

Study Group on Development of Highly Skilled ICT Professionals—7th Meeting Summary of Minutes

1. Date and Time

Friday, March 28, 2008; 15:00–16:00

2. Location

Shared Conference Room 902, MIC

3. Attendees (honorifics omitted)

(1) Study Group Members

Muraoka (chair), Ishijima (vice chair), Onishi (proxy: Kanzaki), Oba, Kakehi, Kitagawa, Saito, Shigeki, Dairiki, Nakajima, Harasawa

(2) Observers

Takahashi (Director, IT Office, Cabinet Office) (proxy: Kamiya), Fujiwara (Director, Technical Education Division, Higher Education Bureau, MEXT), Yahiro (Director, Information Services Industry Division, Commerce and Information Policy Bureau, METI), Ueda (Manager, Information Group, Secretariat, Japan Business Federation)

(3) MIC Representatives

Nakata (Director-General for Policy Planning), Matsui (Deputy Director-General), Suzuki (Director, General Policy Division), Matsukawa (Director, IT Utilization and Human Resources Development Division), Monma (Director, Innovation Strategy Division), Ohara (Deputy Director, IT Utilization and Human Resources Development Division)

4. Meeting Proceedings

(1) Opening

(2) Based on Document 7-1, the Secretariat explained “Report of the Study Group on Development of Highly Skilled ICT Professionals (Draft).” The content of the discussion is summarized as follows.

(“Regarding the image of a new ‘place for workforce development’”)

- The overall tone of adult education and recurrent education gives me an impression that it is finished after offering lessons once and producing graduates as finished goods. For recurrent education, it is better to strengthen the tone of returning to the graduate school every so many years for continuous learning.
- Professional graduate schools can exchange academic credits with other graduate schools to a certain degree, but education provided in companies is not credited. I wish this issue

to be included in the report.

- The Information Processing Society of Japan is a corporate judicial association, not a foundation.
- Regarding the “new place for workforce development,” we should clearly present the insufficiency of the “Program for Promoting Leading IT Specialist Development” initiative implemented by MEXT, and then discuss the needs for such a place. Some of the functions that the national institute should be equipped with are being developed in the “Project to Refine Teaching Materials among Base Locations of the Program for Promoting Leading IT Specialist Development.” The profile of human resources aimed at each “Program for Promoting Leading IT Specialist Development” base location varies, and some say that if we standardized the profile, human resource development in all base locations will become uniform, but by allowing unique efforts in each base location we might be able to develop people with creative mind. In the future, it is important for the national institute to have the expected complete functions, but it is important to hold discussions on which formats and approaches will be effective using the actual results.
- ITSS and UISS are getting attention as a way to improve the visibility of skills and clarifying career paths, but individual companies are now incorporating the visibility of skills in employment terms. The report will drive such movement. If you are building a national institute, please utilize the outcomes of efforts made by industrial society and various ministries and agencies. Specifically, IPA is creating a database of industry-academia collaboration to disclose the information to the public. I hope that the national institute will function as an open facility to connect all of these things.
- I think the recommendation by the Japan Business Federation was reviewed and discussed directly. I would appreciate this report being shared by the ministries and agencies that are participating here as observers, and I hope they will work with us on specific measures. Regarding the remarks of “What is missing,” this effort started to fill the supply and demand gap between industry and universities. The maximum number of students in the Program for Promoting Leading IT Specialist Development is about 200. Considering the information of the recent supply-demand gap being 1,500 people, it is difficult to dispatch enough teachers from industry. One of the issues that we need to work on from now on seems to be how to make the national institute help develop teaching staff, including the issue of how to develop teachers through collaboration among industry, academia and government.
- Everybody has been trying to develop people for more than a decade, but industrial society does not voice any satisfaction. Something must be wrong with the approach. We need to think about mutual teaching and learning from each other. We need to create a

place where teachers and students can work on even terms. Previous outputs are the textbook, and the effort ended by distributing the teaching methods. Did we develop people? Why did we not develop people? We need to put our brains together or we will end with the same result. Young people can absorb things quickly, and if we show a place like this, they will jump onto that. We just need to back it up with various systems. This should be the role of the national institute.

