The Difficulty of Taking the Initiative in Online Teaching in Hong Kong

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ABSTRACT

The merits of using information technology (IT) in education are frequently mentioned as a means of changing traditional lecturing. University education is supposed to be taking the leading role in using IT in teaching in the sense of its superiority in cost-efficiency and manpower over other educational mediums or most private organizations. Despite its advantages, however, the implementation of IT in teaching in universities is not so smooth. Why, then, does the implementation of IT in university education still face difficulties despite the fact that universities are supposed to be in a better position? In this essay, the author will try to use the cases of universities in Hong Kong to illustrate that the main reasons for these difficulties arise from personal and institutional factors. Without appropriate matching of these two factors, the implementation of IT is doomed to be difficult.

OVERVIEW AND SUMMARY

The importance of technology, especially computers, to society is far from imaginary. Computers, as a part of technology, influence the path and the direction of the development of technology. In fact, the world is now relying on more and more computers, and Hong Kong is no exception. The government of Hong Kong also promotes the employment of IT in education. As early as 1998, Joseph W.P. Wong, the Secretary for Education and Manpower, suggested increasing the effectiveness and the quality of teaching and learning through the use of IT in education. To achieve this target, a five-year strategy has been formulated. According to the strategy, professional and technical support for schools and teachers will be set up whilst about 100 secondary schools were to have their own multi-media learning centers by the year 2000.[1] The Chief Executive, in his 1999 Policy Address entitled "Quality People, Quality Home", also announced that the government has already allocated financial and manpower support for achieving the five-year strategy in promoting IT in education.[2]

University education in Hong Kong is set up as an example to educators at primary

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[1] Http://www.info.gov.hk/emb/eng/policy/images/eedu.pdf
[2] Http://www.info.gov.hk/pa99/english/speech.htm

and secondary levels.[3] With limited resources and manpower compared to the universities, educators in primary and secondary levels try to learn from the experience of those using IT in university education. As a matter of fact, with the comparative advantage of resources and manpower, the level of IT use in university education is much greater than at other levels of education in Hong Kong. Some of the universities, such as the Chinese University of Hong Kong, the University of Hong Kong, and the Hong Kong University of Science and Technology, even conduct research on helping the implementation of IT at primary and secondary levels of education.

Nonetheless, as society now stresses the important of IT, everyone seems to be working hard on it without asking any questions. IT is just a 'hardcore' element and will not improve the quality of education unless we use it carefully and merge it with education.

We may be able to get some of the picture from outside experience. For instance, not all lecturers are willing to employ IT in education due to their own characteristics and past experience in using computers. Some of them have already adopted the traditional way of teaching and they will consequently find it difficult to use IT in their teaching. The reason is that if they have to employ IT in their teaching, it means that their way of teaching will probably change and they may not be able to cope with it. What is more, some of them may even find it not so easy to learn how to handle IT. They will spend a lot of time figuring out how to use, say, computer software, before they can prepare the course handout on the Internet. To them, it is time consuming compared with the effort of preparing the so-called traditional hardcopy handout. In addition, some may even think that their job security may be threatened if more and more IT is employed in education. For instance, they may think that if all the course materials are uploaded onto the Internet, then the university may not need them to conduct lessons. (Fuller, 2000: 511-513)

In order not to employ IT in teaching, they may use different kind of reasons, such as the computers that they are using are too out-dated that they cannot meet the demands of IT-aided education. Besides, they will try to justify, and to a certain extent they are correct especially in the Hong Kong academic environment, that they are so busy with administrative and research work that they have no time for learning and using IT in their education. (Fuller, 2000: 511-513)

Second, students' technology skills and attitudes can also affect the success of IT implementation in education. It is almost meaningless using IT in education if students lack the technology skills to handle it or their attitudes are set against it. Luckily, most of the students in this generation can handle IT quite well and they are comfortable using it. Furthermore, students want their lecturers to use more IT in lessons. (Smith and Benscoter, 2000: 103-105) This is especially so, as illustrated by Walters and Necessary (1996), to students at university for, as students grow up,

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[3] Unless otherwise stated, university education refers to education where students are required to attend lectures and tutorials at a university. Thus, distance learning is not included in the discussion in this paper.

their experience in using computers and IT becomes more sophisticated and they are more open to accept the use of IT in education.

