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Emerging IT Needs for Educational Reform in Korea

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- III. Cyber universities
- IV. Trends of e-Learning

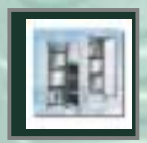
I. Information Infrastructure in Education

- New types of education
  - IT in K-12 schools
  - EBS e-Learning project
  - Cyber high school
  - Cyber universities

Upgrade Broadband Network Infrastructure (as of 2003)

Wired

Wireless

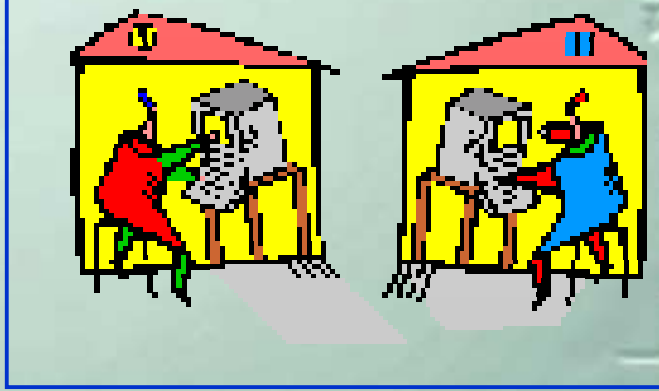


Communications

Broadcasting

Build NGcN from 2004

90% of the total Households linked to 20Mbps Broadband Internet



I. Information Infrastructure in Education

- PCs and internet access in the classroom
  - Each lab is consisted of 40 computers
  - 13,000 computer labs in the nation
  - School network linking 10,000 schools in the nation at 2MBPS
  - One PC per teacher
  - One PC to every 5 students
  - Every classroom : ICT supported
  - PC & network upgrading yearly

I. Information Infrastructure for Education

- Development and distribution of educational information
  - 7th National Curriculum
  - Development of instructional materials
    - Multimedia resources
    - Teaching materials
    - Educational software
    - Educational information sharing system
  - EduNet management-comprehensive educational information service system

I. Information Infrastructure for Education

- Teacher training for introducing ICT in education
  - Developing ICT skill standards for teachers
  - ICT training for teachers
    - Self administered ICT training
    - Teaching process models by subject
    - Class outline and teaching processes plan
    - Training programs by subject
  - Using distance learning in teacher training
  - Certification of ICT skills for teachers

II. EBS e-Learning Project

- **How it works**

  - Help students prepared effectively for CSAT
  - Relieve Parental Financial Burdens
  - Bring students back to formal school education

- **EBSi: www.ebsi.co.kr**
- **EDUNETi: www.eduneti.net**

II. EBS e-Learning Project

Policy Implementation

❖ System Infrastructure

- Set VOD systems of 118,000-user capacity at any given time
  - 100,000 on EBSi and 18,000 on EDUNETi
  - Supervised by the System Specialist Task Force

❖ Diverse Access

- 3 file servers in the PUBnet, the national backbone, exclusively used for downloading video files at schools
- Downloading is also available from ISPs by anyone

II. EBS's E-Learning Project

Policy Implementation

❖ Forming the System Specialist Task Force

- Composed of 13 experts
  - MOE&HRD, MIC, EBS, KERIS, LG-CNS, NCA, KISA, Korea Telecom, DACOM, Hanaro Telecom, and Thrunet
- Advised on the required capacity of VOD downloading at any given time
- Ready to tackle down any strains on online system

- MIC: Ministry of Information & Communication
- ISP: Information Service Provider
- KERIS: Korea Education & Research Information Service
- NCA: National Computerization Agency
- KISA: Korea Information Security Agency

II. EBS e-Learning Project

Policy Implementation

❖ School Infrastructure

- Improvement of School Infrastructure
  - Supported $9.9M to 2,100 high schools
    - Satellite TV receivers, LAN, Faster Network, and up-to-date PCs
  - School servers for VOD service
- Internet-based monitoring system
  - to overview the readiness of each school and MPOE

II. EBS's E-Learning Project

- **Policy Implementation**

  - ❖ **Lessons and Courses**

    - 51 subjects for CSAT
    - Three levels: basic, intermediate, and advanced
      - provided for major subjects
    - Sessions: 1,200 ('03) → 5,105 ('04)
    - Writing and interviewing skill for CSAT
    - Delivered by highly recognized instructors

