FROM INSTUCTION IN LARGE SIZED CLASSES TO TEAM LEARNING DISTRIBUTED AT WORKPLACES

Haruo NISHINOSONO, Bukkyo University,
Shiho MOCHIZUKI, NPO Institute for Learning Development, Japan

Introduction

In the last quarter of the twentieth century, every country faced to a drastic increase of students at higher professional education. Universities reformed their organizational structure for accommodating demographic changes of students. Japanese government increased the enrolment capacity of students in universities, and changed the organizational, administrative and instructional structures of conventional universities for activating research activities as well as accommodating a large number of students. Recently the government reorganized the national universities to the privatized University Corporations still keeping some features of the traditional universities. However, they are suffering financial problems with ending at boosting up of tuition fees in the last three decades. In addition to enlargement of conventional universities, they established the 'University of the Air' in 1981 to satisfy people's needs for higher education mainly in subjects of liberal arts and enrolled 70,000 enrolments last year, but now reached the ceiling of increase. Correspondence courses started in private universities about fifty five years ago, accommodated a large number of students and kept low tuition fee of about one fifth to one third amounts compared to tuition fees for full-time courses. Recent development of information and communication technology provides us with possibility of enhancing instructional potentials in correspondence courses and making the distance learning comparable to campus learning in instructional quality. In the correspondence courses in Japanese universities at the moment, instructional contents are limited mainly in the field of the liberal arts and a few varieties of professional contents.

A Framework for Professional Teacher Education at Workplaces

Demand for qualitative and quantitative higher education in every profession is increasing in ever changing societies, and teaching profession is not exceptional. Complicated problems emerge at individual schools, classes and students almost every day without any precaution. Teachers have to tackle these problems with referring to their previous experiences, not to theoretical framework suitable to diagnosing and treating them properly. Educational theories are still not potential enough to respond to specific teacher's expectation of solving complicated problems unique to his/her situation yet. Consultations and discussions with colleagues in their schools as well as from other schools are the most effective for sharing their experiences and finding appropriate solutions. In this context, team learning organized within a school as well as networked schools distributed in a district or wider areas seems most effective strategy of dealing with complicated problems, resource allocation and appropriate allocation of experts for in-service teacher education.

It is indispensable to train teachers for professional competencies of observing, analyzing and interpreting the learning process systematically in order to implement the collaborative and autonomous learning in schools. Traditionally Japanese teachers are used to share their experiences in teaching with colleagues within schools. It is essential to record the teaching-learning process in classes, collect data for improving instruction, share the crucial evidence with peers and discuss possible solutions for deficient instruction. However it becomes more difficult to observe, analyze and research the teaching-learning process due to the overloaded works and irregular scheduling of study meetings within schools. It is now preferable to transfer evidences through mailing and chatting on Internet for taking advantages of comprehensive diagnosis from experts at other schools. At the same time, verbal communication and discussion with peers in a school is also indispensable for taking advantage of tacit knowledge on teaching experiences and immediate actions for improving the instruction. Combination of communication through the Internet and study meetings within school is the most effective learning environment for in-service teacher education.

We have shown possibility of the instruction in large sized classes, potential of team learning of students and proposed a theoretical framework of organizational symbolism and a procedure of instructional development (Nishinosono et al. 2005, 2006). A number of propositions concerning interpretations and judgments on designing and implementing team learning have been formulated and described, and are now expected to be applied to team learning in locally distributed schools.

Teachers are much occupied with daily duties for their teaching and other clerical works. It is indispensable to allocate specific rolls and functions to each teacher for securing steady progress of learning at workplaces. From our previous experiences, assignment of appropriate rolls to each member is crucial to see their continuous involvement and success of team learning. In the case of team learning in full-time course, assignment of rolls to each member was indispensable for active involvement of students.

(1) Chairperson
(2) Reporter
(3) Planning and managing
(4) Recording and documenting
(5) Oral reading and confirmation of understanding
(6) Information technician
(7) Miscellaneous

In our cultural background and mentalities of Japanese students, 'Planning and managing', 'Recording and documentation' and 'Oral reading and confirmation of understanding' are effective to activate the learning in team. In the previous experiences of large sized classes, more than two hundred students (276 students at maximum) participated in one course, were divided into many teams composed of five to seven students (at maximum 44 teams) and clustered them into groups of three to four teams to facilitate mutual interaction and activate discussions. Team learning is always organized and managed by students themselves and lasts for one semester. The outcomes from team learning are also assessed by themselves and/or peer referring to criteria provided by instructors. The final outcomes are reports of more than ten pages describing primitive planning of a school and instruction. This large sized instruction was designed and developed in the conceptual framework of organizational symbolism (Nishinosono et al, 2006), of which conceptual manipulation of symbols was applied to represent the learning process and outcomes.

