Adopting a Web-Based Collaborative Tool to Support The Manchester Method Approach to Learning

Philip M. Drinkwater, Christine M. Adeline, Simon French, K. Nadia. Papamichail, Tudor Rickards,
Manchester Business School, University of Manchester, **UK**

Abstract: Manchester Business School employs a distinctive approach to learning known as the Manchester Method which is based on the principle that the most effective and rewarding way to learn and remember is through a practical reflective, live/real project-based approach. This paper investigates the use of a collaboration and information sharing application, IBM Lotus QuickPlace, for enhancing the Manchester learning experience.

Keywords: Computer mediated communication; collaborative tools; group work; Information and Communication Technologies (ICTs); teaching and learning strategies; web-based learning.

1. Introduction

Manchester Business School employs a distinctive approach to learning known as the Manchester Method. The Manchester Method is based on the principle that the most effective and rewarding way to learn and remember is through a practical project-based approach. Individuals can achieve far more by working collaboratively in groups rather than on their own. The learning process is not merely an active process but rather a reflective one; the practical experiences combined with exchange of ideas and collective reflection create deeper understanding and generate new knowledge.
Information communication and technologies (ICTs) are increasingly becoming accepted as important tools for supporting educational and organisational learning and teaching. The aim of this work is to explore if and how ICTs can be used to enhance the Manchester Method. The challenge is to understand the ability of such technologies to improve communication, decision-making, thinking, and personal learning. Rather than using ICTs for making information readily available and easily retrievable, this work investigates the use of ICTs for enhancing the Manchester learning experience.

The MBA programmes are dominated by the use of projects as a standard learning method. Over the years this has become the characteristic feature of the MBA programmes, distinguishing it from other business schools. The projects are designed to be a challenging experience where the students apply the knowledge and skills they have learnt, and also nurture their ability to work as part of a team. When students participate in projects they are encouraged to assume the role of an actor rather than that of a bystander.
The courses and structure of the MBA programme ensure that students go through three stages: training, education and development. There has been little change from the original thought and design of the programmes; not to impart knowledge but to develop the skills of students (Wilson 1992). In the initial stage training is provided through intensive instruction in relevant disciplines and skills. The projects help the students in their personal development by allowing them to develop their skills. This strengthens the educative process allowing a multidisciplinary approach to problem solving to evolve into a more independent attitude to problem solving (Wilson 1992). The whole process leads the students from well-defined exercises and tasks through to open-ended tasks and problems which are unstructured and not well-defined. The Business Environment Project (BEP), which is the first real/live project, marks the transition to more active, self-managed learning (Rickards 2003). Learning is a journey and there are many paths that a student can take. The BEP reflects the key principle of the Manchester Method that students should learn to tackle real projects and acquire many disparate skills through their participation in group activities.

As part of the development of the school's e-Learning strategy, a need was identified to invest in a project collaboration tool that would facilitate the co-ordination of group projects and enhance the learning experience. A decision was made to purchase IBM Lotus QuickPlace, a Web-based tool that facilitates information sharing and collaboration. This research explores the introduction of QuickPlace in project-based group work with the aim of exploring the school's use of the system as part of its e-Learning strategy.

2. Collaborative e-Learning research

The use and effect of ICT in education has been the source of some research over the

past years. The main thrust of this research is answer the question “has the use of ICT really affected the learning process and outcomes?”

In her research Alavi (1994) investigated the impact of a group decision support system (GDSS) on collaborative learning. The study was conducted in a field setting involving MBA students enrolled in management information systems courses. Some of the students attended the class with GDSS software while others attended the course in a traditional classroom setting. The findings of the study indicated that GDSS-supported collaborative learning leads to higher levels of perceived skill development, self-reported learning, and evaluation of classroom experience in comparison with non-GDSS supported collaborative learning. Although there were no significant differences in midterm scores, the final test grades of the group of students who were exposed to the GDSS were significantly higher than those of the other group of students who participated in the experiment (Alavi 1994).

