Report

The 3ʳᵈ Career Development Workshop for Young Students and Professionals

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1. Introduction

The 3rd Career Development Workshop for Young Students and Professionals was held in the Tokyo Denki University (Kanda campus) on 5ᵗʰ June 2010. This workshop was mainly organized by the IEEE Tokyo GOLD Affinity Group and the IEEE Japan Council Women in Engineering Affinity Group, and was co-organized by four student branches in Tokyo Denki University, Yokohama National University, Tokyo University of Science and Keio University.

2. About the workshop

2.1 Objective

This workshop is targeted for young students in undergraduate, master and doctoral level in order to help them to think about their career paths as well as the skill sets. Topics include "expectations for an engineer", "important matters on working oversea", "contributing to the society as an engineer" and "career development for female engineer and cooperating with male engineer" are being discussed in the workshop. Through these topics the workshop can help students to think about and prepare their career in advance.

2.2 Activities

A total of 7 young researchers and engineers, who are active in the industry/academy, were invited as facilitators. Each of them was responsible for the discussion of one topic of each group (see Table 1). Inside the discussion, the facilitators gave in-depth discussion with the participants according to the facilitators' own experience. Also, one supporter was invited for each group to smooth the discussion as well as taking notes in the group.

2.3 Program

The program of this workshop is shown below:

Workshop

Chairperson: Dr Kohei Ohno (Vice chairperson, IEEE Tokyo GOLD Affinity Group, Tokyo University of Science)

13:00~13:30 Reception

13:30~13:40 Forewords (Dr Yasuharu Ohgoe, Chair, IEEE Tokyo GOLD Affinity Group, Tokyo Denki University)

13:40~14:15 Introduction of facilitators

14:15~14:25 Break

Table 1. Topics in each group

Group	Facilitator	Organization	Topic
A	Mr Yasuhiko Aoki	Fujitsu Laboratories Ltd.	Expectations for an engineer
B	Mr Kazunori Kodaira	Tokyo Denki University (former PSG Ltd)	What one is demanded after entering a company
C	Mr Mitsutaka Sato	Sanken Electric Co. Ltd.	Important matters on working oversea
D	Mr Kenichi Takizawa	National Institute of Information and Communication Technology	Contributing to the society as an engineer
E	Mr Yasuhiko Tanabe	Toshiba Ltd.	Difference of research activities between a student and a professional
F	Miss Eri Nakamura	Yokogawa Electric Corp.	Career development for female engineers and cooperating with male engineer
G	Mr Yoshikazu Nakayama	Hitachi Information Systems Ltd	The thinking of company members

14:25~15:55 Group discussion (Table 1)

15:55~16:00 Summarizing the discussion

16:00~16:50 Presentation from each group

16:50~17:00 Closing (Prof Akinori Nishihara, Supervisor, IEEE Japan Council Women in Engineering Affinity Group)

17:30~19:30 Social gathering

Social gathering

17:30~17:40 Opening (Mr Satoshi Nakmura, IEEE student branch, Tokyo Denki University)

19:20-19:30 Closing (Mr Kou Kikuta, Tokyo GOLD Treasurer; IEEE student branch, Keio University)

3. Discussions in the Workshop

There were total of 59 participants and staff participated in the workshop. Of the 59 participants, 42 of them were students (19 IEEE student members and 23 non-members), 17 of them were from the public (9 IEEE members and 1 non-members), 7 facilitators (4 IEEE members and 3 non-members). The discussion in each group is given as below.

3.1 Group A

The main topic in group A was "Expectations for an Engineer". The group further divided the topic into three sub-topics, namely "What does an engineer do", "What kinds of skill should one equips before his career starts", "What will the technology of Japan look like". In "What does an engineer do", people suggested that an engineer is to "make new thing" as well as "to create future". In order to achieve this, communicate with lots of people is a must. For "what kinds of skill should one equips before his career starts", students should consult the people in the industry about what kind of skills are necessary in the industry and learn them. For "what will the technology of Japan look like", the facilitator mentioned that "there will be no problem as long as one is keep learning new skills and knowledge" and participants agreed that "it is important to challenge". In conclusion, as an engineer, "make use of Japanese technology", "listen, and give opinion", "be sensitive to different information", "communication skills" are some important skills which one should equip.

3.2 Group B

Group B discussed the topic "what one is demanded after entering a company". Within the company there will be five different kinds of relationship, namely "managers", "the seniors", "the peers (who entered the company in the same year)", "the juniors" and "customers". From the

Fig. 1 Group discussion (1)

Fig. 2: Group discussion (2)

Fig. 3: Results presentation

Fig. 4: Social gathering

viewpoints of "managers", if one is active in his work, even if one makes some mistakes, as long as he communicates effectively for the problems the managers usually do not mind. "The seniors" expect one should have the ability of solving problems by himself, as well as having the ability of listening well and study the experience of the seniors. This is important as one can then find out the problems and work on them independently. For the "peers", they should be supporting each other as people within this group are able to discuss in a much easier manner. To "the juniors", one should open the door on allowing them to discuss and should be willing to spend time on teaching the juniors. In front of "customers", one should have deep knowledge of their products and also the ability to listen to customers' needs. Finally, the group concluded that the common points demanded by all people will be "to be clear about the objective, and be able to communicate effectively".

