Proposing the development of in-service teacher training program to enhance teachers' teaching capability

: Based on Korean Case

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A Change in Education Environment
Location: Far eastern part of Asia
Area: 99,000 KM²
Population: 49 million
Changes in Educational Environment

Learners’ Environment

- Personalized learning environment
- Prosumer
- Vigorous information exchange through SNS
Changes In Educational Environment

- The advent of Web 2.0 & Web 3.0 which provide dynamic network service based on collaborative work
- Broadband internet, smart phone, tablet PC
- Ubiquitous computing
- Digital Learning Eco-system

Learners’ Environment
- Personalized learning environment
- Prosumer
- Vigorous information exchange through SNS

Technological Development
Changes In Educational Environment

Information Revolution
- Boundaries between Information producers and consumers are getting blurred.
- Collective Intelligence are getting important as a way to produce knowledge

Learners’ Environment
- Personalized learning environment
- Prosumer
- Vigorous information exchange through SNS

Technological Development
- The advent of Web 2.0 & Web 3.0 which provide dynamic network service based on collaborative work
- Broadband internet, smart phone, tablet PC
- Ubiquitous computing
- Digital Learning Eco-system
Change from Web 3.0 to Smart Learning

- Sociocultural Psychology
- Social Cognition
- Sociocultural Constructivism
- Connectivism
Four Factors for Successful ICT
Four Factors for Successful ICT

1. Software side
2. Hardware side
3. Systemware side
4. Humanware side
Four Factors for Successful ICT

1. Software side
2. Hardware side
3. Systemware side
4. Humanware side

- Aspects of learners
- Aspects of instructors
- Aspects of educational administrators
- Aspects of community leaders

**Teacher Training**
ICT Teacher Training

• Develop ICT teaching-learning model and strategy
• Plan integrated training program for teachers
• Expand nationwide subject study society network
• Nationwide contest on how to adapt ICT in teaching

Old ICT Training
- Teacher centered
- ICT literacy centered
- Delivering centered

New Training Program
- Focused on students’ activities & higher order thinking skill
- Focused on ICT integrated with Curriculum
- Focused on active participation (Learning by doing)
ICT Teacher Training Flowchart

Introduction

Understanding Of changes

Core Activities

Understanding Of ICT use In education

Understanding of ICT use in Each subject

New ideas using ICT

Understanding of practical strategies for ICT use

Developing ICT-based lesson planning

Information and communicators ethics

Supportive Activities

Conclusion

Summary, Pilot Class
### Phases of ICT Development & ICT Teacher Training Strategies

<table>
<thead>
<tr>
<th>Phase</th>
<th>Phase 1 - Building Infrastructure</th>
<th>Phase 2 - ICT use In Education</th>
<th>Phase 3 - e-Learning</th>
<th>Phase 4 - u-Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training Polices</td>
<td>ICT training for over 25% of all teachers annually</td>
<td>ICT training for over 33% of all teachers annually</td>
<td>Teacher ICT training based on career stages</td>
<td></td>
</tr>
<tr>
<td>Training Direction</td>
<td>Focus on ICT literacy</td>
<td></td>
<td></td>
<td>Focus on ICT use</td>
</tr>
</tbody>
</table>

#### Phase 1 - Building Infrastructure
- **1996-2000**
  - Infrastructure building
  - ICT literacy education
  - Internet portal service
  - Opening of EDUNET

#### Phase 2 - ICT use In Education
- **2001-2003**
  - Education in ICT use
  - Development of content
  - National system for sharing educational contents
  - Digital Library System
- **2004-2005**
  - Improving teaching methods
  - Teaching and learning center
  - Cyber home learning
  - EBS lectures for college academic ability test

#### Phase 3 - e-Learning
- Improvement in T&L Online-based learning

#### Phase 4 - u-Learning
- Knowledge based society
  - Customized learning
  - Introducing digital textbooks
  - Ubiquitous society

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From School Teachers to School CEOs

**Training Level**

- **ICT Literacy Course**
  - Information Search and use of ICT tools

- **Basic ICT Use Course**
  - ICT-based problem-based education

- **ICT Advanced Course**
  - Creative lesson planning for ICT use
  - Teaching with ICT for developing thinking skills

- **ICT Leadership Course**
  - Building a 21st century of school
  - Leading innovation

**Target Audience**

- School teachers
- School CEO

Teachers’ career stages (from induction to retirement)
Instructors’ Competencies

**Competency Pool**
- Value
  - Passion
  - Positive Thinking
  - ICT Ethics
  - Responsibility
  - Creative Thinking

- Teaching
  - Subject Matter Expertise
  - Information Literacy
  - ICT Planning
  - ICT Evaluation

- Facilitating
  - Empowering Learning Motivation
  - ICT- Activity Facilitation
  - On-Line Communication
  - Learning Advice
  - ICT-Class Management