In 1995, Alavi et al. evaluated another ICT tool in an educational setting through a longitudinal field study (Alavi et al, 1995). They evaluated the efficacy of three learning environments: proximate groups with ICT support, non-proximate team groups with ICT support and traditional face-to-face groups with no ICT support. The ICT tool being used was desktop videoconferencing. The results indicated that the subjects' learning achievement in terms of critical thinking was different under the three learning conditions. The subjects who participated in the distant collaborative telelearning environment demonstrated the highest level of critical thinking achievement. The study also found that the three environments were equally effective in terms of students’ knowledge acquisition and satisfaction with learning process and outcomes.

Hiltz et al. (1999) undertook a three-year longitudinal study of a number of courses that are part of an undergraduate Information Systems degree. The courses were all delivered in a distance asynchronous learning network (ALN) using a combination of videotaped lectures and computer conferencing with special features to support asynchronous learning. A number of findings came as a result of this study. Students reported that the ALN improved not only access to education but also the quality of the learning process. The most important outcome of the research indicated that when students are actively involved in collaborative learning using an online method, the outcomes can be as good as or better than those for traditional classes. On the other hand when individuals are simply receiving posted material and sending back individual work, the results are poorer than in traditional classrooms. This stresses the importance of using communication tools in any learning environment and the importance of moderating the communication.

Another study by Piccoli, Ahmad et al. (2001) compares a web-based virtual learning environment (VLE) to a traditional classroom by using a longitudinal experimental design. The study was conducted on two groups of students undertaking an introductory course in management information systems. One group undertook the course using a VLE whilst the other group attended the course in a traditional classroom environment. The findings revealed no significant difference in performance between the two groups. However although the students undertaking the course in a VLE environment did report a higher computer self-efficacy, they were less satisfied with the learning process.

In summary, a fair amount of research has been conducted on the effect of ICTs on the educational environment and its effect on the performance of the students. While one can draw from these studies for insight, the introduction of emerging technologies requires further study and evaluation. The motivation for this research stems from the need to observe the use of ICTs within project-based group work in order to make necessary changes and achieve the best possible results.

3. Current VLEs - Manchester method

ICT has been used in the development and delivery of training and educational programmes. Whereas training is a narrow term focusing on preparing an individual for a particular function or profession, education is a process of learning that develops moral, cultural, social and intellectual aspects of the whole person as an individual and member of society.

Many of the current VLEs provide no more than a drill-and-practice approach to learning. The technologies are simply being used to replicate the traditional ‘chalk and talk’ ways of teaching and learning. These are valuable in

transforming understanding into automated skill, making the information and procedures available without conscious effort. However, these approaches are weak in motivating the learner and in providing conceptual aids for understanding and critical thinking.

Currently there is no system or platform that has been widely adopted by either the educational or corporate sector. There is no technology platform that suits every organisation, discipline or programme. Most of the technology platforms are still in their 'infancy'. They lack the diversity and capabilities that come with the maturity of technologies (Salmon 2002). Therefore, in higher education institutions, e-Learning is not extensively used for delivering entire courses.

Off-the-shelf commercial VLEs currently being used in UK HE institutions include WebCT, Blackboard, and Virtual Campus. Organisations are however rarely satisfied with all the functionalities such systems provide. Coupled with this dissatisfaction are problems of integrating the system with other organisational systems. Customisation becomes therefore a critical issue in choosing the right VLE. Commercial VLEs provide more or less similar functions and tools but they differ in the degree of customisation allowed. In some cases, bespoke online environments, such as those developed in-house or as a result of collaboration between institutions, are being developed and used by many HE institutions in the UK. Examples include Colloquia - developed at the University of Wales, Nathan Bodington – an open source system originating from the University of Leeds and CoMentor - from the University of Huddersfield. The advantage of such systems is that they fit more closely within the practices of these institutions. An additional benefit the ability of using industry tools such as Microsoft NetMeeting within the VLE. But the maintenance of such systems can prove to be a problem as there is a dependence on the individuals involved in the development. Thus, the cost-effectiveness of implementing such systems as opposed to customising commercial applications is questionable.

