

Project-based learning in preservice education: The integration of theories and practices

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The type of institution, and how lesson study fits into other elements of preservice training

The Faculty of Education in Shizuoka Univ. offers the certificate program for kindergarten, elementary, and high school teachers. The program is comprised of course requirement, 3-5 weeks long practicum under supervision by in-service teachers, and thesis study. Lesson study is mainly conducted as a part of the program during the practicum period. Student teachers are required of planning their lessons for a variety of subjects and submitting documents on their lesson plans to their supervisors, experienced in-service teachers. Through discussion among supervisors and other student teachers, the proposed lesson plans are articulated and elaborated. The proposed lessons are observed and evaluated by other student teachers and supervisors. In the conference after their practicum lessons, student teachers' behaviors and classroom students' performance are discussed for further improvement.

The proposed program model: Lesson study as a means of improving student teachers' epistemology

Prospective teachers are required of consolidating their own epistemology as well as subject matter knowledge and pedagogical content knowledge (Bransford, Brown, & Cocking, 1999). The program we propose is a new way of using the lesson study practice for improving student teachers' epistemology. Lesson study is the best practice for educators to improve their expertise (Linn, Lewis, Tsuchida, & Songer, 2000). Epistemology, however, is not sufficiently emphasized, i.e., what knowledge should be taught, how people learn, how we can support students learn through educational practices like lessons, and so on. Or, it is rarely done to employ recent theories of learning in planning lessons and reflecting teachers' expertise.

What we have been conducting since the year of 2000 is to design an educational methodology course from the perspective of a new theory of human learning, "the community of learners (e.g., Brown, & Campione, 1996)." Student teachers study the epistemological perspective on the community of learners, experience collaborative learning in an authentic problem solving context (Fig.1), reflect their own activities from both learners' and instructors' points of views, evaluate the application of "the community of learners" perspective on elementary and high school curricula through virtual tours on WWW (Fig. 2), and finally consider their lesson plans for "the time for the integrated study." An information technology to share ideas with others is used for keeping the community of student teachers active and progressive. Interaction between different groups of students is facilitated by the technology in every phase of the course.

Statistics, and Course Description

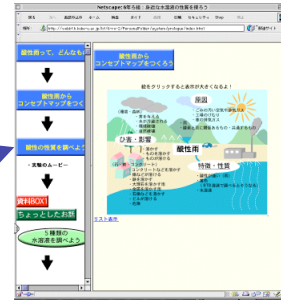
The course is entitled as "Curriculum and Educational Methodology," and held as an intensive workshop (four or five days long) during the summer break. The instructional goal of the course is to educate student teachers a new epistemological perspective on human learning by having them participating in a variety of activities in their classroom community. Every year, thirty to fifty students in the faculty of humanities and social sciences take this course as a part of the requirement of their certificate program. Because the teacher certificate program is extra requirement in their faculty, the schedule of the courses is not well organized. Part-time lecturers conduct most courses, and the format of the courses is mainly lecture-based. The second author is in charge of the target course and has implemented several challenges in the instructional design. We, in collaboration with student staffs in our laboratory, design the course, prepare materials, consider how to use IT, and support student teachers during the course.



Fig.1. Group Collaboration.



Fig. 2. Experiencing the Virtual Tour on the Internet.



Learnings, successes, and challenges

The unique characteristics of our designed preservice education course is that student teachers learn a new epistemological perspective, “the community of learners,” while they participate in the community of learners. The basic framework of the community of learners is comprised of five components (Brown, & Campione, 1996): (1) deep disciplinary contents, (2) research, (3) sharing information, (4) consequential task, and (5) reflective thinking. The lesson study practice can cover all the components in the framework. The *deep disciplinary content* in our course is a new epistemological perspective as well as subject matter and pedagogical content knowledge student teachers bring in. The *research* is student teachers’ project to improve their lesson plans. Their ideas on the community of learners and how to apply this epistemology to their lesson plans are *shared* among different project groups on the IT-supported knowledge database. Their final goal, i.e., planning a lesson in the time for the integrated study, is quite challenging for them. It is sufficiently *consequential* in that they have to apply their acquired epistemological knowledge to their lesson plans. Their classroom talk supervised by the instructor is deeply *reflective* on what they are planning for their students, whether their ideas can work for their students to engage in their expected activities, and so on.

The analysis on student teachers’ discourse on the network and in face-to-face discussion during the course, final essays, and interviews has suggested that about one third of student teachers improved their epistemological perspective on student learning and their own roles in student learning. However, as Matusov (2001) suggested, the gap between what student teachers believe and the new perspective on human learning is still large. Student teachers who have had questions on the traditional teaching are relatively easier to construct their new epistemological perspective on learning. Our current problem is how we can communicate with student teachers that have never had any questions on their learning experiences in the traditional teaching. Their belief system is strong enough to be against the new epistemology.

References

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