

Experiences of Secondary Business Education Teachers in Korea in Using the Internet

after the First Phase of the Vision 2000 Project

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The Internet is a powerful influence in our society, and it is significantly affecting the educational environment. Almost every country is encouraging the use of the Internet in education. So is Korea. This paper reports on the Vision 2000 Project, the effort of the Korean government to upgrade education in the information era, and the experiences of secondary business education teachers in Korea in using the Internet. The study was conducted using literature review and individual telephone interviews with five secondary business education teachers in Korea, using an interpretive methodology to gain rich and detailed information.

In the 21st Century, the Information Era, information and technology dominate the world. They impact our lives in so many ways, including thinking systems, our life styles, how we play, and how we learn. The world has become smaller, more competitive, and rapidly changing.

Within educational environments, the reduced time and space availability have increased the demands for and capabilities of processes for a variety of educational approaches and individualized education. The much shorter life cycle of information demands that students be self-directed, lifelong learners. The concept of knowledge is changing from an objective entity to something that is individually constructed. This constructivism emphasizes a student-centered educational environment. The role of teachers has shifted from expert, information-giver, to a supportive, cooperative role in stimulating active participation of students in the learning process.

Among informational technologies, the Internet is one of the most familiar and widely-used because of its efficiency, pervasiveness, and innovativeness. Many educational leaders have claimed that the Internet is potentially the most significant of all existing educational tools. They also argue that adopting its use in education will improve learning outcomes directly or indirectly by developing unique and flexible educational environments (Harasim, 1990; Maddux, 1994).

The Internet enables students in finding, collecting, evaluating, managing, generating, and regenerating information, and helps develop their ability as self-directed learners over their lifetime. Through the knowledge producing process, students become the center of their learning

and improve their basic competitiveness as lifelong learners, with skills such as critical thinking, creativity, and problem-solving. Also, by connecting outside of classes, students have more chance of cooperating with others and developing their technological literacy while communicating with others on the Internet.

The Vision 2000 Project: The Korean Government's Effort at Preparing Students for the Information Era

To prepare for the 21st Century, many countries have conducted projects to promote the use of information technologies in education, especially the use of the Internet. Some examples are IT for All, England; School Year 2000, U. S. A.; Minding Our Futures, Canada; and 100 School Networking Project (SNP), Japan (Eastmond & Kim, 2000).

Korea is no exception. In Korea, Vision 2000, the project for preparing students for the information era, was launched in 1997 with the goal of fostering creative human resources through implementation of open education, lifelong learning, and a cyber learning environment, ultimately making the country stronger in knowledge.

In elementary and secondary education, four major tasks were identified: (a) construction of an information infrastructure, (b) staff education, (c) adapting curriculum to the information era, and (d) development and dissemination of educational content and materials (Kim, Y., 1999).

Construction of an information infrastructure consisted of the distribution of computers for students' and teachers' use, the installation of multimedia equipment, and the establishment of a computer network that enables Internet utilization in schools. During Phase I (1997-2000), this is the objective that was emphasized the most, and, in fact, it was considered to be the basis of the whole project. As a result, by the end of 2000, nationwide PC distribution had lowered the student-PC ratio from 23.8 students per PC in 1999 to 16.7 students per PC in 2000. The distribution of PCs to teachers also lowered the teacher-PC ratio from 3.5 teachers per PC in 1997 to one teacher per PC in 2000. However, only 5% of the PCs for students and 2.7% of the PCs for teachers are better than 486-CPU machines. All of the nation's 10,064 schools had finished LAN installations and Internet connection by the end of 2000 (Korea Ministry of Education and Human Resource Development, 2001).

Staff education was also an important part of the project. The training of teachers to use the information technology included two parts: the training of prospective teachers and the training of in-service teachers.

The training of prospective teachers was carried out (and still is) by departments of computer science. Prospective teachers must earn six credits of general courses related to computer literacy and 20 credits of advanced selected courses.

By the end of 2000, more than 600,000 in-service teachers had received training on the use of information technologies, including the computer, the Internet, and multimedia. During Phase I, approximately 25% of teachers were provided with in-service training each year. Currently, four cyber education centers are providing in-service training on the computer for teachers. The use of these centers is expected to retrain teachers without the limitation of time and space (Eastmond & Kim, 2000).

The third task was adapting the curriculum to the information era, including the development of the school curriculum and its implementation. In the regular curriculum, information literacy is provided as an elective and as extracurricular activities. In 2001, computer education became compulsory from the first grade. Also, in every subject, more than 10% of classroom activities are supposed to make use of the computer. An information literacy certification system is now being used to evaluate and identify students' skills in information literacy, and among all 10th and 11th grade students, 70% received their certificates (Korea Education and Research Information Service, 2001).

