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## 28. Teacher Adoption of Web-based Learning in Blended Environment

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**Abstract.** Because of the significant benefits to be gained from Internet technology, many educational institutions have brought in online learning management systems to their traditional classroom courses. The emergence of blended instruction allows teachers to integrate the advantages of face-to-face classroom interactions with positive attributes of distance learning. Nevertheless, the value of the blended approach relies heavily on the teachers' adoption of the add-on platform. In view of the fact that individual perception has a very real impact on behavior, this paper explores the teachers' preconceptions about web-based learning system in blended environment. Data were collected via interviews with nine teachers from a tertiary institution about their authentic experiences and viewpoints on an e-learning platform, and were analyzed qualitatively using the approach of phenomenography. Altogether, there emerged nine categories of descriptions on teachers' perception. The future of blended learning will most likely be determined by how teachers are able to arrive at a good balance between the tradition and the technology. An understanding of the teacher's perception is crucial to provide insight on successful implementation. The paper ends with the discussion on the implications drawn out from the findings.

**Keywords:** Web-based learning, blended learning, teacher perception

### 1. Introduction

In recent years, learning management system is widely used by educational institutes as a complementary instrument for their classroom courses. As web-based learning platform tends to be a standard component in classroom teaching, the topic of blended learning is gaining much attention. Blended learning is a combination of the traditional face-to-face classroom teaching strategies and the use of electronic learning tools in an attempt to facilitate teaching and learning (Galpin, 2005). In blended learning, teachers' appropriate adoption of modern technology is expected to create new opportunities to facilitate teaching and learning (Marsh, 2001). Disappointingly people may not be ready to change from the traditional practice (Byrne, 2002). Although blended learning is a preferred way of conducting education, allowing teachers to integrate the advantages of

face-to-face classroom interactions with positive characteristics of distance learning (Kriger, 2003), its success relies heavily on the willingness of both teachers and students to adopt the innovative educational technology. Having the users to accept a new technology is not easy. Blended learning requires teachers to alter their teaching styles and develop new skills in order to exploit the technology for the benefit of teaching and learning.

Web-based learning systems were clearly achieving some positive publicity and gaining acceptance to both academia and the practitioners. In the blended environment, the adoption might be very different from fully online course since teacher might have the autonomy on how to use that “optional extra”. Teacher takes an important role as change agent in influencing student usage and the effectiveness. In view of the fact that individual perception has a very real impact on behavior, it is wondered what are teachers’ conceptions of web-based learning in blended setting?

This paper investigates the teachers’ preconceptions about web-based learning system in classroom teaching. The learning system in this study context is known as Interactive Learning Network (ILN) which has being adopted by the tertiary college for two years. ILN, which was developed by a local university, establishes an online environment which aims at equipping teachers with the tools to provide scaffoldings for students to engage in collaborative and cooperative activities. Similar to other e-learning systems such as WebCT or BlackBoard, ILN allows both synchronous and asynchronous communication among users. It has built-in features such as Announcement, Resources, Task, Forum, Calendar, Chart, Quiz, and Evaluation, allowing users to customize features on their own community.

## **2. Method**

This study makes use of the phenomenography qualitative approach to analyze the research data that was collected through interviews so as to discern different ways in which individual experience, conceptualize, perceive, and understand various aspects of phenomena in the world around them (Marton & Booth, 1997). Data analysis produced descriptive category on teacher’s perceptions about the web-based learning platform in blended environment.

Individual interviews were used to gather teacher opinions and/or experiences of ILN, allowing the researcher to gain valuable insights into the thoughts and perceptions of the respondents. Nine teachers from different departments of the same institution were invited to contribute to the study. Among the participants, five of them were ILN users. The reason for using purposeful sampling was to get the ideas of both users and non-users from different disciplines. To ensure the required information can be captured, the interviews

were based on a list of pre-set questions. The interviews were all conducted in Cantonese and then transcribed into English for analysis.

### **3. Results and Analysis**

According to the teachers' responses with regard to their opinions and/or experiences of ILN, there comes up with the following nine categories of descriptions on the teachers' perception about web-based learning system. For identification, U1 to U5 and N1 to N4 are used to represent each of the five ILN users and four non-users respectively.

#### **3.1 *"It's mainly for posting information"***

Teachers have a misconception about the focal purpose of web-based learning system. They considered ILN is basically for information dissemination.

U2: Actually, so far, it mainly helps me to upload materials to ILN, including the PowerPoint that I use in the lecture, the notes, multiple choice question, and even instructor manual, I can put it there; so the students can download for reading. Also ILN allows me to put my website in the area provided.

N4: They (students) get one more tool that act as a supplementary for them to get information if they cannot catch the lecture. More information could be put in ILN for students to follow or download, it would be more convenient.

They perceived ILN is useful because it is convenient for them to convey information to the students.

