Computer Enhanced Small Group Teaching in Social Policy and Administration

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Abstract

Tutorials form an important component of the teaching of social science subjects in universities in Hong Kong, but yet it is usually taken for granted that university students should have acquired the necessary skills in tutorial learning before they enter university. However, recent experience for many first year tutors would suggest the contrary. It is the aim of this Action Learning Project to uncover the coping strategies of first year students in their early months of tutorial learning and to design an instruction aid to help them acquire the necessary survival skills in tutorials. Data relating to students' learning difficulties, coping strategies and access to computer equipment were collected via a self-administered questionnaire. Qualitative data were gathered from interviews. A web-based instruction aid was then designed as a result of the findings from the data analysis to offer students assistance in the necessary skills of reading, writing and tutorial presentation. This paper reports the findings of the action research, the design and implementation of the instruction aid as well as some reflective comments about the process and end-product of the project.

Context, Objectives and Methodology

This Action Learning Project is based on the experience of the authors in teaching the courses 'Introduction to Public and Social Administration' and 'Social Policy and Administration'. The two courses emphasise the understanding of the actual social world, and the applications of theory to social issues. Small group tutorials are perceived to be an important component of the learning medium. In a tutorial, various kinds of activities may be organized such as open discussion, debates, seminar presentations, case studies, games, simulations and role-play. The tutor plays a number of different roles at different times in a tutorial. These roles include leader, facilitator, consultant, participant and observer (OLI, 1994, pp. 8 and 14). Kelly and Stafford stated that:

> it (small group) provides opportunities for interaction between tutor or lecturer and students and among students. Such interaction can foster active learning and learning at a high conceptual level, and can help students to achieve a sense of independence and responsibility for their own learning. (Kelly, & Stafford, 1993, p.1)

However, the problems of passivity in class, lack of creativity in writing and unsatisfactory motivation in learning began to surface in recent years. This reflects not only the inadequacy of students' prior experiences of active learning methods, but also the inappropriateness of the traditional teaching methods in coping with the changing needs of students. With this thought in mind, the Action Research Spiral as devised by Lewin (1946, cited in Kember, & Kelly, 1994, pp.4-5) was considered an appropriate process for the design and implementation of an instruction aid which would offer students assistance in the skills of reading, writing and

tutorial presentations. The Spiral consists of four phases namely: planning, action, observation and reflection which then go through several cycles or spirals of these basic phases.

Based upon a teaching aid relating to tutorial presentations developed by one of the team members (Simon Li) supported by the City University of Hong Kong (CityU) Quality Enhancement Fund, an Action Learning Project began in September 1997 targeting an Internet-delivered self-learning kit on reading, writing and presentation. The project also aimed to incorporate action research in the process of preparing the teaching aid from which the research team could acquire a better understanding of the learning methods of the students. This was highly valuable to the future development of a student-centered teaching strategy.

The research was implemented in three stages. The first stage involved reflective research on the learning strategy of the students as well as their readiness to engage in web-based teaching. Both self-administered questionnaires and in-depth interviews were employed. The survey was later extended to a longitudinal study of students' learning habits in subsequent years. The second stage was the design and pilot run of the web-based learning aid. Informed by the findings of the surveys and interviews, the learning aid underwent several pilot runs with five volunteer groups of students. The third stage was the full implementation and evaluation of the learning aid. It has been incorporated into the teaching schedule of one of the core courses for first year students. Functions of the learning aid were also greatly enhanced by incorporating it into a more powerful web-based course delivery platform, the WebCT. However owing to unexpected difficulties in the design stage, the full implementation of the learning aid was delayed until the end of 1999.

Students' Experiences and Problems: An Empirical Investigation

Three rounds of self-administered questionnaires were given to full-time and part-time first year students of the Department of Public and Social Administration in the City University of Hong Kong on university entrance. The same questionnaire was used throughout the three years from 1997 to 1999 to facilitate a comparison across the years. The students were asked about their experience of reading and writing activities, their experience of using computers, and the problems they anticipated in their first year courses. A total of 375 questionnaires were collected from 400 students, representing a satisfactory return.

