1. Introduction

"The 6th Career Development Workshop for Young Students and Professionals" was held in Keio University (Hiyoshi Campus) on October 29, 2011. This workshop was mainly organized by IEEE Tokyo GOLD Affinity Group and IEEE Japan Council Women in Engineering Affinity Group, and was co-organized by Tokyo Denki University Student Branch, Keio University Student Branch, Tokyo University of Science Student Branch, Yokohama National University Student Branch, Meiji University Student Branch, and Waseda University Student Branch.

2. About the Workshop

2.1. Objective

This workshop aimed to urge the rethinking to our own career and the skill for the young researchers, the undergraduate students, master's course students and the doctor's course students in this workshop. It provides young researchers a good chance to discuss themes such as “What is required as a new employee” and “The difference of the research activities between as a student in a university and as a researcher in a company”, which can help the participant to prepare to become active in the society in the future.

2.2. Contents of the Workshop

Six researchers and engineers who are active in the industrial world, research institutions, and the educational institutions were invited as facilitators to progress this workshop. The participants are divided to seven groups: A~F. Each group has a facilitator and the participants discussed a theme which has been set by the facilitator. The task of the facilitator is to progress the discussion with their experience and skill improvement. Moreover, one supporter was invited for each group from student branches to smooth the discussion as well as taking notes in the group.

2.3. Program

The program of the workshop is as follows,

Chairperson: Yasuharu Ohgoe (IEEE Tokyo Gold Chair, Tokyo Denki Univ.)

13:00~13:30 Reception
13:30~13:35 Opening Speech by Prof. Akinori Nishihara (Tokyo Institute of Technology, JC WIE supervisor)
13:35~14:00 Introduction of facilitator
14:00~14:05 Break
14:05~15:35 Group Discussion
15:35~15:45 Summarizing the discussion
15:45~16:00 Break
16:00~16:40 Presentation from each group
16:40~16:50 Closing Speech by Prof. Iwao Sasase (Keio Univ. SB Counselor)
17:30~19:30 Social gathering

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<td>Yuhei Onohara,</td>
<td>Internet Initiative Japan Inc.</td>
<td>What is required for those who work actively in the Internet communication industry?</td>
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<td>Ryota Nagata</td>
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<td>B</td>
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3. Discussion in the Workshop

There were 47 participants at the workshop. The participants included 32 students (17 IEEE student members, 15 non-members), 7 facilitators and 8 others (7 IEEE members, 1 non-members), respectively. This discussion in each group is given below.

3.1. Group A

A group held a discussion on the "necessary skills for new employees". Mr. Umatani from KDDI was invited to facilitate the discussion. The discussion went on to summarize each participant's opinion in a tree structure and Mr. Umatani contributed with his own comments. Since Mr. Umatani has been working in KDDI for 1 and a half years, he could provide advice from both the academic and industrial points of view.

The summarized opinions were divided into 4 main themes. "Understanding"; realizing how to be a working member of society. "Communication"; keeping a good relationship with your boss, colleagues and people from outside the company. "How to work"; being aware of how your contributions affect the company's position. "Knowledge"; learning professionalism and knowledge required for the job.

3.2. Group B

Together with supervisors from IIJ, we held a discussion on "What is required for those who work actively in the Internet communication industry?" It was a good exchange opportunity for industry professionals and university students.

We started the discussion by brainstorming the definition of "Internet communication industry". Some attendees defined it as application services like Facebook and Twitter. Others defined it as the business, which builds the backbones of the Internet. We decided to use the latter as the definition for "Internet communication industry".

The discussion continued with grouping the type of businesses conducted in the Internet communication industry. Businesses in the industry can be separated into two groups; development and maintenance. For example, development takes new standards or services into their backbones, or suggests new solutions and so on. On the other hand, maintenance refers to the examination and operation of existing services.

The discussion concluded with a summary of the requirements for those who work actively in the Internet communication industry. Professionals in "development" need the ability to work closely with other collaborators and to look ahead to the future with an open mind. Professionals in "maintenance" need a sociable and resistant personality as well as flexibility in order to adapt witty ideas to overcome various accidents. The discussion was a good opportunity for university students to be exposed to the needs of a company in the Internet communication industry. Vice versa, industry professionals also received feedback on how recent university students viewed the various companies in the industry.

3.3. Group C

Group C held a discussion on "career construction and personnel training for a business".

The keywords for the discussion were "career construction", "personnel training" and "business".

The outline of the discussion is as follows.
When discussing about "career construction", all participants, including student members, discussed the motivation behind individual career advancement in detail. In terms of "personnel training", various opinions were voiced regarding the training of new technology and knowhow, including each individual's willingness to be trained. A personnel training is achieved by sharing the same on-site experiences with OTJ (On-the-Job Training). For "business", the differing lifestyle expectations between students and other members were discussed. The discussion concluded that there was a clear difference between what was expected, and practiced, in academia and the industry.