II. EBS e-Learning Project

- **Policy Implementation**
  - ❖ **Proactive Support for the Disadvantaged**
    - Supported $36M
      - For 11,000 students at rural areas
        - Supported satellite TV receivers and fees
      - For 70,000 the economically disadvantaged students
        - EBS Plus-1 included in the standard Cable TV
        - Reduced the cable fees: US $6.6 → $4.6 a month
        - Provided PCs and the Internet usage fee

Ⅱ. EBS's E-Learning Project

- **Support for the disadvantaged**
  - Closed captioning service for the hard-of-hearing students on 501 intermediate courses
  - For the visually handicapped students, the screen reader is set up
  - Each special school facilitates a study room for watching and downloading the courses

II. EBS e-Learning project

- **More support for the disadvantaged**
  - Broaden equity in education
  - Maintain partnership with private sector
  - Invite private sectors to Love PC Campaign
    - Hewlett Packard donates PCs equivalent to US $250,000 for community life-long learning centers use
    - EBS takes a part of the campaign with sales earnings

II. EBS's E-Learning Project

Policy Implementation

❖Minimum Price of Learning Materials

- Maintained 47.5 ~ 63.6% of market price
  - Advanced Language US $3.8 (4,500 won)
  - Political Sciences US $5.0 (6,000 won)

- Sales earning of US $2.5M is provided for the economically disadvantaged
  - Basic and advanced materials for 28,000 senior high school students

II. EBS's E-Learning Project

Publicity of the Policy

- Constant progress report via press release, briefings, and interviews through TV, radio, and newspaper
- MPOEs' staff training to advise teachers
- Guideline and leaflet for teachers and students
- Periodic surveys on stakeholders
- Seminars, workshops, Expo, etc. throughout the nation
  - The 7th e-Learning Expo at 5 regions

• MPOE: Metropolitan and Provincial Office of Education

II. EBS e-Learning Project

Current Status

- Started on 1st of April
  - 100,000 users for VOD at a time, 300KBPS
- 1 million users registered on EBSi as of July 8, '04
  - Slightly less : right after the CSAT
  - 50,000 users for VOD at a time, 600KBPS
- About 50,000 hits daily on EBSi
- Over 5 million downloads from EBSi
- No heavy traffic nor critical strains occurred
- 93% of high school students benefiting from the project (KFTA, May '04)
- 57.6% of students watched satellite TV (EBS, May '04)
  - which is higher than VOD downloaders
  - 46.8% out of 57.6% watched TV lessons at schools

Ⅱ. EBS's E-Learning Project

Outstanding Points

❖Partnership with Private Sectors

- Formed a System Specialist Task Force
  - Secured seamless launching and stable services
  - Standing by for possible strains
- Accelerated e-Learning technology development
  - Multimedia content, hardware, etc.
- Created jobs in the related field
- Supported the disadvantaged
  - Provided better access the programs
  - Ensured equity in education

Ⅱ. EBS e-Learning project

Outstanding Points

❖ e-Learning Leadership in the Society

- Assured Korea's identity in ICT leadership
  - High broadband diffusion rate
  - Experienced users on broadband environment
- Successful trial of e-Learning for formal school education on highly advanced e-Learning environment

II. EBS e-Learning project

- **Shortcomings**
  - ❖ **Increased work load on Students and Teachers**
    - Students: Extra-hour studies required before and after school class to catch up EBS Plus-1 courses
    - Teachers: Uncomfortable with their role of help students with test-oriented programs instead of cultivating students' potency as educators
  - ❖ **Limited in Diverse Educational Needs**
    - Upgrade image quality
    - Number of learning materials are unmanageable by students
    - Insufficient interaction between lecturers and students
    - Test-oriented lessons similar to private lessons

III. Cyber university

With the educational needs

- Students wanted user oriented educational service
- High demand of quality education
- High rise of higher education cost: cost effectiveness
- Universities compete for students : more entrants than applicants from 2003
- Diverse students' needs for higher education

Emerging market for ICT

- To cope with the financial crisis in 1997
- Infrastructure of broadband internet service

Pilot cyber university project

- In 1999-2000, MOE&HRD started a pilot cyber university
- Campus based universities organized consortium : popular
- Universities see this as a cost cut down opportunity

III. Cyber university

In 2001, cyber universities were authorized for the first time

	2001	2002	2003	2004
# of cyber universities	9	15	16	17
New entrants	6220 (81.3%)	16700 (65.9%)	20600 (57.4%)	23700 (48.8%)
Total entrants	6220	22920	43520	67220
Actual enrollment	81.3%	73.6%	66%	58.7%