Finally, to facilitate the development and distribution of educational information and content, the Ministry of Education and Human Resource Development set a goal to develop 6,200 educational programs by the end of 2002. At the end of 2000, 4,102 programs had been developed. They were distributed by EDUNET, an integrated educational information system

operated by the Korea Education and Research Information Service (KERIS). Currently, 23 pilot schools have been selected, and they are being encouraged to use the content and materials delivered by EDUNET in their classes (Korea Multimedia Education Center, 2000).

Difficulties Experienced by Teachers in Using the Internet

As mentioned above, during the first phase, Vision 2000 established the foundation for education in the information era and reached its initial goals, at least in quantity. However, many researchers have pointed out that the infrastructure created and other governmental efforts in information education did not effectively apply the computer and the Internet in practical ways in education. According to the research conducted by the Ministry of Education and Human Resource Development, approximately 20% of teachers did not use computers, even though they were allotted computers by the school district (Choo, 2000). Only 15% of students had used the computer for learning activities, while most of the students used the Internet for playing computer games, chatting, and e-mailing. Over 50% of teachers and 75% of students did not know whether their schools had any educational programs for supporting Internet-mediated classroom activities (Kim, J. , 2001). Only 34% of teachers had experiences integrating the Internet into their classroom activities, but most teachers also used the Internet for individual purposes, such as e-mailing, shopping, and getting news. Moreover, about 18% of teachers

confessed that they are not sure how to use the Internet and why to use it in the classroom (Han, 2001).

Under these circumstances, determining and reducing the barriers for using the Internet in education, as experienced by teachers, is a prerequisite for adopting the Internet in our education. Even though students are at the center of the learning processes, teachers cannot be overlooked, as they are the facilitators of the desired technology-rich educational environment and the guides for making choices and using the information obtained through the use of the Internet.

Research Problem

Within the context of the Vision 2000 Project, we were interested in determining the experiences of a small group of secondary business education teachers in using the Internet in the classroom. While descriptive research has value, we expected that there were experiential issues that might affect how the classroom teacher reacted to the Internet. Using an interpretive research methodology, therefore, the research question was, What is the experience of teachers using the Internet in the Korean secondary business education classroom? We were unable to identify any research in Korea regarding the experiences of secondary business education teachers in using the Internet.

Research Methods

Following an interpretive methodology, the senior author conducted five telephone interviews in Korean in order to hear the rich and detailed voices of secondary business education teachers about their experiences in using the Internet in their classes. Korean secondary business education teachers have been receiving computer-related training since 1970, and, according to Cho (1996), business education teachers use the Internet more than do teachers in other fields. Table 1 briefly describes each participant. Each interview lasted 40 to 60 minutes and was tape-recorded along with the taking of notes.

Table 1. Participant Demographics

Participant	Gender	Age	Education	Years of Teaching	Subjects Taught
Teacher A	M	37	College Graduate	9	Word Processing Spreadsheet
Teacher B	F	43	In Graduate School	19	Business Business English
Teacher C	F	38	College Graduate	13	Accounting
Teacher D	F	40	College Graduate	16	Bookkeeping Computer Accounting
Teacher E	M	34	In Graduate School	7	Computer Multimedia

All five teachers use the computer, although one teacher uses only word processing. Only one of the teachers had participated in the Internet training offered by the Ministry of Education and Human Resource Development. The other four teachers learned about the Internet by themselves with some support from co-workers and their families. Only one teacher is using the Internet for preparing classes, while another has experienced integrating the Internet in students' learning activities.

Barriers to the Use of the Internet in the Secondary Business Education Classroom

During the interviews, the teachers focused almost exclusively on the problems that they were encountering in integrating the use of the Internet in the classroom. Combined with the literature review, six barriers for using the Internet in the secondary business education classroom emerged: 1) too many students and fixed classroom layout, 2) insufficient content and information, 3) unchanged concept about teaching and learning, 4) shortage of assistance, 5) problems in teacher training, and 6) burden of work.

Too many students and fixed classroom layout

The high number of students in a class and the layout of desks in rows hinder the use of the Internet in classroom. The secondary school classroom average size in Korea is approximately 38. This is too many for a teacher to control when students are using the Internet. One teacher (Teacher D, July 19, 2002) said, "I am not able to notice that some students do nothing or maybe even surfing wrong sites, such as porn sites." Another teacher (Teacher E, July 19, 2002) stated that:

To use the Internet in the classroom, the class has to move to the computer lab.

The layout of the computer lab is set by row. It's good for lectures, but not for group projects. Moreover, with this floor plan, it is hard for me to monitor the status of students.

Insufficient content and information

Despite governmental efforts to develop and distribute educational programs and content for the use of the Internet in the education, teachers are not satisfied with the quantity and quality of the content:

It is hard to find the supportive materials needed for my class. Even if I wanted to offer Internet-mediated tasks for students, I cannot find the right content. As a mother of two, I don't have enough time to develop the content by myself. (Teacher D, July 19, 2002)

The advertisement and information about the developed materials is also insufficient: "I want to try the Internet in my class. However, I don't know where I can find supportive materials" (Teacher D, July 19, 2002). Another teacher (Teacher A, July 19, 2002) said: "I need examples. I would like to know how other teachers who are teaching the same course as I am are using the Internet in their class."