Third, even though lecturers are willing to use IT in education, he or she may be prevented from using IT simply because of the lack of skills, lack of resources, or lack of time in developing related materials.   In other words, they lack back-up support from their institution. As pointed out by Chiero (1997) and Takacs, Reed, Wells and Dombrowski (1999), two important factors in making the lecturer adapt more easily to the use of IT are resources and group norms.   Resources refers to time, training, and support.   If the lecturer is provided with adequate time to develop IT in education, or if the time the lecturer uses in such development is recognized by the university, the lecturer is likely to employ, or at least will not resist, IT in education. Also, there are many different kinds of information technologies available in the market. The lecturer may not be able to tell which one is suitable for his teaching or not. Therefore, adequate training in the different kinds of IT or even teaching the lecturer how to use certain software will surely help the lecturer a lot in choosing which IT is suitable for his class.   (Bergen, 2000: 252)

In addition, lecturers may come across some difficult technical problems in handling IT when, say, hosting a Web course. If the problem cannot be solved or problems arise again and again, the eagerness of the lecturer in using IT in education may fade out. Thus, responsive support for the lecturer is also important for the success of IT use in education.

Group norms are also important. If the norm of the division or even the university is so IT-oriented that teaching is widely support by Internet and / or audio-visual equipment, then the lecturer will most likely also use IT in his teaching as well, so as not to lag behind others. The creation of such group norms, however, is largely dependent on the effort of the division or the university in promoting the use of IT.

After viewing the issues of implementing IT in education, it is better for us to consider again the results of the implementation.   Can implementation really achieve what we are targeting, i.e., raising the quality of education?   The Chief Executive has said that the minds of educators in Hong Kong have changed in the sense that they have begun to accept the use of IT in education.[4]   However, is this really the case? Or, are they going in the right direction?   Drawn from the previous discussion, the questions worth considering are, first, do lecturers really welcome or oppose the use of IT in teaching? Second, do students really enjoy learning after the employment of IT in education?   Third, are there any factors, such as the attitude of the department, the university, or the personal characteristics or past experience of the lecturers in handling IT, that will help or hinder the development of the use of science and technology in education? Also, is the employment of IT alone (input from computers or the Internet, for instance) sufficient to raise the interest and level of educational achievement among students and lecturers? In other words, are the video, audio or lecturer notes and course materials posted on the Web good enough to allow lecturers to claim that they have already used IT in their courses and that their students can

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[4] Http://www.info.gov.hk/pa99/english/speech.htm

benefit from it? Or, is it correct for the students to expect that the use of IT is making it easier for them to check their course information and obtain the lecture notes? If this is not the case, then what are the more appropriate paths that we should take and what factors should we take into consideration when employing IT in education for the sake of the next generation?

In the case of the universities in Hong Kong, can we detect the above situation? Even before the government started to promote the use of IT in education, some lecturers already employed the Internet to helping students. Nonetheless, from my own experience and observation, most of the lecturers only post the lecture notes and the like on the Web. Is it the case that the lecturers and the students using such Web materials are able to claim that they have already used science and technology in education or even in learning? If that is the case, then what is the essence of the employment of science and technology in education, especially at the university level? On the other hand, some of the universities are willing to use IT in their education. For instance, they would like to use some of the education platforms, like WebCT, in their teaching. Yet, this does not mean that they can go on as they please. They still face some constraints. For instance, they may lack technical support and do not know how to handle software and hardware problems. Second, even the institution may not totally support them because it requires a lot of financial and manpower support. It also involves many complicated issues such as copyright. Third, they also fear that the departments and universities concerned will not recognize the time and effort they have put into using IT in education. Some of them, on the other hand, are against the use of IT for fear that they will lose their jobs.

In view of the above actual Hong Kong situation, then, what approach should the universities, lecturers, and policymakers concerned adopt in carrying out the promotion of IT in education? How can the universities and lecturers overcome these difficulties?

METHODOLOGY

Literature reviews is part of the methodology for my study. As mentioned above, I have tried to find some theories on implementing IT in education and tried to see how institutional or personal factors can help or hinder such development. Besides the literature reviews, I have also tried to get valuable information on the implementing of IT in some of the universities in Hong Kong by means of questionnaire.

In mid-November, 2000, a 5-page questionnaire was sent, using email or direct contact, to professors in the Division of Social Science or related fields (namely History, Government, and International Studies) at the Hong Kong University of Science and Technology (total four samples) and the Hong Kong Baptist University (total four samples). Efforts were made, before the survey, to ensure that there would be normal distribution among the targeted interviewees in terms of position, age, and years of teaching experience, which I believe, may affect the neutrality of the samples. Thus, the sample contains professor, associate professor and assistant

professor with varying years of teaching experience.   The questionnaire is designed in the format of multiple choice, attitude test, and short questions, and is supposed to be finished within five minutes.   The study acts as a pilot study.