U3: For those lecturers who would not give any notes or material to the students, they might not use it.

The teacher thought that ILN provides no other value other than uploading course material. Some teachers even assumed that by using information and communication technology (ICT) in teaching could only enhanced students' ICT skills.

#### **3.2 *"If the students do not have a strong request, I'll just leave it."***

It happens that teachers' adoption was not on their own initiative. They have low intention of using it; implying that they perceived ILN is not so important for teaching.

U5: They (students) said they want to have lecture notes, so I put the notes there (ILN) and make some announcement for unexpected events.

N2: There was not any student request using it. Even I have mentioned about it, some of them said they have never heard of it and don't know what it is.

N3: Say if the college has the stipulation that all the lecturers must use ILN, then there is no other way but to learn (how to use it).

Teachers did not see the benefits of web-based learning system and avoided using it unless there is some external force.

### **3.3 “It is not a problem that can be solved by new technology”**

Teachers have a conviction that ILN is not that useful and cannot help students learn better in their teaching subjects.

U1: As what I have said before, two-way and instant interaction is very important for English Writing. So the most important is the communication with the students, that needed to be face-to-face, which is better than chat in the web or using ILN.

N2: In fact, frankly speaking, there would not be any obvious improvement since our course (Chinese Literature) is relatively special. All are about the olden languages that really needed to study it one by one. Eventually, the students need to study and read a lot of material. Actually it is a complicated issue. For instance, in lecturing, can it arouse the student’s interest to learn?

They have no intention to create or explore new teaching practice that could utilize the online system to enhance effective teaching and learning.

### **3.4 “It is not the time to discuss whether we should have it or not”**

Teachers realized the trend of using web-based learning system in higher education and strongly supported the adoption of ILN in the college.

U4: I would say it is already a basic necessity, that is, it cannot be going backward. Once you have employed it, you cannot abandon it. It needs to be there continuously. If asking me whether it should be a priority, I would say it must be a top priority. The current issue is on how to make the system better operated and used. I also think it is not user-friendly, but you can get used to it.

Though holding a positive attitude towards blended setting, the teacher reckoned that students would not learn better with innovative technology.

U4: Having it (ILN) is better. It helps students to have a complete set of material but might not help students learn better. ICT cannot replace the face-to-face dialogue between teacher and student – this dialogue includes affiliation, body language, facial, that kind of expressing and receiving.

It was believed that the advanced technology helps, but it is only a tool that should not be relied upon.

### **3.5 “I haven’t used it but I believe it could provide great help”**

It is interesting to note that the non-users showed a high expectation on the benefit brought about by the system.

N1: Especially for Japan History because the class is relatively big so I know it might not have enough time for them to have discussion in class. As I know, ILN has a forum that would benefit them. Students are very willing to participate in discussion. I think through their discussion, it would be very effective for them. They will have a better understanding in the history.

N4: Hmm... Firstly, the interaction with the students can be livelier. Since my subjects are rather qualitative oriented and need to have discussions very often. With ILN, the discussions, no matter before or after the lecture, could be conducted in the forum or wherever, and could be in depth or in a wider scope. Another thing is when they see their classmates have post a lot of messages in

the forum, they will make a comparison, which might increase their motivation to learn.

The non-users have mentioned about the use of discussion forum that the users have pay no attention to.

### ***3.6 “The students would see you the next day, why they have to post the message there”***

Teachers found ILN or some of the features a redundancy in classroom courses.

U1: Because they could meet me twice a week. They just ask their questions in class.

U3: Since we are not teaching online course, there are some features that are seldom used. Such as the assessment, I would not do it online.

U2: I have tried it once. I have asked the students to submit their assignment to ILN. In fact it might not be as convenient as the way I use since I will bring my hard disk in class. I can download the files to my hard disk immediately.

U5: For the Forum, I have tried to use it but I found the students did not seriously discuss there and I didn't force them to have discussion there.

Teachers have tried to use more features of ILN but was discouraged by the students' low participation. For classroom courses, teachers did not expect all the students have the access to the Internet or join the online activities.

### ***3.7 “I haven't got time to prepare it well, so I don't intend to start using it”***

According to the non-users' response, they presumed using ILN would be time consuming and lead to heavier workload.

N2: Personally I am very busy with my dissertation, especially these two years are the critical period for my own study.

N4: I don't have the time to prepare. But I believe it would not be very complicated (to use). I think I don't have much time left for my research study, so I want to put more time for doing research.

Teachers using ILN have the same worry. They found using ILN increase their workload.

U4: I still think there is a downside for it is very time consuming. You have to develop a habit on when to access to ILN and read the student's stuff. Otherwise, it could be like flood or monster, something keeps on coming out there. I am not very good in using ILN, but as I have said earlier, sometimes I feel it's time consuming. Why we have to chat so much? If we have too much communication with the students, it's just abuse our working time.

