Case Study of Blended Learning at Seoul National University

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LIM, Cheolil
CHO, Young Hoan
(Seoul National University)
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1. Overview of Seoul National University
History of Seoul National University

1895 Origin
1946 WAR & RECOVERY
1950 FOUNDATION
1960 DEVELOPMENT
1975 RELOCATION
1987 DEMOCRATIZATION
1994 AUTONOMY - INTERNATIONALIZATION
2011
01 Overview of Seoul National University

2 Facts about Seoul National University

- History founded in 1946 as the first national university of Korea
- Campus the largest campus in Seoul
- Colleges 16 Colleges, 1 Graduate School, and 9 Professional Schools
- Faculty 2,626 full-time faculty members
- Students 28,018 students enrolled in degree programs
- Research globally 16th in terms of SCI Paper publications
- Global Standing 31st in the world, 4th in Asia by QS World University Rankings

- As of Apr. 1, 2014

Overview of Seoul National University

Gwanak Campus Map

Number of Students

- Total 26,883
- Undergraduate 16,289
- Graduate 10,594
- Domestic students 249
- International students 936
Global Standing of Seoul National University

Seoul National University has recently been ranked No. 31 among the world’s universities and No. 4 among Asian universities by QS World University Rankings.
2. Current Situation of Blended Learning at Seoul National University
02 Current situation of blended learning at SNU

Center for Teaching and Learning at SNU

- CTL mainly leads Blended Learning design, implementation and evaluation at SNU
Current situation of blended learning at SNU

Center for Teaching and Learning at SNU

• History

1975
Foundation of Instructional Media Center (IMC)

2001
Opening of Center for Teaching and Learning

2002
Opening of Academic Writing Lab

2012
Establishment of new e-Learning system
Center for Teaching and Learning at SNU

Organization Chart

Director General

Steering Committee

Administration Office

Teaching Support

Learning Support

Academic Writing Lab

e-Learning Support

Current situation of blended learning at SNU
LMS: eTL(e-Teaching and Learning)

Supporting regular courses

- Supporting Blended Learning (Online-Offline Learning)
- Moodle-based System
- Week to Online Learning focus on Lecture Videos

eTL(e-Teaching and Learning) (http://etl.snu.ac.kr)
02 Current situation of blended learning at SNU

Basic statistics of eTL (e-Teaching and Learning)

eTL System’s Rate of Utilization

Device Types

<table>
<thead>
<tr>
<th>Device Types</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
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</thead>
<tbody>
<tr>
<td>Desktop</td>
<td>3,491,414</td>
<td>3,881,832</td>
<td>4,209,319</td>
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<tr>
<td>Mobile</td>
<td>4,676</td>
<td>215,523</td>
<td>1,073,921</td>
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<td>78,733</td>
<td>159,931</td>
<td>170,474</td>
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<tr>
<td>Total</td>
<td>3,574,823</td>
<td>4,257,286</td>
<td>5,453,714</td>
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Flipped Learning Initiative

- CTL implements, supports, evaluates and conducts research on Flipped Learning at SNU

- Online System Operation (eTL, SNUON, etc.)
- Developing Contents & Materials

- Workshops
- Educational Programs

- Faculty Meeting
- Research on Flipped Classroom

- Research and evaluation on Flipped Classroom

- Educational Programs
### Current situation of blended learning at SNU

**CTL Online Lecture System: SNUON (SNU Open education)**

- **Used for preview and review of courses**
- **Courses Developed**
  - 42 Courses
  - (March ~ August 2015)
- **Courses being Developed**
  - 18 Courses
- **Courses to be developed in Fall 2015**
  - About 15 Courses}

[SNUON(SNU Open education) system (http://snuon.snu.ac.kr)](http://snuon.snu.ac.kr)
### Current situation of blended learning at SNU

**CTL Online Lecture System: SNUON(SNU Open educationN)**

#### Registrant of SNUON Courses: Top 10 Courses (March ~ August 2015)

<table>
<thead>
<tr>
<th>#</th>
<th>Subject Name</th>
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<th>Subject Name</th>
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<td>1</td>
<td>Economic Statistics</td>
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<td>College English 1</td>
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<td>2</td>
<td>Chemistry</td>
<td>266</td>
<td>Introduction of Operating System</td>
<td>97</td>
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<td>3</td>
<td>Economic Principles</td>
<td>258</td>
<td>The Newest Control Techniques</td>
<td>86</td>
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<tr>
<td>4</td>
<td>Economic Principles 2</td>
<td>208</td>
<td>Engineering Mathematics 1</td>
<td>83</td>
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<td>5</td>
<td>Basic Physics 1</td>
<td>174</td>
<td>Mathematics for Humanities and Sociology 2</td>
<td>82</td>
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<tr>
<td>6</td>
<td>College English 2</td>
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<td>The Newest Control Techniques</td>
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<tr>
<td>9</td>
<td>Engineering Mathematics 2</td>
<td></td>
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</tbody>
</table>

#### Categories
- **Economy**
- **Natural Science**
- **Engineering**
Current situation of blended learning at SNU

CTL Online Contents, Mobile APP Service

Android/iPhone Service: APP has been downloaded over 20,000 times
- Google Play Store, Apple Store: Search “SNU OCW”

First Page of Mobile APP Service

Lecture Page of Mobile APP Service
SNUx in edX (Global MOOCs)