In addition to that, with help from the Information Technology Service Center (ITSC) at the Hong Kong University of Science and Technology, results of a survey on student feedback on the use of IT in the University were analyzed for this study.[5]

After gathering the results from the questionnaire, I will analyze my data in quantitative and qualitative ways. In addition, I will try to show whether there are institutions or personal factors that help or hinder the use of IT in education. What is more, I will also use the literature and the theories of using IT in education and compare them with my findings to see whether universities in Hong Kong have similar experience in the implementation of IT in education.

RESULTS

The questionnaire response rate is 100% for the professors at the Hong Kong University of Science and Technology while there is only 50% response rate for the professors at the Hong Kong Baptist University.   Among the responses, one is professor, two are associate professors, and two are assistant professors.   The following are the brief summary of the findings:

First, gender has little relevance to the willingness to use IT, namely the Internet, in university education. From the response, 66.67% are male while 33.33% are female. However, 25% of the male professors from our total of male respondents indicated that they do not use IT in their teaching.   Also, 50% of the female professors indicated that they do not use IT in teaching.   Thus, gender seems to have no relationship with the willingness among the professors to use IT in university education.

In addition, years of teaching experience also had little relationship with willingness to use IT in university education.   From the responses, 0% has less than two years of teaching experience. A total of 33.3% have two to five years teaching experience. Also, 16.67% and 50% of the professors have six to ten and more than ten years of teaching experience respectively.   However, 50% of the total respondents who have two to five years of teaching experience showed that they do not use IT in their university education.   What is more, 33.3% of the total respondents who have more than ten years of teaching experience also indicated that they do not use IT in their university teaching.   This shows that years of teaching experience, and age, can be

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[5] The student survey was conducted in summer 2000.   It was targeted at students at the Hong Kong University of Science and Technology who take a summer course, namely SOSC125 International Relations, offered by the Division of Social Science at the University.   The course instructor, Professor Greg Felker, employed a course web delivery system, namely WebCT, in the course and the survey looks at the students' feedback on that.   The author owes a debt to Professor Greg Felker and the ITSC at the Hong Kong University of Science and Technology for their permission to let the author using the result of the survey.

regarded as having no relationship with the willingness of the professors to use IT in university education.

My explanation for these findings is that there is no gender difference in using IT, at least in the aspect of university education. Male and female behave the same in facing IT and there is no gender difference. Another explanation for the finding that years of teaching experience has little relationship with willingness to use IT is that the professors are well educated and that the computer is not too difficult for them once they have made up their mind to learn it. From my study, over 50% of the respondents indicated that they have average or above-average knowledge in developing Internet materials. This shows that using the Internet for their teaching is not a difficult task for most of the professors. Concerning the years of teaching experience, my explanation is that whether they can accept new things and new technology compared with those that they have copied depends on the cognitive mind of the professors. As I have mentioned before, computer knowledge should not be difficult for them. The question is, are they ready to learn it? The degree of readiness, I propose, is subject to whether the professor is open to new things or not and that may have no relationship with the years of teaching, or age, at all. Young professors can have a conservative mind while old professors may be very open. It really depended on the professor's personal characteristics.[6]

Second, although 50% and 33.3% of the respondents indicated that they have some interest or a keen interest in developing Internet materials, professors use IT in their teaching for different purposes. Some of the professors used IT in their teaching as a means to gain promotion or recognition from the department and / or the university. From the study, 50% of the respondents showed that they have no idea on whether their effort in developing the Internet (no matter they have used it or not) will be recognized by the department. Nonetheless, 33.3% of the respondents indicated that they think that their efforts in developing the Internet will be recognized by the department. This 33% also indicated that they have used IT in their university education. Thus, at least, it gives the impression that one of the reasons why these professors used IT in university education is to gain the university's recognition of their efforts for the sake of evaluation and promotion.

My explanation for this finding is that this may reflect the picture that some of the professors are not very eager to use IT in their teaching but nonetheless they do not resist it. They regard IT as a way of increasing their chances of promotion or getting a positive evaluation from the department. There is nothing wrong at all with this attitude and it may be positive to the development of IT in university education as well. The important thing is that at least they do not resist using IT in their teaching. In fact, we can expect that they will use it more and more once the university or the department concerned gives them adequate motive, such as recognition, rewards and so on.