While the introduction of ICT can contribute to learning, on its own it cannot deliver learning. The integration of pedagogy and learning models within the appropriate technology is essential and this is what makes a VLE successful. Each institution employs its own model of learning and therefore needs to ensure that the technology adopted can enhance the learning process.

At MBS the Manchester Method extends the education process to include learning-by-doing. As current e-Learning software packages are not well suited for such an environment, MBS explored other tools more suited to their approach to learning.

When implementing a VLE, an organisation has various options, a bespoke system, a complete off-the-shelf solution such as WebCT or a modular approach combining off-the-shelf components with customised solutions. The advantages and disadvantages of these are discussed earlier in the paper. MBS has selected a modular approach combining off-the-shelf components with customised solutions. The reason is primarily because of their approach to learning – The Manchester Method.

As part of the development of the school's e-Learning strategy, a need was identified to invest in a project collaboration tool that would facilitate co-ordination of group projects and enhance the collaborative learning experience. A decision was made to purchase IBM Lotus QuickPlace, a Web-based tool that facilitates information sharing and collaboration. This research explores the introduction of QuickPlace in project-based group work with a goal of enhancing the school's use of the system in its e-Learning strategy. In addition to using QuickPlace, the IBM Domino platform and IBM Lotus Notes and iNotes applications for messaging and calendaring were also installed. A legacy system, an extranet, is also used by the school to distribute course materials and act as a repository of general information needed for the courses. The legacy, Microsoft platform, system is being phased out during 2004 and being transferred onto QuickPlace.

4. IBM Lotus QuickPlace: Industry Standard Group Project Tools

IBM Lotus QuickPlace is a self-service Web tool for team collaboration and provides teams with areas of webspace to work on a project for example *Master workspace* (parent) *group workspace* (child), *folders* (sub-workspaces - grandchild), *rooms* (specialised folders), and *inner rooms* (private breakout or personal rooms). Groups can use QuickPlace to store files e.g. Microsoft Office, thoughts, and schedules related to a project in a common place, where everyone can find and respond to

the latest information. In addition, teams have a workspace to share information, collaborate and discuss through the use of discussion boards, chat (two or more members exchange messages by typing them in a chat window) and awareness capability (members can spontaneously encounter other members within the context of the content they have authored. e.g. reading a page in the 'marketing room' while the author of that page is online). It is also possible to use white-boarding to work on documents, manage and coordinate activities and track events. It also includes support for other activities associated with group-based project work such as task assignments and schedule management.

As well as working online with QuickPlace it also offers the option to working offline. When a person works with QuickPlace online, they have to be connected to a QuickPlace server. However, if a user is remotely located and cannot connect to the QuickPlace server or would prefer to work offline to avoid connect charges, it is possible to take their QuickPlace offline. The offline QuickPlace is a copy of the online version and resides on the hard disk rather on the server. When the individual makes changes to the offline version and then synchronizes to the QuickPlace server - for example, when you add or edit pages in the place - QuickPlace automatically updates the online version.

Some of the general characteristics of Lotus QuickPlace include:

- Primarily designed for smaller groups or teams
- Duration of usage is often limited or for a specific period of time
- Requires minimal infrastructure and support from ICT (self-service)
- Easy for users to create, manage and customize (self-service)
- Project-centred or activity-oriented
- Designed to facilitate enhanced collaboration
- Emphasis on user productivity and getting the job done

Lotus QuickPlace can be viewed as an electronic project room. It provides not only a central location for sharing information but is flexible enough to grow and change with the project. It can be used "out-of-the-box" without any customisation. However to get the maximum benefit from the application, customisation is possible through various standard tools.

