

# Design of lifelong learning program with regional collaboration

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This study is in relation to the designing of a lifelong learning program in a community. The purpose is to improve the community's education capacity based on science and facilitate interaction among the community members. We have been organizing science classes for elementary school students and elderly. For the elementary school students, science classes had been organized to promote the use of community busses from the environmental protection perspective. The lifelong learning programs, in which elderly and elementary school students undertake scientific experiments together, had an effect of improving communications among different generations. In order to further develop our lifelong learning programs, we examined a program to support young people who are about to enter the world of work. In this study, high school students experienced practical work of undertaking a science class, which is one of our research institute's community contribution activities, as an internship. We set the implementation of the science class on the last day of the internship. This way, the students had valuable experiences of facilitating work as a team within a limited timeframe. This paper describes the educational practice based on this experience.

## Background



- ◆ In Japan, the turnover rate among the young people is also elevating; according to the 2006 statistics of Employment Security Bureau of the Ministry of Health, Labor and Statistics, 34.2% of the young people who started new jobs after college and 44.4% of the young people who started new jobs after high school left their workplaces within three years.
- ◆ This has resulted in an **increase in the number of young unemployed** (population of non-workers between ages 15 to 34 and not doing domestic help or studying) from approximately 400,000 in the 1990s to over 600,000 after 2002.
- ◆ The **needs for career education for the young people** to understand their personality and talent while being in a school and appropriately choose their career are growing.
- ◆ The Guidelines for Study (a standard of curriculum determined by Ministry Education, Culture, Sports, Science, and Technology) were reviewed for elementary and junior high schools in 2008 and for high schools in 2009. As a result, a career education is currently being facilitated under the new Guidelines.

## Purpose and Activity

- ◆ The internship rate among the high school students has rapidly increased from 1998. According to the survey on the situation of workplace experience/internship by the National Institute for Educational Policy Research, **the internship rate in public high schools (full-time, part-time) was 69.1% in 2008.**
- ◆ Then we organized an **internship program** in which high school students experienced practical work for our research institute's community contribution activities, that is a **science class for elementary school students.**
- ◆ Figure 1 shows the flow of our internship program for high school students.

- 1) We visited high schools which send out students to corporations as interns and exchanged information on the internship programs. We also provided explanations on the internship learning program offered by our research institute.
- 2) Then, the high school recruited and selected students who were interested in experiencing internship at our institute.
- 3) The participating students were asked to observe our "3-hours science class for elementary school students".
- 4) We divided the 14 participating interns into three teams. Team 1 was responsible for a lecture where elementary school students produce a line tracing car using the LEGO MINDSTORM. Team 2 was responsible for a lecture where elementary school students produce paper models of the body of the line tracing car and assemble the model. Team 3 was responsible for interviewing the interns of Teams 1 and 2 on their project activities and elementary school students participating and writing up and publishing the results as a brochure.

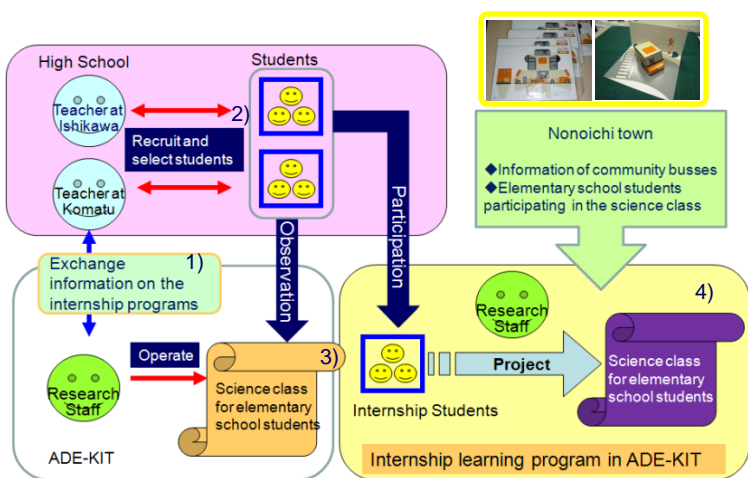


Figure 1: Flow of the internship program for high school students in Research Laboratory for Affective Design Engineering, Kanazawa Institute of Technology

### Comments from internship students: TEAM-1. LEGO MINDSTORM

I am happy if the participating children in the science class go home with the feeling that "learning science is fun". Science has not been my favorite class. It was rather a challenging class for me. However, during the process of the internship, learning science was becoming fun for me. I was nervous that a person like me could teach programming to the children, but we managed it. I was also afraid if we could complete the preparation on the third day of the internship, but we managed to teach the children on the day of the class. I am glad that I could participate in the internship that is different from the ones offered by the corporations. This internship also allowed me to interact with the local community. I would like to make use of this experience in the future.

### Comments from internship students: TEAM-2. Paper Model

I learned the importance of completing the work that I was in charge of as well as the importance of team work through this internship. I had been aware that it is meaningless if I did not complete the work by the deadline; however, this same awareness was very weak in my high school life. Through the internship, I learned the importance of having a sense of responsibility for my own work. I feel that I could develop as a person. I also learned the greatness of being helpful to the others.

### Comments from internship students: TEAM-3. Brochures

Through this internship, I learned the importance of collaboration. I worked on producing a brochure as a member of the reporting group. I experienced that not all my opinions could be heard for a simple task such as making a page layout and learned that I sometimes need to withdraw my opinions to develop a good final product. I also realized the importance of collaboration to produce digital data of brochure within a limited timeframe. I believe I learned a lot from the internship. I would like to utilize what I learned in my life.