### ***3.8 “My teaching philosophy might not require using it”***

Teachers believed that lecture notes will limit student's thinking mode and creativity.

N3: Since my teaching approach is very different from those used by other lecturers in general, it is very unique. I think the PowerPoint files are teaching aids but not for the students to study. If you give them (students) the lecture notes, they will have a tendency to memorize it, and not reading books or without thinking. Also I hope to solve all the problems in the class.

U5: Also the problem is Asian students expect to have lecture notes but in fact there should not be any lecture note at university level. The more detail the notes, the bigger the problem.

Teachers worried that using ILN would hamper them in training students' critical thinking; indicating that their understanding about web-based learning system is quite limited.

### ***3.9 “Just don't think high-tech is equal to enhance knowledge”***

Teachers held a fairly negative attitude towards educational technology, and consider ILN could not do much in facilitating effective learning.

U5: I think it is only an instrument; it won't help in problem solving or stimulating their (students') thinking. I think the most important is to have flexibility. There is no need to force everybody to use it. Itself (ICT) won't make better knowledge but only a supplementary. I think the most important is not the hardware but rather the academic performance of the staff. I don't think it is so important. Let's say for those world class universities like Oxford or Harvard, technologically they are very backward.

Though the teacher seemed to be in opposition to new technology, in response to the students' request, the teacher unwillingly used ILN to deliver lecture notes to the students.

## **4. Discussion and Implication**

With the technology ready for use is not enough. To gain a high acceptance of innovative educational technology, teachers and students at least have to possess the necessary skill in operating the system. More important, they need to have the knowledge on the usefulness of the system and know how to deploy it in assisting the achievement of their objectives. In our study, it is obvious that the teachers' understanding about ILN is limited. On the one hand, they did not have a full picture of the system, and did not be aware of the main objectives of web-based learning system. On the other hand, they neither bothered to learn the operation of all the features nor explored new teaching practice that could utilize ILN to foster effective learning.

In the blended environment, much of the responsibility for student use of, and attitude towards, web-based resources rests with the teacher and his or her ability to provide useful information in a format that is understandable, easily accessible, and engaging for students (Slatter, 1998; Sloan, 1997). But we found that the teachers did not play very well in this leading role. Quite the opposite, their adoption were influenced by the students. Some of them abandon using the discussion forum because of the students' low participation. In fact, whether students actively take part in online discussion depend on the teacher's emphasis on quantity and quality of discussion which then influenced students' perceived learning experience (Jiang & Ting, 1998). Furthermore, active participation by the teacher played an important role in increasing student participation in online activities which, in turn,

increased learning through interaction with one another.

Teachers have developed what they believed is most appropriate their teaching philosophy and approach for the face-to-face course. They have a tendency to imagine that web-based learning system would not applicable to their teaching. If possible, they would avoid using it or just using it to support their old practice. In addition, teachers considered that having students online is not a requirement for classroom course. ILN can only be a supplement since teachers and students meet frequently. Moreover, teachers claimed that it is time consuming to use the web-based learning system. It indicates that they only focused on the extra resources they need to provide for using the system; without thinking about how to take advantage of the system to make the teaching and learning become more efficient and effective.

Among the interviewees, 4 out of 5 of the users have previous experience of e-learning platform, and all the 4 non-users haven't used any similar system at before. Lucas and Spitler (1999) maintained that prior use is an important determinant of technology acceptance. Experienced users employ the knowledge gained from prior use of the system to decide on future use, whereas inexperienced users were driven by other factors. Not surprisingly, not all past experiences make a favorable impression. Davis (1989) identified that past experience with the technology would only positively influence a subject's continued use of the technology if they had positive previous experiences; for negative experience, the effect would be opposite. Users with negative attitudes about the technology might lead to negative repercussions and weaken the benefits of the system (Brown et al., 2002). To attain the benefits of e-learning system, teachers and students must have a positive attitude towards the system and be comfortable to use it in their teaching and learning (Culpan, 1995; Woodrow, 1992).

## **5. Conclusion**

This small study has not been able to make a number of generalizations about web-based learning, however, it has highlighted some issues and problems in teacher adoption which deserved further attention. Teachers act as the primary implementers of change in the school and the educational change depends upon what teachers do and think (Fullan, 1991). Since the ultimate goal for using blended learning is the enhancement of effective learning, the benefits of the web-based learning system cannot be achieved if teachers unable to arrive at a good balance between the tradition and the technology (Kuhaney, 2004). Thus, it is necessary for education providers to understand how teachers perceive the technology and their concerns in order to find out the determinants influencing their adoption. Developing technology adoption theories specific to blended learning would



lead to a more widespread use of this new instruction strategy and maximize the effectiveness.

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