The overwhelming majority of new students had a computer, the ratio of computer possession increasing over the years. In 1999, less than one tenth of students did not have either a desktop or notebook PC (see Figure 1). Amongst those who did not have a PC, the majority planned to purchase one. However, the possession of a modem was not popular. A third of the students stated that their home computers were not connected to the Internet. This is not necessarily a hurdle in the development of web-based learning tools as there should be enough computers on campus for the students, but having the appropriate equipment at home would greatly facilitate student learning since most of the students in CityU work at home. This is particularly crucial for the part time students.

Figure 1: Possession of computers

	1997	1998	1999
Desktop PC	77%	72%	83%
Notebook PC	9%	9%	9%
Modem	57%	43%	68%

No. of cases	114	143	118

Students' experience of the use of the Internet has improved over the last three years with the improvement in 1999 being particularly encouraging. Whilst nearly half of the first year students in 1997 and 1998 had not started using the Internet, there was only a very small proportion in 1999. An average first year student in 1999 can be perceived as a frequent user of Internet, which is in sharp contrast with his/her counterpart in 1997 who could only at best be described as an occasional user. Yet, downloading of files as well as remote access to campus network still need further improvement (Figure 2). The latter two operations are particular helpful in remote delivery of course materials over the Internet.

Figure 2: Usage of computer technology

Use of computer	**Mean score of computer usage**			**Have never used the IT activity**		
	1997	1998	1999	1997	1998	1999
Internet browsing	2.2	1.9	3.2	43%	43%	6%
Internet downloading of files	1.7	1.6	2.4	61%	62%	20%
Electronic mail	2.5	2.6	2.9	33%	20%	13%
Remote access to campus network	1.2	1.5	2.3	85%	69%	29%

Note: Scale used in the questionnaire 1 (Never) 2 (A Few times) 3 (Sometimes) 4 (Often) 5 (Always)

When first year students were asked about the difficulties they anticipated in their study, 'making presentation in English' was the most anxiety-provoking item in the year 1997 and 1998. But students in 1999 appeared to be anxious about their 'understanding of the contents of the subject areas'. One observation remained quite consistent over the three years: very few students worried about the use of English as the instruction medium (Figure 3). This is perhaps because they have accepted it as a matter of fact, but it is not necessarily an indication of their competence in using English as the learning medium.

Figure 3: Problems which caused first year students the most anxiety

Most anxiety-provoking	**1997**	**1998**	**1999**
Understanding the contents of the subject areas	13%	18%	19%
The language of the content (e.g. in English)	3%	4%	4%
Making presentation in English	32%	25%	17%
Writing essays on the subject areas	14%	18%	14%
Writing essays in English	12%	11%	9%
Your study in general	8%	17%	7%
No. of Cases	**114**	**143**	**118**

The surveys offered a general picture of the students' experience and their worries but did not indicate in detail the difficulties encountered by the students. Interviews, therefore were conducted with students to supplement the information. The interviews were held towards the end of the semester when the tutorials had been completed, but before students had received the feedback from their tutors (so that their views were not affected by the grade and the comments they received). Seven such interviews were with full-time first year students in 1997. The interviews were taped and transcribed for further analysis.

Students expressed their concern about bridging the gap between the learning style they experienced in their secondary school with the demands of the university. Many of them were motivated to take up the challenge of university learning.

> Questions asked in my secondary school subjects all have ready answers. Yet in university I have to make up the answers on my own. So I think the most difficult part in reading the articles is that even a particular point is raised, the article usually does not offer adequate explanations. I cannot simply write down the points without an explanation. Thus I feel depleted at the beginning. Yet, after completing the paper, I experienced a sense of pleasure.

Such sense of pleasure was commonly felt amongst students. Not only did they have a sense of relief that an assignment was finally completed, but they also experienced a sense of accomplishment at what they discovered to be useful or not useful .