III. Cyber university

- **Enrollment rate**
  - Enrollment rate in general is low
  - Reason for low rate
    - Low respect for the cyber learning in the society
    - Campus based universities now offer e-learning
  - But some cyber university has a high rate
    - More than 90%
    - Flexible and unique areas of study
    - One campus based university related

- **Types of cyber university & effects**
  - Campus based university related
    - Campus based university - brand name, halo effect
    - Sharing of facilities
  - Campus based university consortium related
    - Lack of ownership
  - Independent cyber university
    - Autonomacy

III. Cyber university

- **Demography**
  - Mature : 20s (21%), 30s (38%)
  - Part time students : more 80% full time worker
  - High school graduate : 89%
  - Academic ability is polarized:
    - Second degree seeker vs poor achiever
  - Male students outnumbered female students
    - female students (35 percent in 2001, 38 percent in 2002, 38 percent in 2003, 42percent in 2004)
    - In traditional universities : 39% female students

- **Study areas**
  - Provides more and more
    (NGO, real estate, financial management, IT, hotel tourism, design..)
    - In 2001, 39 areas; In 2002, 79 areas
    - In 2003, 149 areas, in 2004, 162 areaas
  - Successful cyber universities provide unique and practical curriculum

IV. Trends of e-Learning

E-Learning is a continium concept of ICT instruction

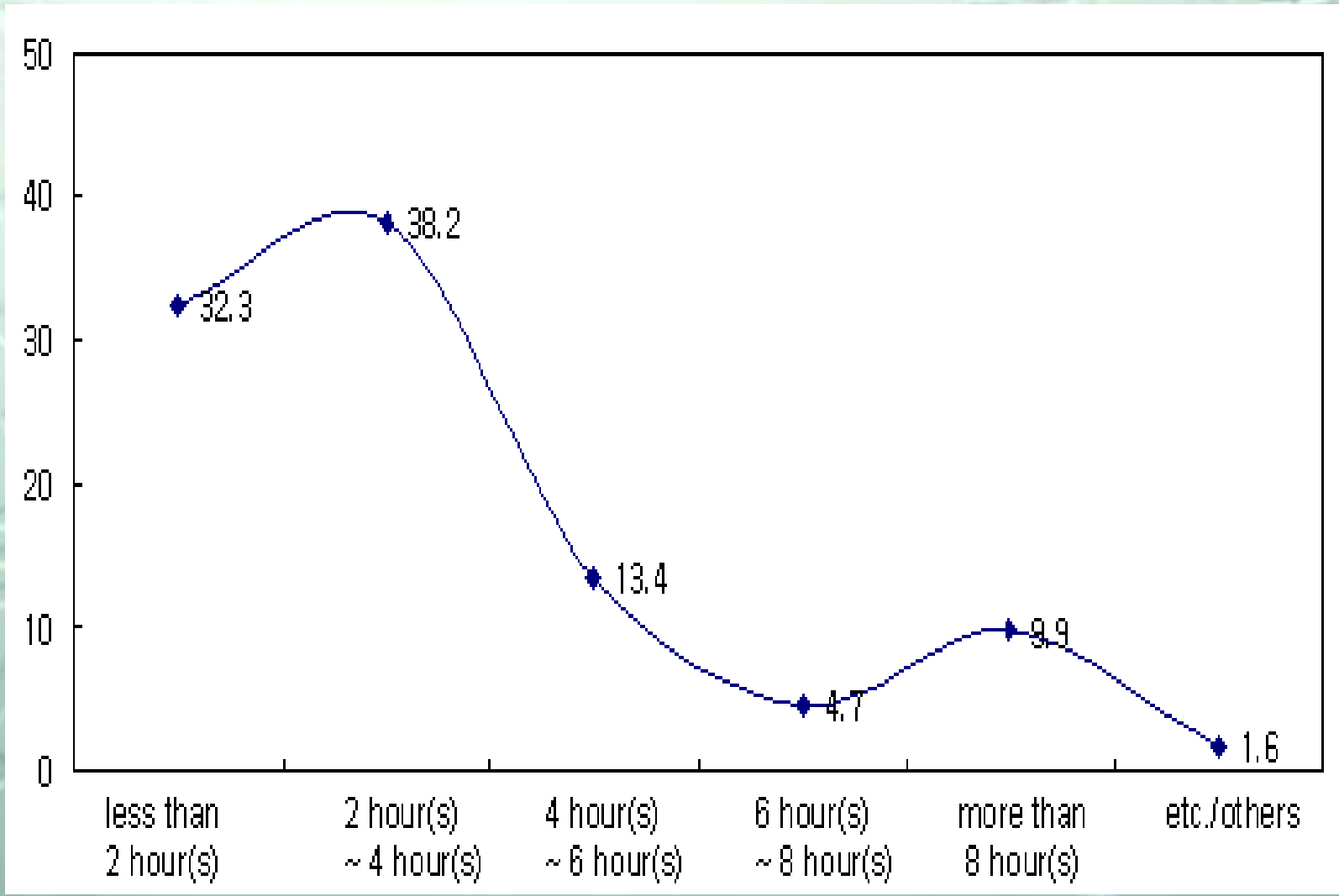
Two studies conducted : 2001 & 2004 to compare the trends of online learning with F2F learning