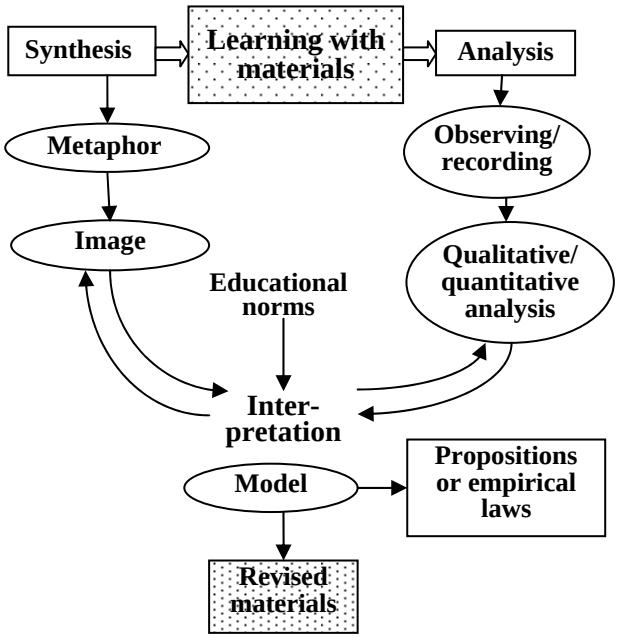

Figure 1 Empirical procedure for development

A framework for developing new type of instruction at workplace is being tried out in experimental scale. Ubiquitous learning devices such as mobile phones and PDAs are available at low cost and very familiar to students and young teachers. Laptop computers are now common among teachers at home as well as school. Cooperative development of learning materials requires common vision and procedure among participants. We share common vision, metaphor, image, model and proposition for cooperative development of instructional plan

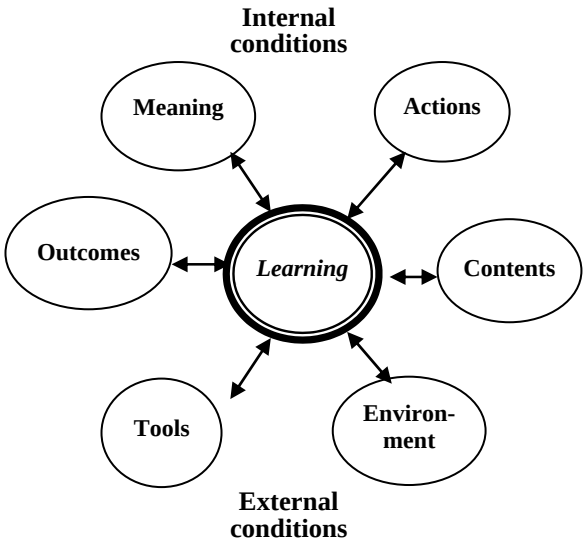

Figure 2 MACETO Model for Designing

and materials (Johnson-Lard 1983, Roberts , Nishinosono 2006).

- Shared vision: professional development in instruction for in-service teachers working at different schools
- Metaphor: franchised and networked stores
- Image: procedure of conducting material production and accumulating experiences (see Figure 1)
- Model: MACETO model for instructional development (see Figure 2)
- Propositions: empirical knowledge emerged from instructional development and implementation of large sized classes divided into a number of teams

A package of instructional materials

Conventional materials for traditional lecturing are usually in printed form and distributed at the beginning of lessons. In some distance education, new information is provided through TV or displays of computers connected to main servers. In these situations, learners are dependent on delivery of knowledge through wireless broadcasting or internet. On the other hand, they can carry printed materials anywhere and read them even in train or tramcar. Management of learning can be provided through mobile phone or ubiquitous ICT as well as laptop computers at home or office. Instructional materials are composed of the following parts.

Learning guidebook: materials for guiding and managing distributed team learning with ubiquitous learning management system in printed form combined to a web-based course management system using mobile phones and laptop computers.

Textbooks: major parts for knowledge delivery in printed form

Workbook: mainly on-line system for enhancing students' understanding and knowledge through exercises on line, or conventional CAI type instruction.