Interestingly, from the study, 16.67% of the respondents that used the Internet in

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[6] The reasons why the professors are not willing to use the Internet in university teaching can be seen in Table Four.

university education indicated they have an idea that their efforts in developing the Internet will not be recognized by the department. Also, the professors indicated that they used the Internet as a supplement to illustrate the point(s) and the idea(s) that cannot be covered during the lecture or to further illustrates the point(s) already taught in the lesson.   In addition, the professor also stated that the Internet can also act as a means of allowing the students to self-explore the subjects by providing useful input from the World Wide Web to them. This gives the impression that the reasons for the professors using IT in university education are to facilitate teaching and for the benefit of the students.

However, we cannot classify the professors as simply self-interested and student-interest oriented.   In fact, as shown in Table One, the professors use the Internet in their teaching also because they believe that the Internet can facilitate their teaching (25%), facilitate students' learning (75%), save time (25%), and so on. In addition, as shown in Table Two, the professors used the Internet mainly as a way of letting students explore the subjects themselves (75%) and as a supplement or illustration for the lecturer (50% each).

Third, some of the professors, however, do not use IT in their university teaching. From the findings, 33.3% of the professors indicated that they do not use IT in teaching.   Some indicated that there is a lack of manpower and financial support for the development of the Internet.   Some also said that they do not use IT in university education because such development is time consuming and they lack the knowledge to do it.   Some, however, indicated that they want to retain their teaching style and thus refuse to use IT in the university education.

My explanation for this finding is that this reflects the fact that they find it difficult to adapt to new technology.   This may be due to past experience or just because they cannot open their minds in accepting the new technology and change their teaching style.   There is nothing wrong in such a position and they may be good professors that only dislike using IT in teaching. However, in the IT age, it is the trend that they will be required to change.   Such attitudes may create unnecessary confrontation and distrust between professors and university if the use of IT in university teaching becomes a fixed policy. Compromise and understanding should then be encouraged between the two parties.

Also, the main difficulties that the professors faced when using IT in their teaching are lack of time and manpower support from the department and / or the university. As shown in Table Three, of those who use the Internet in their university teaching, 75% indicated that their main difficulty in developing Internet materials is that such development is time consuming.   Besides, 50% of them also indicated that another difficulty is the lack of manpower support from the department or the university. Other difficulties as identified by the professors in developing Internet materials also include the lack of financial support from the department or the university, lack of knowledge, and that their efforts are not recognized by the department.

Of professors who do not use IT in their teaching, all of them indicated that they may

change their mind when there is enough manpower support provided by the department and / or the university and students have also made such demands. In addition, 50% of them also indicated that the university or the department must provide more financial support for them in order to develop Internet materials.

Nonetheless, from the survey, we cannot see the effect of group norms on the use of IT in university education. This may be due to the fact that professors in Hong Kong act rather independently and are rarely affected by the group norm. However, it is still worth having a future study on this issue.

IMPLICATIONS OF THE STUDY

One of the implications of the study is that the successful implementation of IT in the university requires both the effort of the professors and the department and / or university. On the one hand, the professors cannot avoid the demands for changing their teaching style in order to enhance the quality of teaching. In fact, in the age of the so-called "information society" (Castells, 1996), people will demand more access to the information. Students are not the exception. Thus, professors should be aware that their students will also demand a change in teaching style.[7] On the other hand, the university should also try its best to encourage professors, especially in terms of manpower and financial support, to use the Internet in their teaching. As shown in Table Three, the main difficulty that the professors face in developing the Internet are lack of time, and lack of manpower and financial support from the university. Also, despite many positive results, 100% of the professors indicated that their workload increased after starting to use the Internet in their teaching. The need for more support from the university in developing Internet materials also shared by those professors who are not using the Internet in their teaching at present. As shown in Table Five, 50% and 25% of the professors who are not using the Internet as part of their teaching would change their mind on condition that the university provided them more manpower and financial support in developing Internet materials respectively. By doing so, the benefit will finally go to the students.

Nevertheless, we should bear in mind that IT, at least in university education, is not everything. It is true to say that IT can help us to work in an efficient way. Yet, IT itself can only guarantee, at most, the quantity but not the quality. To work in an efficient way does not mean that the work is being carried out in an effective way. Nowadays, many professors use the Internet as a part of their university teaching. Some of them, however, use the Internet only to let students download the course lecture notes and related materials. This can help the teaching in an efficient way but it does not mean that the whole progress is made in an effective way. Therefore, we had better not lose ourselves entirely in IT.

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[7] As shown in Table Five, 50% of the professors not using the Internet as part of their teaching would change their mind on condition that their students demanded them to do so. This reflects the picture that the professors are willing, or being forced, to change their teaching style in order to meet the demands and needs of the new generation.