**Educatability**
- Edutabale Competencies

**Importance**
- The Most Important Competencies for Cyber Teaching

**Time**
- Short-Term Trainable Competencies

**Role**
- Short-Term Trainable
  - Cyber Ethics
  - ICT-Lesson Planning
  - Learning Advice
  - ICT-Activity Evaluation
  - ICT-Activity Facilitation
  - On-Line Communication
  - Information Literacy
  - ICT-Class Management
  - Empowering Learning Motivation

**Basic**
- Long-Term Training needed
  - Positive Thinking
  - Passion
  - Responsibility
  - Subject Matter Expertise
  - Creative Thinking
Four Factors for Successful ICT: CREATE

1. Software side
2. Hardware side
3. Systemware side
4. Humanware side
Core capabilities required in smart era

- **C** Cognitive capability
  - problem solving ability and critical thinking ability

- **R** Relational capability
  - ability creating harmonious and reliable relationship

- **E** Emotional capability
  - ability to control his/her emotion wisely with an appreciative eye on technology and an aesthetic sense

- **A** Adaptability
  - ability to find information from fast search and critically evaluate and use them for his/her own purpose

- **T** Technology Literacy
  - upright understanding about characteristics and ranges of use of ubiquitous technology

- **E** Effective learning ability
  - self-directed learning ability which can be self-planning, self-monitoring, reflection and self-evaluation
Core capabilities required in SMART era

Need for developing **One-to-One Learning Environment**

( SMART learning )
teachers’ teaching capability : SMART

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self-directed of the learner</strong> (Self-directed)</td>
<td>Class with learning rather than one-sided contents delivery</td>
</tr>
<tr>
<td></td>
<td>Class with a lot of participations and activities among learners</td>
</tr>
<tr>
<td></td>
<td>Class where the learner becomes active entity and holds responsibilities,</td>
</tr>
<tr>
<td></td>
<td>authority and choice</td>
</tr>
<tr>
<td></td>
<td>Class where the active knowledge of the learner is formed</td>
</tr>
<tr>
<td></td>
<td>Class with properly mixed the lecture from the teacher and learner's activities</td>
</tr>
<tr>
<td></td>
<td>Class with learning activities to upgrade the critical and creative thinking for the learner</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Category</th>
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</tr>
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<tbody>
<tr>
<td><strong>Education method to stimulate the interest and motivation (Motivated)</strong></td>
<td>Class faithful to the curriculum</td>
</tr>
<tr>
<td></td>
<td>Class delivering sufficient knowledge</td>
</tr>
<tr>
<td></td>
<td>Class where effective class model meeting the theme is applied</td>
</tr>
<tr>
<td></td>
<td>Class using the question to upgrade the thinking skills of the learner</td>
</tr>
<tr>
<td></td>
<td>Class with high interaction between the teacher and the learner</td>
</tr>
<tr>
<td></td>
<td>Class with the collaboration among learners</td>
</tr>
<tr>
<td></td>
<td>Class forming relationship between the teacher and the learner</td>
</tr>
<tr>
<td></td>
<td>Class where the learner emotionally satisfies through the joy of learning</td>
</tr>
<tr>
<td></td>
<td>Class with the emersion among learners</td>
</tr>
</tbody>
</table>
## teachers’ teaching capability : SMART

### A (Adaptive)

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tailor-made class</td>
<td>Class with sufficient preparation</td>
</tr>
<tr>
<td>(Adaptive)</td>
<td>Class with clear goal</td>
</tr>
<tr>
<td></td>
<td>Class considering the individual difference in the knowledge and</td>
</tr>
<tr>
<td></td>
<td>performance of learners</td>
</tr>
<tr>
<td></td>
<td>Class considering the feature and the individual difference in the</td>
</tr>
<tr>
<td></td>
<td>learning type of learners</td>
</tr>
<tr>
<td></td>
<td>Class where the teacher reviews, researches and reflects the result</td>
</tr>
<tr>
<td></td>
<td>Class reflecting the feedback from the learner</td>
</tr>
<tr>
<td></td>
<td>Class which effectively and efficiently achieves the class goal</td>
</tr>
<tr>
<td></td>
<td>Class which improves the teaching - learning method by reflecting the learning result</td>
</tr>
</tbody>
</table>
### R (Resource enriched)

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enriched learning</strong></td>
<td>Class using enriched resources</td>
</tr>
<tr>
<td>resources <strong>(Resource enriched)</strong></td>
<td>Class using various learning resources</td>
</tr>
<tr>
<td></td>
<td>Class using the data meeting the learning contents</td>
</tr>
<tr>
<td></td>
<td>Class using various media (multimedia, online tools and other media)</td>
</tr>
<tr>
<td></td>
<td>Class with proper context in the class and the media application</td>
</tr>
</tbody>
</table>
teachers’ teaching capability : SMART

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latest information communication</td>
<td>Class using the social network service (SNS)</td>
</tr>
<tr>
<td>Technology application (Technology</td>
<td>Class using smart devices (smartphone, smart pad, etc.)</td>
</tr>
<tr>
<td>embedded)</td>
<td></td>
</tr>
<tr>
<td>Class where (the teacher or the learner) may join on the move</td>
<td></td>
</tr>
<tr>
<td>Class with proper preparation of hardware and software for teaching – learning</td>
<td></td>
</tr>
<tr>
<td>Class using creative materials and books</td>
<td></td>
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</tbody>
</table>
How to enhance teachers' teaching capability
Micro teaching

- Microteaching is an organized **teaching improvement technique** where the experimental teacher teaches a small group of audience (peers), which is recorded for review after each teaching section.