The tutor could, in principle, be a useful source of information as well as illuminating pointers. Yet in practice, it is not that perfect. Firstly, the teaching load of tutors is increasing with tutorial groups increasing in size. Secondly, there is a discrepancy between the views of students and tutors about the functions of the tutorial. The tutors might perceive the tutorial as being an arena for the exchange of ideas so that misunderstanding and confusion can be addressed, whereas the students may want to settle their confusions before the presentation.

> The tutor wanted us to try our best to get the most from the readings first, then he will supplement in the tutorial. I don't think this is helpful to me

Thirdly, more responsible students might feel obliged to put more thought into the issue / topic before consulting the tutor**.**

> I'll try to avoid asking the tutor before I have a sense of direction in doing the paper

In sharp contrast with the findings of the self-administered questionnaire, there was an overwhelming concern about the difficulties encountered when trying to grasp the essential points of the reading materials for the tutorial. Students seemed to understand the sequence of approaching a tutorial topic, from setting an outline, to selecting relevant materials, and then to the filtering of the main points. However they appeared to find difficulty in matching the materials in the readings with their outline plan. They thought that the lecturers had suggested too many, and too difficult, references whereas they demanded 'direct answers relevant to the topic'

> [The readings] are not systematic enough. It seems to be a 'topic' in every paragraph but it also appears to be irrelevant. I can't figure out any relationship [between the topic and the materials]. Not everything I can locate a direct answer'

More thoughtful students were able to resolve the dilemma and move beyond the initial stage of 'stagnation':

> Maybe what I thought to be the answers in the tutorial topic do not have direct relationship with what are provided in the reading materials. I have to think for quite a while before I discover the cues. I then go on to find other relevant materials

Several interesting findings from the in-depth interviews can be highlighted.

- There is a gap between the learning strategies they inherited from their secondary school years that do not fit into most university courses. Something is needed to bridge that gap.
- Students are motivated to adopt a new way of learning, but they are less capable than was first thought in developing new strategies independently.
- Tutors are important in the learning process. However, increased workload and the demands of students to prepare themselves before consulting the tutor created obstacles to direct communication between tutors and students. This appears to indicate the need for a learning aid to address the perceived problems.
- Such a learning aid should help the students to approach the tutorial more efficiently and systematically.
- The learning aid should offer guidance to students in selecting the relevant materials as well as being specific enough to help students to match the materials with the sub-themes of the relevant tutorial.

Design and Implementation of the Learning Aid

Informed by the findings of the research in stage one, a multimedia guide was designed. It followed two design guidelines. First, the learning aid attempted to match the process of tutorial preparation. Second, a unified outlook for various components was created to allow students to have a clearer sense of direction of the site map of the learning aid.

To follow the first principle, the learning aid was constructed to guide students to turn 'raw materials' (reading materials) into the 'output' – the presentation of, and paper for, the tutorial. The basic content areas of the learning aid were then divided into three sections, namely reading, presentation and writing. Instead of a detailed description of the activities of each component, the sections were summarised into principles or steps to help the students remember them. The principles or steps were further illustrated by concrete examples related to the course, for example, 'social policy for unemployment', to facilitate student understanding. Highlights of the steps and principles are listed in Figure 4.

Figure 4: Steps/principles in reading, presentation and writing

SQ3R Reading Strategy	Principles in making a successful presentation		11 steps in writing
	7 principles in preparing a group presentation plan	11 principles in preparing an individual presentation plan	
Scanning	Choose an interesting question	Develop objectives	Define the work schedule
Questioning	Analyse the question	Analyse audience	Discover a topic
Reading	Information collection	State the main ideas	Define the type of writing
Recalling	Formulate a group presentation plan	Decide supporting information	Prewriting
Reviewing	Logistics of the presentation	Create an opener	Consider your readers
Summarising	Ask for advice	Structure the main body	Organising
	Collaboration	Prepare the close	Outlining
		Choose a presentation style	Drafting
		Rehearsal	Revising
		Coping with nerves	Final Draft
			Editing and proofreading

To implement the second principle of design, a common structure was adopted for each section which was further divided into three components. The first component consisted of the basic information, principles and skills necessary for the relevant sections. Concrete examples in relation to social policy and administration were offered as far as possible to enable students to learn the relevant facts from this section

The second component was a quiz in which students' knowledge of the principles was tested. Immediate feedback was given after each answer. Students could retrieve further relevant materials upon a 'click' if they were not sure about the answer or had answered incorrectly. The quiz was designed to help students remember the guiding principles.