In addition, in implementing IT in university education, we should not neglect the need of our customers, that is, the students.   That is to say, when we implement IT in university education, students should be, at least, the ones that benefit from such implementation.   However, the question is, what is mean by "benefit"?   My argument is that we cannot say students benefit from the use of IT in university education unless they find their learning be enhanced. Having a high access rate does not mean that the Internet is successful for teaching purposes and also does not mean that students can really benefit from the use of IT.   Maybe the instructor just uploads all the lecture notes onto the Web and requires the students to download them themselves. Students, therefore, have to access the course Web very often. Yet, this does not mean that the students benefit from such course Web.   In accordance with a survey conducted by the ITSC at the Hong Kong University of Science and Technology, over 70% of the students showed that they are positive towards the use of IT in university education.   Besides downloading the lecture notes, over 50% and 70% of the students showed that they learned something from posting or reading the messages on the bulletin board by their classmates, instructor, or the teaching assistant respectively. Thus, when implementing IT, for instance the Internet, in university education, we should also cater for the needs and the interests of the students.

FUTURE STUDY

There are still some aspects that are not yet covered in this study. First, this study focuses mainly on the aspect of the professors and the university to see the main reasons for the difficulties in implementation of IT in university education. Nonetheless, the part of the students does not have much consideration in this study. As a matter of fact, the students in the university are one of the reasons why the implementation of IT is needed.   Therefore, further study is needed on how the students view and respond to the implementation of IT in university education and what difficulties they are facing.

Second, this study only focuses attention on the use of IT in university education. Yet, university education is just a part of the whole education progress. Primary education, secondary education, special education, and even continuing education are also important.   Primary education is said to be an important foundation for human development.   Secondary education is also important for university education. Special education and continuing education are also important too. The use of IT here plays a different role and is also important.   Thus, further study on the use of IT in these areas is needed.

In addition, IT can apply to many different fields. Education is just one of them. We can also look into, for instance, the role of IT in the development of Hong Kong. Currently, the economy of Hong Kong is recovering. Yet, there are still many factors that endanger Hong Kong's leading economic position in the Asian region.   Low salaries and strong competition are examples.   It would appear that IT can help Hong Kong gain a competitive edge over other regions.   Thus, it would be worthwhile conducting a further study on, for instance, how light industry in Hong Kong can

make use of IT in production to gain a competitive edge.   Such a study could, in return, help the government of Hong Kong to understand more about the economy of Hong Kong to make it easier for the government to formulate the appropriate policy.

It is said that IT has become a part of our daily life.   Sometimes, however, we are so dependent on IT that when the computer, a part of IT, breaks down, say, due to the Y2K issue, the whole of society is affected.   Thus, we also regard IT as a kind of risk to society. Some may suggest that it is better to depend on ourselves.   Yet, in modern society it is hard for us to live without IT.   Thus, it would be worthwhile conducting a further study on the issue of how we should achieve a balance between, on the one hand, relying on IT and, on the other, an appropriate risk perception in using IT.

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Appendix

TABLE ONE
Reasons of the respondents in Using the Internet in Teaching

Reasons for Using the Internet	%
Required by the department	0.0
Internet can facilitate your teaching	25.0
Internet can facilitate students' learning	75.0
Demand from the students	25.0
Internet can save your time	25.0
Most of your colleagues also use the Internet	0.0
For the sake of evaluation and promotion	50.0
Others	0.0

Respondents can choose more than one answer.

TABLE TWO
Role of the Internet in Teaching

Role of the Internet in Teaching	%
As a supplement	50.0
As an illustration	50.0
Downloading lecture notes	25.0
Arouse students' interest	25.0
Let students self explore the subjects	75.0
Others	0.0

Respondents can choose more than one answer.

TABLE THREE
Difficulties of the respondents in Developing the Internet

Difficulties in Developing the Internet	%
Lack of manpower support	50.0
Lack of financial support	25.0
Time consuming	75.0
Lack of knowledge	25.0
Not recognized by the department	25.0
Other	0.0

Respondents can choose more than one answer.

TABLE FOUR
Reasons for Not Using the Internet

Reasons for not using the Internet	%
Lack of support	25.0
No recognition	0.0
Time consuming	25.0
Lack of knowledge	25.0
Want to maintain teaching style	25.0
No interest	0.0
No believe in the Internet	0.0
Job security	0.0
Intellectual property	0.0
Other	0.0

TABLE FIVE
Factors to Change the Mind

Factors to change the mind	%
Provide manpower support	50.0
Provide financial support	25.0
Recognition by department	0.0
Securities of job and intellectual property	0.0
Students' demand	50.0
Other	0.0

Respondents can choose more than one answer.