

English Abstracts

Creativity Education in the School of Engineering, Nagoya University

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Almost 10 years have passed since the introduction of the “Creativity Education” program into the School of Engineering and Graduate School of Engineering at Nagoya University as part of “Engineering Design Education.” “Opportunities programs” to achieve experience-based learning through experiments and practice are quite important in creativity education. In the undergraduate course, the program contents have been arranged by the departments and courses according to social demands and the progress of the scientific aspects of the area. In the graduate course, “Creative Experiments for Comprehensive Engineering” “Research Internship” and “International Research Project” were added as comprehensive engineering courses to complete the original curriculum in engineering education. This study introduces the role of “Creativity Education” in our curriculum. Concrete examples include details such as “Seminars on Fundamentals of Processing” (undergraduate course, Chemical Engineering Department) and “Creative Experiments for Comprehensive Engineering” (graduate course, comprehensive engineering courses). Both classes received high evaluations, suggesting the great potential for a creativity education project to complete engineering design education. Effective supporting systems must be established to smoothly conduct these education programs.

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Experiential Learning of Physics: Scientists' Way of Thinking and Acting

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This study examines the potential and problems of experiential learning, focusing on scientists' way of thinking and acting in physics undergraduate education in Japan by overviewing the manner in which experiential learning of physics has improved and describing an example of the learning.

The experiential learning of physics in Japan has improved by transforming from passive to active learning in higher education. One direction of this improvement is providing the students with the experience of the ways in which scientists think and act, such as question formulation, prediction based on a hypothesis, and analysis of an experiment whose learning methods have not been previously provided. The objects of this improvement include lectures and freshman seminars as well as laboratory experiments. In the last semester, Miura designed a freshman seminar where students measured phenomena in daily life to practice the scientific ways of thinking and acting. Experiential learning such as Miura's practice can improve students' ability to conduct research, and can therefore provide meaningful preparation for undergraduate research in the department of physics.

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Effects of Experiential Learning in General Education on Change in Freshmen's Learning Style

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This study examines the effects of experiential learning in general education on change in students' learning style. We focus on freshmen students in classes taught by the authors.

The main learning activities were as follows.

- 1) Question-answer sessions and group discussion of explanations given by the teaching staff.
- 2) Investigation of the university's library and overseas students center and two private companies (two institutions' roles in supporting students' learning and expectations and their work life after university graduation).
- 3) Presentation of results of the students' investigations and group discussion.

Experiential learning has positive effects on supporting students' transition from high school to university, developing their learning style, and obtaining knowledge about universities.

Obtaining positive effects requires instructors to urge students to participate in class and increase their opportunities for discussion. We found it necessary to limit class size to approximately 100 students, and select certain students as team leaders to increase the good effects of experiential learning.

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Overseas Training Program in School of Agricultural Sciences, Nagoya University: Practice and Topics

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The School of Agricultural Sciences, Nagoya University, started an overseas training program as an elective-required course in 2008. At present, it has been reorganized and conducted as a joint student-training program among three countries: Thailand, Cambodia, and Japan. The undergraduate students (largely third year students) studying agriculture from Kasetsart University in Thailand, Royal University of Agriculture in Cambodia, and Nagoya University join the program. The program's objective is to develop individuals with an international viewpoint and mindset, who can contribute to society through knowledge and training in agricultural sciences. The program's purpose is to understand the agriculture of countries with different cultures and nature. The students form groups with their counterparts from each university to experience the reality of agricultural production in the rural areas of the three participating countries. They perform several projects on rice production, animal production, food processing, and water management, and present the results of their projects. The present study describes several topics for improving and continuing the program.

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Achievements and Challenges of the Field-work “Educatioal Research in Souya”

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The paper presents an overview of the field-work “Educational Research in Souya” that our laboratory for Educational Management at Nagoya University has performed for 22 years and examines the potential and challenges of experience-based learning through examination of the program’s positive significance and the consideration and effort required of teachers, students, and the university.

First, the framework of this field-work is described which comprises the seminar (4 credits) and survey (2 credits) and is an element of the specialized course after the student’s third year of university studies. The most striking feature is that the students plan and perform the research activities.

Then, the process of the field-work year is explained by dividing it into 4 periods: (1) start of the seminar, (2) deepening each academic focus and organizing the groups, (3) establishing research questions and performing the field-work in Souya, and (4) producing booklet of reports.

Finally, the achievements and challenges of this field-work are presented.