The last component was a simulation exercise. To motivate students to practice the relevant skills, course assignments were assigned to simulate, as far as possible, the exercises. In the first stage of implementation, a reading exercise was attached and students were required to write a short summary of an article.

Several groups of first and second year students were invited, on a voluntary basis to test the initial protocol of each section of the learning aid. Then ten students returned their user survey questionnaires. The feedback of the students is presented in Figure 5.

Figure 5: User feedback on the initial programme protocol

	Mean Score			
1⇐scale	**Reading**	**Presentation**	**Writing**	**scale ⇒5**
Easy to access	2.0	2.0	2.0	Difficult to access
Interesting	3.2	2.5	3.1	Boring
Attractive	3.1	2.6	3.0	Not attractive
Easy to understand	2.1	2.0	2.2	Difficult to understand
Helpful	2.5	2.1	2.4	Not helpful

Note: Total Cases = 10 (Reading, Writing) Total Cases = 9 (Presentation)

The above findings largely reflect the positive feedback from the users. As one of the students pointed out in the 'overall comments'

> Overall it is very useful to help the students to understand the course.

The findings, however, also indicate that students were less satisfied with the attractiveness of the presentation of the learning aid. One student suggested that

> [the learning aid] can add more colourful diagrams, photos / graphics and so on to make it more interesting and attractive.

Modifications were subsequently made as a result of such feedback.

The self-access multimedia learning aid was then fully incorporated into the home page of the course 'Introduction to Public and Social Administration' 1999. As the course home page was run on a WebCT platform, it enabled the features of WebCT to be shared with the learning aid. For instance, course reference lists and course notes were available on-line, and a discussion forum and an on-line chat facility for the exchange of ideas amongst students, as well as between tutors and students, was in place. Students were required to use the learning aid when working on the two reading assignments, and to submit their assignments via the Internet.

Coincidentally, a student mentor scheme was set up in which full-time final year students in the department were assigned to a group of full-time freshmen to help the freshmen to adapt to university life. This project was able to take advantage of the mentor scheme in offering more intensive assistance to first year students. The student mentors were invited to help full-time students to use the learning aid for the assignments. The student mentors were given three sessions of training, and they in turn offered their help to the freshmen, both in their regular meetings and on an individual basis.

Initial Feedback From Students

An initial evaluation of the learning aid was held at the end of the semester. Full-time first year students were asked to complete a short questionnaire (the other part of the course was also being evaluated using the same questionnaire). Out of 90 first year students in the class, 71 completed the questionnaire (a response rate of 79%). Amongst those who responded, 82% used the learning aid when working on their assignments, a rather high proportion given that using the learning aid was not compulsory. However, their evaluation of the learning aid was not very encouraging. Rated on a scale of 1 (very useful) to 7 (No use at all), the average rating was only 4.3 (standard deviation 1.3). Fewer students (29%) rated the learning aid highly (rating 1-3)

whereas about half of the students thought the learning aid was not very useful (47% students gave it a rating between 5 and 7).

Students were also invited to give written comments about the learning aid, although not many students actually did so. Those who thought the learning aid was useful valued the opportunity they was given to consolidate past experience. However, other students thought the learning aid was too general or too complicated, preferring that the learning aid offered more concrete examples.

The assistance of the student mentors was also not regarded as very helpful. Only about half of the students (51%) received the help of their student mentors with the mean rating being 4.3 (standard deviation 1.5). No student rated such assistance 1 or 2 (1 is very useful) while one third of them gave ratings of 5 to 7 indicating that the mentor's help was not valued highly by the freshmen.