5. The Setting – the Business Environment Project

The Business Environment project - BEP is a client-sponsored live project on an issue of direct relevance to the organisation and marks the transition to more active, self-managed learning (Rickards 2003). In May 2003, the project involved 157 students who were divided into groups with each group working for one of 30 company-based projects. They were divided into groups of 3 to 6 individuals. All the groups had the possibility of meeting face-to-face. Every student was equipped with a portable computer making the access to ICT facilities quite even. Lotus QuickPlace was available to them as a tool to be used but it was not compulsory for them to use it.

The students had four weeks (150 hours) to undertake the project and produce a group report on the project itself as well as a personal report to reflect on their personal experiences and learning. Students were advised to spend 100 hours on the *content* of the project: in essence doing the work for the client or sponsor. The remaining 50 hours on attendance at the introductory sessions on the management of the project and its format and, above all, on reflecting and learning from the project. This meant that individually and as a group they were expected to spend a significant amount of time watching and reflecting on the processes that they were going through and, when use of a skill or area of knowledge, study the background issues related to these: e.g. when a 'model' is used, check its description in a text book and look at other applications.

Although the specific project is centred around the needs of the client or sponsor, the main focus being to help students learn the broader knowledge and skills that will help them in the future. During the project, students interact with the faculty team in many ways, sometimes offering 'deliverables' for consideration, perhaps a project plan or a mindmap of the key issues that need be addressed in the project. It is important to emphasise that during the course of the project students are not assessed in a *summative* way, i.e. to award marks that counted towards an overall mark on the module. The intermediate deliverables and discussion and feedback on them are *formative*, i.e. focused on helping students learn.

At the end of the project, the students have to produce a group report and an individual

report. The group report addresses the issues related to the project and may make proposals for the client. The individual report is part of the personal learning process in which the students reflect and discuss new skills learnt, the way the group arranged the work of group members and the way the group addressed unforeseen problems.

6. Lotus QuickPlace Design

The overall structure of QuickPlace for the Business Environment project consists of several workspaces:

- a parent workspace template which holds general information about the project and is accessible by all students and staff concerned;
- a Group Workspace for each group which is accessible for only the members of the group and the staff concerned.

6.1 The Parent workspace template

The Parent workspace holds the documents relating to the Business Environment project such as report guidelines and marking schemes. By having a central place for this means that the project coordinators can log onto one place to post information for all students rather than logging on to all the group workspaces to post information. This template that acts as the parent folder is accessible from the groups' workspaces by a special link page. This gives the students the illusion that the information is within their workspace and they do not have to log on to another workspace to view the information.

The Parent workspace contains a range of standard folders and rooms. The Getting Started folder is explains how to best use the system and gives a tutorial. A description of each of the option and their purpose is placed in the Guide to this QuickPlace folder. The discussion folder provides students with a place to post general questions about the project which any tutor can then answer or initiate a discussion. The calendar folder holds events for the project such as project clinic dates and dates when tutors are available. Basic project documentation links to the parent workspace and upon selection takes the students to the documentation folder in the parent workspace. The students do not need to log onto a different site for this information as the transfer is automatic.

The document library is a room (i.e. a special area than can be seen as a "child workspace" within the "parent workspace") for document storage. Its main use is to separate content and access. The reason for the library to be a room rather than a folder is that the students can organise the documents into folders. A room can have multiple folders but a folder cannot have sub-folders. The room is also equipped with an instructions page to guide the students on how to create folders and how to best use this option.

During the project, the tutors provide specialist support and advice either on a one-to-one basis or during project clinics. In the parent workspace, rooms are introduced to support this process. In each room a discussion area that allows students to ask questions or initiate a discussion is provided. There is also a library folder for tutors to post references or documents that students may find useful. The idea of specialist areas is significant in supporting the Manchester Method. In the Manchester Method the tutors actively guide the students through the learning process. Specialist areas provide not only access to the right information but also the discussion channels for obtaining advice on issues and problems. Tutors are expected to log on regularly and answer questions or even instigate discussions, which can trigger reflection.