- Agreement between edX and SNU in May 2013
- Starting SNUx course from March 2014
- Provided 4 SNUx courses
SNUx in edX(Global MOOCs): Statistics

Registrant of SNUx (As of 2014-2015)

- **Robot Mechanics and Control, Part I**: 13,785 registrants
- **Robot Mechanics and Control, Part II**: 5,904 registrants
- **International Politics in the Korean Peninsula, Part 1**: 6,066 registrants
- **Introductory Physics — Part 1**: 17,084 registrants

The chart shows the current situation of blended learning at SNUx in edX (Global MOOCs) with the registrant figures for various courses.
Ongoing Project: K-MOOCs (Korea MOOCs)

- Sponsored by Ministry of Education Lead Project
- Primary Selection: 10 Universities
- Starting two K-MOOCs from September 2015
Tools for Creativity Development

S3CPS (Smart Support System for Creative Problem Solving)

Current situation of blended learning at SNU
3. Blended learning strategies
Blended Learning aims to strengthen learning competency and build creative and critical thinking skills for creative global leaders.
Curriculum & Assessment

• Flipped learning curriculum was initially developed in natural science and engineering courses (n=2) and then scaled up in other domains like liberal arts and social science (n=18).

• Formative assessment (assessment for learning) was emphasized along with student-centered learning activities.
Professional Learning

- Regular workshops for faculty every month
  - Instructional strategies and smart device utilization

- SNU teaching clinic for prospective faculty (three times per year)
  - Intensive training program about instructional methods for 4 days

- Consulting and micro-teaching
  - One-to-one consulting based on the analysis of lesson video and student surveys

- Faculty meeting on flipped learning and smart learning
  - Collaborative study and design of innovative lessons
3 Student Support

- Regular workshops for students
  - Learn how to learn: Learning strategies, time management, presentation skills, etc.
  - ICT literacy development: MS Office, Premiere, etc.

- Learning counseling
  - Individual and group counseling about study, grade, test anxiety, depression, etc.
  - Psychological tests: MBTI, learning styles, etc.

- Mentoring between students

03 Blended learning strategies
Infrastructure

• CTL mainly supports blended learning at SNU
  ✔ Studio for lecture video recording
  ✔ Facilities for developing and managing online courses

• A few colleges have their own center to improve pedagogy
  ✔ Global Education Center for Engineers
  ✔ National Teacher Training Center for Health Personnel

• High-speed and wireless Internet on campus
  ✔ State-of-the-art gigabyte equipment for 18 zones on campus
  ✔ 10 Gbps high-speed optical cables for backbone networks
Blended learning strategies

Hardware & Software

• eTL
  ✓ Moodle-based LMS
  ✓ Faculty uses eTL to provide learning resources, tasks, feedback, etc.
  ✓ Students use eTL for online discussion, assignment submission, etc.

• Online lecture video at SNUON
  ✓ Lecture video clips are developed through cooperation between faculty and CTL
  ✓ Video clips are uploaded in Youtube and then linked to the SNUON website
    (http://snuon.snu.ac.kr)
Partnership & Communication

**Government**
- Brain Korea 21+
- Creative Korea
- K-MOOC

**SNU**

**Companies**
- Samsung smart campus project
- edX

**Alumni Association**
- Online lecture video
Research & Development

- Research and development on flipped learning in fall 2013

Blended learning strategies

Instructional Designer

Instructors (SME)

Online Contents Developers

Mathematics & Practice 2 (Undergraduate)

Theory for Nonlinear System (Graduate)
R&D output: Flipped learning model
4. Issues & Challenges
• Development of Blended Learning Curriculum
• Student Participation in Blended Learning
• Professional Development
• Scaling
• Technical and Administrational Support
Development of Blended Learning Curriculum

- Online activities can be redundant or unrelated with face-to-face (F2F) activities.
- Blended learning should meet diverse needs of students.
- What courses should be developed as blended learning?

"Because there was a mini-lecture in class, I didn’t need to watch video lecture (graduate student)"
2 Student Participation in Blended Learning

- Increased workload of students out of class
- Passive participation of students in traditional school culture

In-class activity (project, discussion)

- Watching lecture video
- Reading, quiz
- Reflection

Overload of student tasks
Professional Development

- Professional development of TPACK for blended learning
- Lack of motivation on blended learning

“I think too much time and effort are spent for developing a course (instructor)”
Scaling

- Is blended learning useful and easy to implement?
- Localization of blended learning in different domains
Technical and Administrative Support

- Technical support for blended learning with smart devices
- Cooperation of CTL and other university organizations (e.g., Information Systems & Technology, Office of Academic Affairs)
5. Future Directions
05 Future Directions

1 Development of Blended Learning Curriculum

- Seamless learning between online and F2F activities
- Personalized learning based on learning analytics

Dashboard for personalized learning
Future Directions

Student Participation in Blended Learning

• Development of student competencies (e.g., self-regulated learning and collaboration skills)

• Change of classroom culture for successful blended learning
Professional Development

- Professional learning community for sharing blended learning experience and solving pedagogical problems
- Successful blended learning experience to increase self-efficacy and motivation

PLC for sharing pedagogical experience
Scaling

• Reuse and remix of existing resources (e.g. KOCW) for blended learning
• Participative leadership
Technical and Administrational Support

- Quality management through institutional research (IR)
  - Regularly collecting and analyzing data to examine the benefits and challenges of blended learning

- Adaptive support for students and instructors through cooperation among university organizations
Thank you!

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