Reflective Comments, Problems Encountered, and Limitations

Despite the relatively limited scope of output that this Action Learning Project has produced, much effort has been put into the research, design and production process. Such effort is regarded as worthwhile as well as stimulating. The action research process enabled the teacher to develop a deeper understanding of the learning strategies of students. It not only helped the teacher to understand problems but it also facilitated the development of an empathetic attitude towards students' difficulties. This motivated further investment in quality enhancement of the teaching and learning process. The process also conveyed to students the seriousness with which the teaching team regarded the development of teaching strategies and is conducive to motivating students to be equally serious in their learning.

This research reveals the difficulties students have towards university learning. They understand the inadequacy of the learning skills they have developed. However an inability to diagnose the difficulty and the anxiety of perceived incompetence prevented some students from seeking help from the tutors. The tutors, too busy to be easily accessible, may be one reason for students not seeking help, whilst students' inability to diagnose their difficulties and to formulate sensible questions to approach the tutors may be another. A self-administered learning aid should be helpful in bridging such a gap. Students could start off in a less intimidating and more flexible environment so that they would have something with which to begin their studies. It would also enhance the confidence of the students so that they would be able to enlarge the scope of experimentation, or to seek help from the tutors. This would also act as a more task-driven supplement to the study skill courses which many Student Development Units are organising.

In order to avoid the learning aid being too abstract, relevant concrete tasks and appropriate examples must be employed. This demands a closer integration of the learning aid with the course - perhaps the most demanding part for a teacher, since it generates an additional workload and a deeper reflection of the course content. What we have accomplished in this project is simply too little. A closer integration of the learning aid with the course is required and the learning aid itself must be further refined.

In the short term, extra time has to be devoted to the research and development of the learning aid, but in the long term, it offers additional contact points and communication channels to students. This then increases the contact between teachers and students, and more time must be spent in dealing with students' requests, as was seen in the implementation of the learning aid. Nevertheless, the additional time is worth spending, as it enhances the effectiveness of teaching.

The use of IT, particularly the Internet, appears to be convenient for both students and teachers, but we tend to under-estimate the resistance which it generates. When we first conducted a pilot study of the learning aid two years ago, both the infrastructure and the software were inconvenient. We have witnessed a quantum leap in IT in the past few years as well as a reduction in the psychological barriers experienced by students and other members of the teaching team, with IT becoming part of our daily routine. Yet although people realise the importance of IT and the inevitability of its 'intrusion' into our lives, how understanding can be realised in behavioral terms still needs careful planning. Thus, an orchestrated implementation strategy is necessary. The use of WebCT facilitates improved integration of the course components as well as a gradual involvement of students.

Advances in the internet technology and its popularity also simplifies the course tools' development. Although a course delivered on CD can be more sophisticated, it is more expensive to produce, amend and distribute. A course tool delivered on WWW is both cheap, easy to access and flexible. This also enhances the transportability of the courseware. Thus, investment in courseware development can be more effective if other courses can use current course tools - after modifications have been made to ensure their appropriateness for different courses.

Despite the lack of overall positive responses from students at the first instance as reflected by the initial evaluation, it should not be regarded as a setback for the development of learning. The high utilisation rate of the learning aid and the absence of negative comments would suggest that students were receptive to this new initiative. That students gave a relatively low rating to the usefulness of the learning aid may be a reflection of its limitations in being unable to deal with their learning difficulties. Interview quotations given earlier, suggest that the students' beliefs and knowledge were incompatible with the requirements of university study which necessitate adopting positions on critical alternative theories, and the ability to value judgements about ill-defined problems. Changing deep-seated beliefs about knowledge is not an easy task for a simple learning aid.

While many studies have been conducted to identify the problems faced by students in the areas of reading, writing and tutorial presentations, and even more on the technical aspects of the learning aid, not enough attention has been given to the refinement of both the content and the presentation of the learning aid. Although adequate resources have been allocated to this project, the time frame for development was rather restrictive. Since the course ran for only three months, a period of nine months elapsed before we could test the new design and collect the feedback. However, the learning aid as it stands, lends itself to further development. Since the development of the more expensive and time-consuming components has already been funded, subsequent refinement will be relatively easy. Future work in its further development can include a detailed and qualitative evaluation of the presentation of the tool and its extension to other courses.

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