Unchanged concepts about teaching and learning

Most classroom tasks are still focused on the contents of the textbooks. Learning activities are still teacher-centered, and both teachers and students are not familiar with student-centered and individual learning: "When I gave an independent task to my students, most of them were confused and didn't know how to handle the task" (Teacher B, July 19, 2002).

I don't have any necessity of using the Internet in my class. The content of my course does not need any activities using the Internet. The knowledge in my course is simple and stands alone (Teacher D, July 19, 2002).

As Confucianism still dominates the consciousness of Korea, people feel more comfortable when the answer is fixed and believe teachers are superior to students (Y. Kim, 1999). This concept obstructs teachers from using the Internet, which is more suitable to individual and self-directed learning:

Many teachers and parents think that teachers have authority. However, students have better knowledge about the Internet than teachers do. So, some of us don't want to use it in front of students. (Teacher A, July 19, 2002)

Shortage of assistance

The lack of professional assistance makes it difficult for teachers to use the Internet. Teachers need a person who can manage the computer system and help them to solve some technical problems when they use the Internet and other multimedia:

Maybe I need a person can give me some technical advice. I usually ask my co-workers at my school for help, but I don't want to bother them so much. And, sometimes, it hurts my pride to ask a co-worker younger than me for help. (Teacher D, July 19, 2002)

My co-worker gives me a hand when I meet a problem while navigating the net.

However, sometimes she cannot solve the problem. We need an expert in each school to manage computer systems. (Teacher A, July 19, 2002)

Problems in teacher training

While many teachers have participated in computer training, including the Internet and information technology, the computer literacy of teachers remains unsatisfactory. Many teachers have identified improper training content as the reason (Bang, 2000). The content of teacher training courses is not related to instructional methods and strategies for applying the Internet in class, but, rather, it just covered programming language and features of the Internet.

At the same time, the lack of training opportunities and the absence of financial support for cyber training have also been identified as reasons teachers are discouraged from using the Internet:

In order to participate in an on-site training course, I have to wait too long for my turn. So, I prefer online training. However, it is hard for me to pay all of the fees from my pocket. There is no financial aid from the government. (Teacher E, July 19, 2002)

Burden of work

According to the research of Kuack, Lee, Kang, and Cho (1998), teachers using the Internet spent more time than non-users in order to prepare content and communicate with

students. In fact, until now, in order to integrate the Internet in the class, teachers have to develop their own teaching materials by collecting and editing the information. Therefore, using the Internet means that teachers have an extra workload, so that teachers cannot help hesitating to try using the Internet (Teacher B, July 19, 2002).

Implications

The current study, while preliminary, contributes to our understanding of persistent problems with the Korean government's project, Vision 2000. This project, along with the entire education system in Korea, faces the need to adapt to the information era. This study provides a description about a small group of Korean secondary business education teachers' perceptions in using the Internet in the classroom. This study offers several implications for students, teachers, educational administrators, and policy makers.

First, if these barriers could be removed, Korean students will be the biggest beneficiaries. They will receive educational opportunities not yet made available to them and will be better prepared to be competitive by accessing resources outside of the class through the Internet.

Second, this study provides prospective teachers with insight into the culture, concepts, direction, and educational system of Korea. By observing other countries' educational systems, foreign teachers and policy makers will be able to review their own systems and can find

alternative approaches for their own systems. At the same time, Korean teachers and policy makers can establish their goals and vision for the future of Korean education.

Third, educational administrators can hear the voice of teachers in the line of fire and can understand what's going on in the classroom. Administrators will be able to develop better teacher training, to spend educational finances in areas that need it most, to find other ways to motivate teachers to use the Internet properly, and to determine new directions for the Korean educational system.

Finally, policy makers can benefit from this study. The problems being faced by these teachers may suggest a direction for financing, legislation, and adjustments to the Korean educational system.

Future Research

This study suggests a number of future research studies. First, using the identified themes as a pilot outcome, a much broader scale of descriptive research might be undertaken to determine the problems being faced by teachers at all levels and in all subjects, not just secondary business education teachers. Second, an organization such as KRIVET (Korean Research Institute for Vocational Education and Training) or KEDI (Korean Educational Development Institute) or other quasi-governmental organizations might well conduct a series of experimental studies, comparing a variety of approaches to teacher training (both in-service and

pre-service) and the use of the Internet in the classroom. It might also be beneficial to conduct studies comparing outcomes between classes using the Internet and those not using the Internet.

Third, an interpretive study that focuses more on the emotional reactions of teachers to the use of the Internet in the classroom would be beneficial in understanding emotional barriers in addition to the descriptive barriers highlighted in this study. A case study of teachers and classes that have successfully used the Internet in the classroom would also be helpful for the stakeholders identified in this study. Successes might well identify characteristics of effective change that have, to date, escaped policy makers in Korea.

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