3.4. Group D

Group D held a discussion on the "differences of research
activities between academia and the industry". Ms. Murakami from Toshiba Co., Ltd. was invited to facilitate the discussion.

Three students with internship experience spoke of their experiences in the industry. Students had no work experience contributed by presenting their views on the differences in research activities. The participants had common opinions that universities stressed "new ideas", had objectives that were "not clear" and research was performed individually. On the other hand, the opinions that companies stressed "practicability", had "clear aims" and performed research in a team was common. Based on those opinions the discussion led to "next steps when considering employment in the field of research and development". As a result the following ideas of "independence of will", "ability to present coherently" and "be an Ambassador of one's own country" were thought important.

3.5. Group E

We set the several topics from the main theme, and the topics were discussed. Under the brainstorming, keywords were listed in each topic. First, we listed Japanese people who are actively involved in international, and discussed how do they active work. Next, we thought about "What an important thing is for actively involved in international? We thought about two cases "Individual" and "Group work". Moreover, in parallel with the discussions "What is barrier when we go abroad" was discussed. Under the brainstorming, our point deviated from the main theme because we set many topics. However, each topic from the main theme was meaningful in this workshop. We had a fruitful discussion.

3.6. Group F

The topic discussed in Group F was "Global career development through IEEE's activities." Ms. Emi Yano (WIE member) was welcomed as a facilitator of this group.

Firstly Ms. Yano and Mr. Kohei Ohno who is GOLD member gave introductions to the activity of IEEE WIE and IEEE GOLD. After that, a member of IEEE Student Branch recounted her experiences attending IEEE Region 10 Student/GOLD/WIE Congress, which was held in New Zealand in July 2011. She summed up her impressions with, "I feel foreign people have strong hungry spirit more than Japanese students. They think well by themselves, talk well, and act well. On the other hand, almost Japanese students have seldom thought what have to do now." Taking this statement into consideration, we brainstormed how we Japanese survive in the global society and what activities we should do in IEEE. As a result, we reached following conclusions:

1. It's important to go abroad anyway as one of the activities of IEEE, even if its motive is impure such as inexpensive travel cost.
2. Create an opportunity for developing English, job hunting, job changing, or collaborative research by building personal connections through activities of IEEE.
3. Project a presentation skills seminar and a "Robert's Rules of Order" seminar for Japanese students who are not good at a discussion in English.

4. Questionnaire survey

At the end of the workshop participants are invited to fill-in a questionnaire. The results are summarized as follow

4.1. About the participants

In this workshop, 32 of the participants and 7 are working.
4.2. Opinions to the workshop

The participants evaluated about the contents, usefulness, and the length of the workshop with a five-level rating:

(1) Contents: excellent, good, normal, fair, poor.
(2) Usefulness: very useful, useful, normal, useless.
(3) Length of time: short, slightly short, appropriate, slightly long, long,

As shown in the following figures, the participants put a high value on contents and usefulness of the workshop. As concrete opinions, "I was able to reconsider concretely the attitude that students should take". "We discussed things what we don't have in mind usually and don't hear very often.". "It was very good chance that I could think hard as a member of society.". "I was able to have a consciousness to work". Based on the many opinions, we believe the workshop could improve the awareness of many people.

In addition, a number of people expressed that the length of time is "appropriate", which suggested that it had substantial
4.3. Future Workshop

Opinions concerning the future plan of the project were asked by the multiple answer form including free description. The choices are as follows.

(1) Expected themes for the future workshop:
- networking between students
- lecture
- seminar on the presentation
- discussion meeting
- seminar on the statistics
- seminar on English conversation
- others (free description)

(2) Disciplines you are interested in:
IT, communications, electrical engineering, electronic engineering, system engineering, medical, management, economics, education, physics, mathematics, psychology, art, social science, material, politics, philosophy, chemistry, others.

As shown in the following figures, the participants expected the project to offer the place for lecture meeting, English presentation seminar for international conference, or networking between students. In addition, many participants wanted the researchers in industry to be a speaker of lecture meeting.

Most participants of this workshop were interested in engineering fields such as IT, communications, electrical and electronic engineering. Some of them also selected other fields, like chemistry or economics, as interested disciplines.

5. Expectation for Future Project

The sixth career development workshop received good feedbacks from the participants as well as previous workshops. We would continue holding the workshop to support students and young researchers for constructing their good career. The next workshop is scheduled in June 2012.

Acknowledgement

This workshop was held with support of a lot of people. We would like to thank to facilitators, Mr. Umatani, Mr. Onohara, Mr. Nagata, Mr. Tanishiro, Ms. Murakami, Mr. Yamashita and Ms. Yano. Also supports of the groups, including Mr. Fujiura, Mr. Ogura, Mr. T. Kimura, Mr. Takei, and Mr. Sato. I would like to express my appreciation to all of the people who have supported this workshop here.