The other options and folders are standard in a workspace. This includes the application for chat, sharing and online meetings. An index folder lists all pages and folders in alphabetical order and a members' folder provides a list of all the members of the workspace.

6.2 The Groups' workspace

As previously mentioned, each team has access to a group workspace. This allows group members to publish, share and track all information relevant to the project with other members of the team. It contains a range of folders and resources.

The project discussion folder is for the group to discuss the running of the project and issues surrounding the group work and allows for threaded discussions to be recorded. Two other special rooms are designed to help students with monitoring of group processes and reflecting on what they are learning. The learning log has two folders, the group diary and the ideas and suggestions folder. The group diary is designed to help students reflect on any event that made them stop and think. The aim is to help them recognise aspects of group projects and applications of

management skills that they can apply generically. The folder has a special form with questions that guides them on finding out the above. The students may then comment on other's entries and start a discussion. The ideas and suggestions folder is an area for them to start a discussion on ways the group may work better or ways to tackle problems.

The team dynamics room is designed and primed with three options that help students monitor the group processes as the team develops. The three options are the team factors measure (TFI 5) that assesses the effectiveness of the group along a number of dimensions such as creativity, the form/storm/norm /perform model and the option to discuss roles and personal differences in the team. In the current template the TFI option is done through an Excel spreadsheet. The form/storm/norm /perform model is a simple HTML form for the students to fill and the summary is displayed for them to monitor the changes over time. The personal differences in the team option, is designed for students to fill in their desired Belbin role and then for other students to comment and assign what they perceive the role of the person is.

The calendar folder is for students to record events for the group. The system automatically copies all the events from the parent calendar to the group calendar. This is done through an agent written in LotusScript. The agent runs on a scheduled basis. This again makes it easy for the staff to post events to the group calendars as they only have to post it to the parent calendar. The tasks folder is a standard folder that allows the students to assign tasks and to monitor them. The tasks can be viewed in a Gantt Chart view or as a simple list. The tasks can be defined as milestones and can also be assigned to the calendar. Students who have been assigned tasks are notified by email of the tasks and reminders are sent by email as well. The expenses folder is there to help students record their expenses. The folder displays a summary of the expenses for them to print out for accounts purposes. An HTML form is custom built for this purpose.

The other options and folders are standard in a workspace. This includes the application for chat, application sharing and online meetings. The index folder lists all pages and folders in alphabetical order for management the workspace. The members' folder lists all members of the workspace.

7. Evaluation

The introduction of any VLE requires time and effort in not only designing the appropriate course and other materials within a VLE but also in training the staff and students so that they gain the maximum benefit out of the system. Given that this impacts on the quality of teaching and the operation of a course or project, understanding and monitoring the use of these tools is worthwhile

The initial work involved the building of a rapid prototype for the students to use. This prototype included a number of options for students to use during the project. The building of the prototype helped in understanding the system and some of the requirements.

The evaluation was achieved using a cross-sectional survey and actual monitoring of the usage. It has sought to understand the system's value in supporting the Manchester Method of learning, group work and personal learning by investigating how it was used, its overall usefulness and effectiveness. From the survey the students' perceptions were obtained and from the monitoring of the actual usage a better understanding of how the system was used were gained. There are clear indications from this study that the majority of students are positive about using the system. But the results also indicated that although the students were positive about the system they were unsure of how to best use the options.

The survey also revealed that the majority of group although not being compulsory used the system in different ways. This helps the students get used to industry-standard tools and hence better prepare them for work. This achieves one of the aims of the Manchester Method, which is learning-by-doing. It would not have been possible if a "typical" VLE was used as they do not cater for such an environment. From the survey, some of the requirements for the new workspace were obtained. This was not the only way the requirements were obtained. A number of staff was interviewed and the processes involved in project-based group work were also modelled. This provided a better understanding of what was required to fully support project-based group work activities and the Manchester Method of learning. This allowed us to design and implement a better workspace.

