowledge some of the problem as stemming from them. It seems then, that having the administration and/or module leaders work with the Hong Kong students is beneficial to them while only a change from the administrative side will ease the problems of the Cairo sample.

While only a hypothesis, it is possible that the Hong Kong students feel that they should be more actively involved in their education than do the Cairo students. As the Hong Kong group provided more in the way of recommendations/solutions, even though equal numbers of students in each sample acknowledged problems, it seems that the Hong Kong group has more invested in giving the advice to GC. It is possible this is for purely self gain. That is to say, they provide advice so they may achieve at higher levels, or in a more altruistic sense, they provide the advice to aid the programme and future students. Alternately, there may be some cultural component leading to why the Cairo students do not give solutions to problems they identify and the Hong Kong sample to do so.

Taken together, this data provides a blueprint for how to go about further evaluating the GC programme. In addition, it may assist other blended learning programmes to address concerns of students and issues related to communication prior to beginning a programme. Future research should be conducted to determine whether changes in blended learning programmes alter opinions and learning outcomes of students.

6. References