Students & faculty of online learning experience

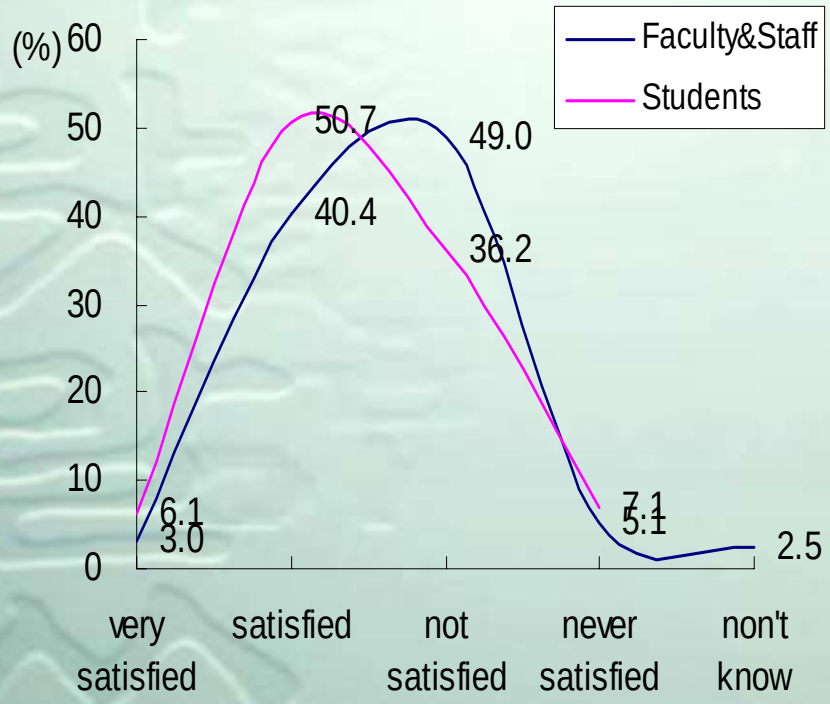
IV. Trends of e-Learning

- **Weekly working hours per course**
  - 2001 : more study time with online learning than FTF
  - 2004 : slightly less or similar hours with online learning than F2F
- **Working load**
  - 2001 : feel more burden
  - 2004 : feel slightly less or similar
- **Level of satisfaction**
  - 2001 : higher 57%, faculty members are less satisfied than students
  - 2004 : 32% equally satisfied, 35% less satisfied
  - Students seem to display higher expectation for online learning as they gain more experience