- Many teachers of universities are speaking to students and holding discussions.
- Regarding the “Image of New Place for Workforce Development,” creating an environment for new graduates as well as active workers and foreign students to learn from each other is very good, but the part on the recommendation on how to create a mechanism by which the participation in the new place for workforce development is incorporated into the salary is rather weak. In addition, regarding the issue of university degrees, it is better to show some solutions rather than just pointing out the problem of being research centered. In order to create what we do not have now, it is necessary to offer something to attract people who will come to the place.
- Please lead this effort in a way that builds upon the outcomes of existing efforts such as the Program for Promoting IT Specialist Development and ITSS.
- When thinking of dispatching associate professors to a company for a year to let them engage in a project, there is an issue of not having a position available for them to return to at the university because they cannot produce any research outcomes while working for the company.
- Professional graduate schools share the same problem as the general graduate schools, such as when students participated in an educational program by a company, they cannot earn academic credits. In addition, universities tend to seek creation of an educational scheme, but that will make it difficult to keep up with the leading knowledge. One possible approach that universities can take is to increase non-degree programs, and to issue certificates rather than credits.
- Whether or not students can earn credits by attending company programs depends upon the positioning of such activities in the university curriculum. There are some cases where academic credits are issued for long-term internships of about three to five months.
- If credits can be awarded freely as in this example, curriculum resources could increase infinitely by combining the business of A company and B company to create an educational system.
- The intent of the Japan Business Federation’s recommendation for a national institute is to create a treasure mountain by gathering the outcomes of various initiatives taken in the past. The idea of professional graduate school is to experiment with new education

programs without restriction from the conventional system.

- Perhaps we can reduce the chance of any misunderstanding, such as us implementing the idea alone, without help, if we include language like “together with the assets from the activities by MEXT and IPA,” and “cooperating with.”
- Regardless of professional graduate school or ordinary graduate school, existing degree programs might not work very well. How about positioning the national institute as a wide-area training center that issues certificates to the students who study there for one year? A good mechanism seems to be having existing graduate schools dispatch students to the national institute and the graduate school then awards credits to the students who studied at the national institute.
- In order to have companies dispatch teaching staff, I want to see a mechanism whereby those from companies can write a Ph.D. dissertation while teaching at a new place for learning. It is also permissible for existing universities to dispatch students and have the students return to their home university to earn a degree after learning at the national institute. Young teaching staff can compete with the people from companies. Teachers can learn and students can learn too. It will be good to have such a mechanism with a neutral position.
- One university in the United States has an initiative to break down the content of a lesson to a skill level so that it is clear which lesson consists of which skill units, and the school allows students to learn the content at any school, but at the end, this university awards a degree. If the national institute is to function as a graduate school, this kind of drastic approach can be a choice.
- If the student is truly interested, many things are possible by utilizing the system. It all depends on how to do it. The national institute should offer what students consider truly interesting.
- Various efforts have been made for the development of highly skilled ICT human resources, such as improving the visibility of skills, creative approaches at universities, and trials with PBL, but all of these are conducted independently, and nothing has been accumulated. This is a problem. The national institute should be a place where people can discuss various topics, accumulate educational expertise, and further develop such expertise. The report should emphasize this aspect.
- Recently, universities have more freedom in taking various initiatives. If the university is motivated, more attractive lessons can be created for students than what was possible in the past.
- ICT is a technology without national boundary, and exchange with overseas nations is one big theme. While saying “a new place for learning,” and “where diverse human resources

get together, including foreign students,” the door to the international community seems to be limited only to this extent. An attractive operation and concept are required so that the people from overseas want to come. It is also very important to have a system that allows current workers to move between the workplace and higher educational institutions. It will be good to clarify the issues of how many years people have to graduate from universities, and if credits from 10 years ago are still valid. In addition, there should be some mention of actions for middle school and high school students, as they can be highly skilled human resources in the future.

- When writing a report, we should not increase the volume too much, otherwise it becomes out of focus.
- It is difficult for companies to change without changing the mindset of top management. The closer the workers are to the actual worksite, the more difficult it is for them to be dispatched as lecturers in real life. Therefore, top management needs to be committed to take leadership in this effort.
- In that sense, I am fully aware that (2) of the Basic Policy on Initiatives for Developing Highly Skilled ICT Professionals, issues of industry structure and the environment for developing human resources, are something on which industry has to take action.
- Regarding the industry structure, how to harmonize with the international community, and where to keep our uniqueness are topics that we cannot avoid. If we want to discuss these issues, serious discussions need to be held.
- Some Japanese companies have built universities in overseas countries such as Viet Nam, India and China. I wonder if those companies are expecting Japanese students to go to those universities.
- Those universities enhance the collaboration in the effort of developing local human resources, but there are some complex issues as well.
- I wish to keep the focus of the report on highly skilled ICT human resources development in Japan.

(3) Regarding the handling of the report draft, the group agreed to entrust the Secretariat and the Chair. The Secretariat explained the future schedule, that opinions on the draft will be invited, and another group meeting to finalize the report would then be called.

(4) Meeting adjourned.