The learning guidebook seems to have universality or common feature for different subjects to some extent. The changing instructional contents and diverse students require a variety of instructional materials and various ICT tools for coping with such diversities. The guidebook is separated from main part of knowledge to be transferred from teachers to learners as learning contents, which can be accessed on Internet, in library and from other resources. The workbook is also in form of printed materials for convenient portability and synchronized with mobile phones which enable us to learn anywhere and anytime, even in moving tramcars and trains. Characteristic features of materials can be described as guidebook for actions, textbook for knowledge and workbook for acquired abilities.

During implementation of large sized class instruction with printed materials and mobile phones, authors tried to formulate descriptive and judgmental statements concerning the designing of instructional process.

Implementation of Distributed Team Learning in Schools

In the initial stage of our experiment, the project is participated by two teams composed of high school teachers: one from a school very close to our university in Kyoto and another from Ooita at about 730km far from the university. Numbers of teachers are seven at Kyoto and six at Ooita. Instructional media are textbooks in printed form originally prepared by the authors and several commercially available books. Learning guidebook for orienting team learning and ubiquitous ICT tools for managing diverse learners and dispersed learning spots were developed in our previous project of instruction in large-sized classes. The guidebook is synchronized with mobile phones and laptop computers and can realize collaborative and autonomous learning with four to seven participants in a team. Each participant takes responsibility of a specific role and leads other team members for activating the collaborative learning. The functions of each role in such dispersed learning spots is not definitely defined yet, but adopted from the previous definition carefully examined in the instruction of large-sized classes. At the beginning of the course, team members identified their problems in each school and share their experiences through the Internet. The contents and process in team learning are clearly defined along a Master Course of Bukkyo University for in-service teacher education. their final outcomes from this team learning.

In the case of pre-service teacher education, young students accept new concepts of designing instruction and developing learning materials without any reluctance. It is an ordinary process of

learning knowledge and concept and get competent in teaching profession. On the other hand, in-service teachers are used to teach children orally and directly and not used to plan and manage learning itself. It is very difficult to transform their mental models to convert teaching style to new instructional management framework.

Conclusion

The changing society requires changes of instructions in universities. In spite of such social requirement, teachers in universities are reluctant to change their teaching style. It is not difficult to update instructional contents appealing to their professionalism, but difficult to adopt new instructional styles adaptable to their students. Before advancing to distance learning in our project, it was effective to adopt collaborative and autonomous learning in the conventional instructional situation even in a large-sized class. From this face-to-face situation, we can observe students' activities and reactions and then interpret the meaning of their actions from qualitative analysis. From here we can derive experiential statements or propositions of description and judgement on instructional processes and products. These propositions can be applied to the initial stage of distance learning difficult to observe directly. Distance learning on the Internet requiring active participation from learners is more difficult to realize and sustain than the conventional audiovisual programs for instruction. After the kick off of the initial distance learning, we can collect data of learners' reactions, but still in limited extents. The combination of face to face instruction of team learning and distance learning in team on line is the most effective way of developing new distance learning. In this developmental process, the framework of symbolism is effective to emphasize the importance of interpreting the meaning of learners' actions and the most reliable to combine on-line and off-line learning.

References:

1. EUROPE COMMISSION REPORTS, 2000. *Education and Training in Europe: diverse systems, shared goals for 2010*, http://europa.eu.int/comm/education/policies/2010/et_2010_en.html
2. JOHNSON-LAIRD, P.N. 1983. *Mental Models*, Cambridge University Press, Translated by AIUEO, ToyouKeizai Shinpousha, Tokyo
3. NISHINOSONO, H. 2005 *Metaphor, Image, Model and Proposition for Designing Autonomous Learning,* EDEN 2005 Conference Proceedings , 23-25 June 2005, Helsinki, Finland
4. NISHINOSONO, H. 2006 Collaborative and Autonomous Learning and Organizational Symbolism, EDEN 2006 Conference Proceedings 487-482, 14-17 June 2006, Vienna, Austria
5. ROBERTS, C et al. *The Fifth Discipline Fieldbook: Strategies and Tools for Building a Learning Organization*, translated by Shibata, M. in 2005

Authors:

Professor Haruo Nishinosono
Bukkyo University, Department of Education
nisinohr@bukkyo-u.ac.jp

Ms. Shiho Mochizuki
NPO Institute of Learning Development
info@u-manabi.org