The new workspace has been designed and implemented with a number of new options. The new options incorporate the options needed for monitoring team processes and

also the various requirements as dictated by the Manchester Method. It was challenging to understand how to incorporate all elements of the Manchester Method within the workspace. The first attempt of implementing such a workspace has been completed but it needs to be tested in a live situation.

A very interesting finding of this study was the actual level of usage. There was a gradual increase in the usage as the project progressed. This finding suggests that the novelty of using the system did not diminish even though students did have other means of working such as central location on the server for data-storage and face-to-face meeting. Although the most common reason for using the system was for posting shared documents, some groups did make use of the various options such as the Learning Log, discussion forums and tasks. It was also encouraging to see that one of the groups went to the extent to customise their workspace themselves. The majority of the students in that group did have previous experience with using the system. This shows that the more familiar the students are with the system, they will use it to its maximum.

The study has also provided us with a number of issues to consider for improving the use of the system within MBS' programmes. It is clear that consideration of such issues as training, online moderating of discussion forums, online tutor presence and developing an online culture is needed if the full range of benefits is to be gained. Students must feel that the system is a part of their learning and development.

8. Conclusion

ICT are increasingly becoming accepted as important tools for supporting educational and organisational learning and teaching. The aim of this work is to explore if and how ICT can be used to enhance the Manchester Method, a distinctive approach to learning that has been evolved over the years at Manchester Business School. The challenge is to understand the ability of such technologies to improve communication, decision-making, thinking, and personal learning. Rather than using ICT for making information readily available and easily retrievable, this work investigates the use of ICT and collaborative tools in particular for enhancing the Manchester learning experience.

This work discusses our experiences in customising and evaluating a web-based collaborative environment based on IBM Lotus QuickPlace. QuickPlace is a system that offers many possibilities with a minimum of effort and provides many of the capabilities needed for a virtual learning environment. Although the study is limited to a specific project it has revealed that the use of the system can be successful. However, it is important to bear in mind that technology *alone* does not affect or enhance the learning process. The use of Lotus QuickPlace at Manchester Business School represents a new challenge to faculty members, to adapt and change the Manchester Method of learning to best take advantage of the ICT tools.

A survey has been undertaken to explore students' responses and reactions to QuickPlace in order to understand the system's value in supporting the Manchester Method of learning, group work and personal learning by investigating how it was used, its overall usefulness and effectiveness. The results from the survey suggest that the majority of students made use of QuickPlace and were positive about using it in their project work and as a tool for learning.

References

Alavi, M. (1994). "Computer-mediated collaborative learning: An empirical evaluation." MIS Quarterly 18 (2): 150-174.

Alavi, M., B.C. Wheeler, J.S. Valacich. (1995). "Using IT to reengineer business education: An explanatory investigation of collaborative telelearning." MIS Quarterly 19(3): 293-312.

Belbin, R. M. (1981) Management Teams - Why they succeed or fail. Butterworth Heinemann.

French, S (2003). "The Business Environment Project: Assessment"

Hiltz, S.R., N. Coppola, N Rotter and M. Turoff. (1999). Measuring the Importance of Collaborative Learning for the Effectiveness of ALN: A Multi-Measure, Multi-Method Approach.

Piccoli, G., R. Ahmad, and B. Ives. (2001). "Web-based Virtual Learning Environments: A research Framework and a Preliminary Assessment of Effectiveness in Basic IT Skills Training." MIS Quarterly 25(4): 401-426.

Rickards, T. (2003). The Manchester Method (PowerPoint Presentation).

Salmon, G. (2002). Warp speed or snail's pace? Pathways into the future of E-

Learning land (understanding the potential of Virtual Learning Environments VLE Conference 24th June 2002, The Way Forward with VLEs: Lessons Learned, University of Bristol.

Wilson, J.F. The Manchester Experiment: A history of Manchester Business School 1965-1970 Paul Chapman Publishing Ltd, London, 1992.