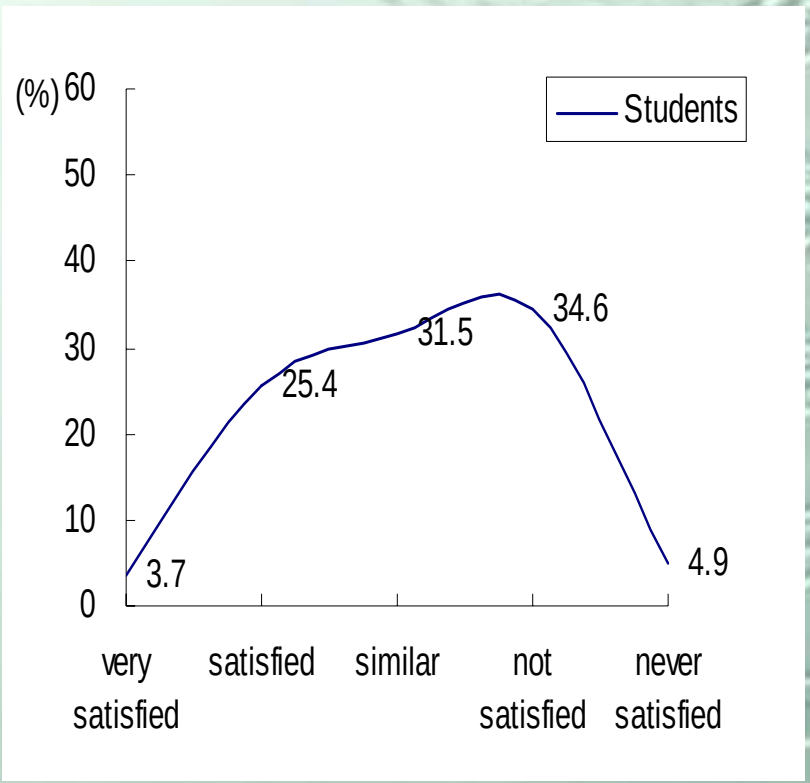
Studying hour of online students per course in 2001



Comparison of satisfaction level /w e-learning



2001



2004

IV. Trends of e-Learning

- **Perception of academic achievement**
  - 2001 : overall lower (faculty members)
    - 1 out of 4 : better
    - Nearly 50% : similar & lower
  - 2004 : students response
    - 13% higher
    - 34% similar
    - 42%–lower

IV. Trends of e-Learning

- **Difficulties for online learning**
  - 2001:
    - help for instructional or administrative questions (33%)
    - Too much work load (20%)
    - Lack of information for the course (16%)
    - Inaccessibility to the internet (12%)
  - 2004
    - Boredom of instructional materials (17%)
    - Inadequate management of the learning process (16%)
    - Slow speed of internet (15%)
    - Inadequate cybergogy (12%), lack of interaction (12%)

III. Trends of e-Learning

- **Suggestions for improvement**
  - 2001:
    - Quality control and diverse quality content (23%)
    - Providing quality tutoring (22%)
    - Stable access to the internet (15%)
    - Quality assurance of online class server (13%)
    - Active interaction between instructors and students (12%)
  - 2004
    - Diverse contents (22%)
    - Adequate cybergogy for online learning process (19%)
    - Active interaction between instructors and students (18%)
    - High speed of internet, proper evaluation (11%)

Ⅳ. How to use interactive technology for education?

Do we know.....

- students learn better with ICT?
- how to use interactive technology for education?
- how students of online behave differently from those of offline?
- the current technology is good enough for education?

Ⅳ. How to use interactive technology for education?

(Rafaeli & Sudweeks, 1997)

1. More than 50 % of messages were reactive.
2. Only around 10 percent were truly interactive.
3. Most messages factual stmts or opinions
4. Many also contained questions or requests.
5. Frequent participators more reactive than low.
6. Interactive messages more opinions & humor.
7. More self-disclosure involvement & belonging.
8. Attracted to fun, open, frank, helpful, supportive environments.

How students behave differently? Study of online discussion

(Im & Lee, 2003)

- usage
  - synch → comm for social bond formation
  - asynch → comm for task-oriented
- overall, female students were more active
- youngest group → most active in synch
- oldest group → most active in asynch
- In synch online discussion, it doesn't develop toward more meaningful learning stage as time flows (remains at the level of social bond formation stage)
- In synch. discussion, typing skill is very crucial factor for active participation.

How students behave differently? Study of online discussion

(Im & Lee, 2003)

- Understanding the use of technology
  - different educational purpose of online discussions.
  - Synchronous discussion for building more affective and social online community.
  - Actual learning and knowledge achievement benefits from asynchronous discussion.
- Communication skills for online learning
  - Male students should be encouraged
- Tools to facilitate e-discussion
  - guiding students,
  - giving prompt inputs & feedback,
  - wrapping up,
  - providing resources to support discussions

How students communication in the cyber space (Lee, 2005)

- Study of cyber communication (Lee, 2005)
  - 4200 students by survey, 10-27 years old
- Media preference
  - By age
    - Most people prefer direct meeting people
    - But early teen agers prefer SMS and messenger to direct meeting
  - By gender
    - Females : SMS
    - Males : messenger
- E-mail use
  - Older use more
  - Females use more


Thanks ·····
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