- The teacher reviews the recorded footage, makes correction where necessary, improves and re-teach until the desired result is achieved/learned.
Microteaching Vs Traditional Classroom teaching

**Traditional Class room Teaching**
- Teaching is Complex Activity
- Carried out in uncontrolled Situation
- Classroom consist of less than 35 to 40 students
- Teacher practices several skill at a time
- Teaching time is 40 to 45 mts
- No immediate feedback
- No provision for re-teaching
- Students usually tensed and scared

**Microteaching**
- Teaching is Relatively Simple
- Carried out in controlled situation
- The Class Consist of a small group of students
- takes up one skill at a time
- Teaching time is 5 to 10 mts.
- Immediate Feed back provided
- Provision for re-teaching
- Students gains confidence in teaching
## Procedure of Micro teaching

<table>
<thead>
<tr>
<th>Step</th>
<th>Contents</th>
</tr>
</thead>
</table>
| **plan** | ① clear the lesson goal and make a plan  
- Which capability is developed through Micro teaching?  
- Who need this capability?  
- Is a video-use technology enough? ?  
② A teacher demonstrates by oneself or by using videotape.  
③ Group member select the topic and prepare a five-eight minutes lesson |
| **Teach** | ④ one person in the group has a teacher role and others have a student role |
| **Evaluate** | Evaluate the procedure the lesson and acting the teacher role.  
The way of evaluate is checklist or recorded contents. |
| **Re-teach** | If preliminary teacher do not meet the standard, try to teach again |
| **Feedback** | Feedback the whether the cooperation with capability |
Micro teaching practicing room blue print

1. Control room: control the camera and reflect at the Observation TV monitor
2. Laboratory: set up the camera and microphone
3. Observation room: watch the one’s teaching at control room through one way mirror
4. Evaluation room: analyze and evaluate VTR contents
Micro teaching practicing room in Hanyang University
Change the way of Teacher training

Teacher is taught by external specialist

Change the subject of teacher training

Collaboration between teachers

Increasing importance
Teacher Learning Communities !!
Case: GET21 Teacher Learning Communities

- The characteristic of GET21
  - Based on SNS
  - Good rapport between teachers
  - Sharing the lesson case voluntarily
  - Cooperative problem solution
  - Emotional support with each other
Case: Instruction consulting at Wonshin elementary school

- Observation subject

| School and teachers (subjects) | Taeho Yoo at Wonshin Elementary School (Practical)  
|                              | Yeon Kim (Korean language)  
|                              | Seminara Park (English)  
| Class environment and feature | Class type: Smart special class, 5th Grade  
|                              | Application environment: 1 PC per student, 4 groups  
|                              | (6 students per group, 24 students in total)  
|                              | Other class environment: Collaborative learning, cooperative learning |
Case: Instruction consulting at Wonshin elementary school
## Consulting result: Lesson plan

<table>
<thead>
<tr>
<th>Classification</th>
<th>Details</th>
<th>Web Tools</th>
</tr>
</thead>
</table>
| **1~2 period** | · Introduce the project and search for strategies  
- motivation and making plans in group | Poll everywhere, Google Docs, Visual Ranking tool |
| **3~4 Period** | · Analyzing consumer demand and opening of the virtual market  
- Taking consumer demand into consideration when registering goods in the virtual market. | Seeing Reason Tool, Wemarket.kr (virtual market) |
| **5~6 Period** | · Preparing the We Market and analyzing the proceeds of the virtual market  
- based on the results of the virtual market, make a plan for the physical market (implement a revised plan) | Showing Evidence Tool Wemarket.kr (virtual market) |
| **7~8 Period** | · Managing the physical market  
- managing the physical market and inputting the sales results from Google Docs | Google Docs |
| **9 Period** | · Analyzing the sales results and making future plans  
- Using Showing Evidence Tool to show the evidence of the sales results, Presentation of findings  
- Project Evaluation Using the Classroom management Testing Console | Showing Evidence Tool Classroom management |
| **10 Period** | · Wrap up the project  
- Writing a reflection on the project lesson | Students Blog, Google Docs |
## Self – reflection diary

<table>
<thead>
<tr>
<th>Essential contents</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Before class</td>
<td></td>
</tr>
<tr>
<td>During class</td>
<td></td>
</tr>
<tr>
<td>After class</td>
<td></td>
</tr>
<tr>
<td>self-evaluation</td>
<td></td>
</tr>
</tbody>
</table>
What’s the Education?

Education is Love

Education is Touch

Education is Relationship

Education is Repetition

Education is Change

Education is Communication
“Technology matters, but good teachers and good teaching matter more.”
“All things are difficult, before they are easy.”

Thank you

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