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Factors of the Shift to a Learner-centered Paradigm and the Impact of Assessment on Student Affairs in American Higher Education

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This study analyzes factors of the shift to learner-centered student affairs in American higher education. Since the mid-1980s, learner-centered philosophy powerfully led student affairs toward radical reformation. The integration of student affairs programs and services was facilitated by the new concept of integrating a curriculum with student programs and services. Thereafter, an assessment of student affairs was developed to facilitate student learning through student affairs. With these significant changes in student affairs, assessment has emerged as a strategy for implementing the learner-centered philosophy. Fiscal restraint and the pursuit of professionalism in student affairs underpins such assessment.

These student affairs reforms have affected the management of programs and services. It enhanced the vice president's top-down management to lead the organization and systematic management as well as the development of management tools, including assessment, in the student affairs reform process. The assessment of student affairs caused the review of the student affairs organization, programs, and services, in addition to requiring student affairs professionals with an advanced educational background to develop assessment skills.

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Current Issues on Curriculums of University Focused on the Writing Programs

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In Japan, the quality of university education has become increasingly important. Both the significance of the curriculum and the achievement of students are attracting public attention. The present study explains the role of writing programs in higher education curriculum focused on transitional education to college.

Many universities provide some type of writing education program, often as first year courses. However, universities must have individual educational goals as institutions of higher education.

The major findings include the following; 1) readiness for college or university level writing is the most consistent factor at the time students finish high school; and 2) writing programs in upper secondary school figure strongly. Universities must have their own educational goals as institutions of higher education. Therefore, writing programs must be an integral part of university education curriculum. This strategy would ensure the high quality of the graduates and of the systematic curriculum.

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Competence-based Academic Degree Systems Offering Exemptions from Coursework in the UK, France, and the Netherlands

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This study investigates special academic degree systems that exempt students from admission requirements and academic coursework in higher education. Moreover, it compares the systems in the UK, France, and the Netherlands to examine the processes and problems that these systems entail within higher education and their methods for evaluating students' competences.

Competence-based academic degree systems are based on the policy of accreditation of prior learning (APL), which assesses students' competences through "non-formal" and "informal" learning.

This study clarifies the actual situation and certain APL features in the three countries.

We identified the following APL-related points:

1. APL places greater importance on learning outcomes than on the application to Institutes of Higher Education (IHE) and prior schooling as assessment factors for exemption from coursework.
2. APL uses portfolios assembled by candidates to document their knowledge.
3. APL creates certain crucial problems for IHEs, such as the determination of equivalence between the experiential knowledge and skills that people acquire in their daily lives and the academic skills that IHEs offer in formal courses.

EU, OECD, and UNESCO have policies that promote APL in their member countries. Thus, it is inevitable that IHEs will respond to these challenges by presenting their institutions' special value.

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Support Program for Academic Career Development in University Internationalization: Results and Problems of “Teaching in English”

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This study examines problems with the support program for academic career development in university internationalization. It validates the specific process of the “Teaching in English” program for preparing future faculty, from planning to implementation, and analyzes a survey of participants to identify results and future tasks.

This program was conducted for graduate students and post-doctoral fellows specializing in humanities, studying Japanese language, literature, and culture. In the first stage, they attended lectures on teaching in English. In the second stage, they attempted to teach in English, and received practical instructions about teaching in English. In the final stage, they taught international students in English. Course contents, instruction, suggestions, and support were provided at each phase to eliminate or reduce participants’ uneasy feelings.

This program served as a starting point for planning graduate students’ academic career in university internationalization and as faculty development, but was not limited to teaching in English. The program had several problems. The participants and provider needed considerable time and effort for the tasks because this program is characteristic of long-term and gradual training. We should ensure the program’s continuity, and clarify its objectives and priorities.

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Using Films in University Classroom: Comparative Analysis on the Articles in Japanese and English

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This study examines the characteristics of lesson practices using films in a university. We collected Japanese and English articles on lesson practices using films in a university. We analyzed the lesson practices described in the articles from the viewpoints of (1) fields of academic study, (2) learning objectives, and (3) activities after watching the film. We compared the Japanese and English lesson practices.

The comparative analysis yielded three findings.

- Film-based lesson practices abroad occur in more fields than in Japan.
- Certain lesson practices abroad focus on the application of knowledge that students have acquired, whereas many Japanese lesson practices emphasize on comprehension of knowledge and concept.
- Lesson practices abroad employ cooperative learning activities after watching films.

In conclusion, we identified characteristics of lesson practices using films in a variety of academic fields, learning objectives, and activities after watching the film.

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Reform Projects for Undergraduate Education in China: Policies and Enforcement

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From the beginning of the 21st century, undergraduate education in China has undergone various reforms in the form of projects by the central government. The contents of policies and methods of policy implementation have undergone three stages of development, with these changes resulting from the central government's adjustment of its goals and methods of enforcement according to the continuously changing conditions of higher education.

In the third stage, the projects are effectively organized into five categories: establishment of undergraduate education quality standards, comprehensive undergraduate program reforms, converting the model lessons into on-line courses, fostering of students' abilities, and promotion of the faculty's teaching capacity. Converting the model lessons into on-line courses is the central task. Most such courses are for general education or introduction to specific fields of study. The project is implemented in two manners: free application or consignment by the central government to approved universities. The undertaking of the model lessons is managed through free application. Before 2010, applicants had been limited to provincial governments. However, since 2011, the applicants have become professors in leading universities. This change has led to different outcomes.

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Competences as Learning Outcomes and Their Assessment: Potential and Challenges of Rubric-based Assessment

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Since the 1990s, when the characteristics of late modern society became evident, higher education institutions and organizations began to establish generic competences as expected learning outcomes (i.e., goals) and assess them. This study examines the potential and challenges of assessing competences as learning outcomes, focusing on rubric-based assessment.

We investigated the Essential Learning Outcomes (ELO) as goals and the VALUE Rubrics as an assessment tool, both of which were proposed by the Association of American Colleges and Universities (AAC&U), examining their implications for Japanese higher education. The ELO comprises important generic competences as well as disciplinary knowledge, and the VALUE Rubrics are designed as metarubrics to assess those competences. However, the ELO and the VALUE Rubrics cover only liberal education, not the full range of Japanese undergraduate education.

Taking an example from a Problem-Based Learning (PBL) practice in a faculty of dentistry, we illustrated how problem solving competence is embodied in professional education as well as in liberal education and is assessed through rubrics localized for each discipline.

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Leadership Skills for Enhancing Subordinate's Ability to Learn from Experience

MATSUO Makoto

There seems to be a consensus among researchers that individuals learn through challenging work experience, but that this type of work experience alone does not guarantee successful learning. To enhance individuals' competencies through challenging experience, they need the ability to learn from experience. Instructions from others including OJT and coaching play important roles in enhancing individual ability to learn from experience. However, few researchers have investigated OJT and coaching from the viewpoint of experiential learning. The purpose of this study was to examine managers' leadership skills related to the enhancement of subordinates' ability to learn from experience. Using open-ended questionnaire survey data from middle-level managers (n = 51) at a Japanese manufacturer, I found that excellent managers, i.e. those with capabilities to develop their subordinates, have the following leadership skills: they (1) help subordinates understand the meaning of tasks and goals, (2) accept proposals from subordinates, and (3) encourage subordinates to think and complete their tasks by themselves. The results suggest that excellent managers develop their subordinates by facilitating the development of their understanding and knowledge.

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Learning and Development Process of Student Staff Members in Academic Advising Activities

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This study investigates the learning and development process of student staff members who help other students by performing academic advising activities. The study conducted semi-structured interviews with four student staff members, and analyzed the interview data using the Modified Grounded Theory Approach.

The major findings regarding the student learning and development process are as follows:

- 1) The experience as participants in academic advising activities had a positive influence on several aspects of student staff members' campus life, including their learning style. This outcome implies that the experience promotes self-directed learning based on the characteristics of their universities' curriculum. This finding is a remarkable outcome of student participation in academic advising.
- 2) Student staff members enhanced their commitment to their universities through deepening their understanding of the universities' curriculum, organization, administration, and professional staffs, i.e., they recognized that their expected role as a student represents membership in the university community, and they began attempting to perform that role.

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Vietnam's Law on Higher Education (Japanese translation)

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The Law on Higher Education of the Socialistic Republic of Vietnam was approved by the 13th National Assembly on June 18, 2012, and went into effect on January 1, 2013. The law, which consists of 12 chapters and 73 articles, is the first in Vietnam to comprehensively cover higher education following the revision of the Education Law in 2005.

The features of the Law on Higher Education are as follows. First, the Vietnamese government has adopted the “choice and focus” policy on the basis of performance funding by classifying and ranking the higher education institutions. Second, government control on higher education has been maintained and rather strengthened, with the articles that the board of trustees in private institutions shall include delegates from the Communist Party. Further, the Ministry of Education and Training shall compile the standard textbooks of political and ideological subjects. The Minister of Education and Training shall determine the standards and procedures of accreditation for higher education institutions. Third, the Vietnamese government has emphasized the importance of internationalization of higher education. New types of systems have been authorized, such as foreign-invested institutions, joint degree programs with foreign institutions, and correspondent offices of foreign institutions in Vietnam.

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