3.3 Group C

In group C the topic "important matters on working oversea" was discussed. First the participants were asked the opinions on this topic. Some abstract idea about communication, leadership, understand of different culture are suggested as the participants have no experience in working oversea. The facilitator suggested the 5W1H like "Where do you work" and "who do you work with" in order to breakdown the problems. After this the discussion became clear and active. Finally the KJ method was used to classified the opinions of the participants into different groups which were suggested in the beginning. From this the original question of "important matters on working oversea" was well understood. The facilitator suggested that it is important learn how to breakdown a problem as in this discussion. Also, the importance of expressing something you do not understand clearly is stressed in this discussion.

3.4 Group D

In group D the topic "contributing to the society as an engineer" was discussed. There are many ways to contribute to the society such as lowering the cost, make easy tools for the users, shortening the time for a task, making environmental friendly service/product, attitude towards challenging unexplored area as well as pushing up the limit of oneself. Essentially the engineers are contributing to the society through "things" and "idea". The "things" the engineers made are to make the life of the users easier, lowering cost of some works and therefore will be a plus overall to the society. Also the "idea" is about pushing up the possible limit so that novel products can be made which also includes the mindset of contributing to the other. "Things" can be grouped into "performance, life" while "idea" can be grouped into

"motivation, open-minded". "Performance" is about the functionalities and the cost of the products; "life" is referring to user's perspective on environmental impact and health; "Motivation" is something one feels interesting and this idea can contribute to the society; "open-minded" is the mindset to challenge different things as well as widening the views of the people.

3.5 Group E

In group E the topic "Difference of research activities between a student and a professional" was discussed. Students have a perception that in the company one can only do research that is directly related to the final product or company's profit, in contrast to the research in university that one can have the biggest possible freedom in research. However it is pointed out that in the research activities of a company the "research phase" does not take profit or final product as big consideration. Next the sub topic of "the limitations after entering a company" were discussed, namely "criteria of evaluating research results" , "time allocation" and "freedom of presenting in conferences". In "criteria of evaluating research results", while universities are evaluating based on "research results and publications" only, companies are evaluating based on different criteria. For "time allocation", while one cannot use the time outside working hours in a company, student can have a great degree of freedom in a university. For "freedom of presenting in conferences", companies usually have more limitations like patent issues. However some companies are active in presenting in conference as well. Based on the above observation, while students think that there are some limitations in researching in a company, it really depends on the phase of research of development in that company. In conclusion, although the way of doing research is different such that doing research in company or university have their advantages and disadvantages, there is no big difference in these two environments.

3.6 Group F

In group F the topic "Career development for female engineers and cooperating with male engineer" was discussed. First, the facilitator asked about what are needed in the career development for female engineers. As female engineers have more "stages" in their life compared with male engineers (such as maternity), it is important to choose a company which allows them to work flexibly. Some points in choosing a company include 1) having a clear future image of herself in 10,20 years; 2) salary and related packages, ratio between male and female workers; 3) the company is willing to listen to the employee's need. Also in recent years it is common for people to quit companies once they got married is observed. It is suggested that the reason is because female

engineers do not feel possible to work an environment of their expectation anymore. The topic of "working with male colleagues" was discussed as well. In an environment where male are the majority, it becomes a "characteristic" by only being a female. It is easy for female engineers to get remembered and their working results will draw attention easily. In that sense it is suggested that female engineers should be paying extra attention on their works. Some bad actions will include 1) self-centeredness; 2) bringing some stuff which are inappropriate in companies; 3) working of flexible time without appropriate reason; 4) calling the seniors/managers with their nickname. On the other hand, there are some important points to keep in mind like 1) smile; 2) actively involve in jobs even the jobs are not directly related to them. In conclusion, female engineers should have a target to work hard for, and should pay attention in their actions in companies.

3.7 Group G

Group G has discussed the topic "the thinking of company members". In the discussion the main point to discuss was the "necessary skills for a company member". Firstly, the members in the group suggested their idea and the idea are summarized using the KJ method. As a results, "communication ability", "leadership", "balance" are necessary skills in an organization, and "technical knowledge", "ability to handle task well", "morality" are necessary skills as an individual. In the discussion the main focus was on what kinds of skill are required by companies, as well as how one can equip these skills. Firstly, one should avoid perfectionism if he wants to equip the sense of balance. Leadership can be gained by increasing chance of decision making. Also communication skills can be gained by actively involve oneself in new environment with different people. All of them require oneself to keep a mind of improvement so as to continue developing these skills in a long term.

4. Questionnaire

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

40 of the participants are students and 11 are working. Of the 40 students, 20 of them are IEEE student members and the other 20 are non-members. The year of study are shown in Fig 5. Of the 11 participants who are working, 7 or them are IEEE members and the other 4 are non-members.
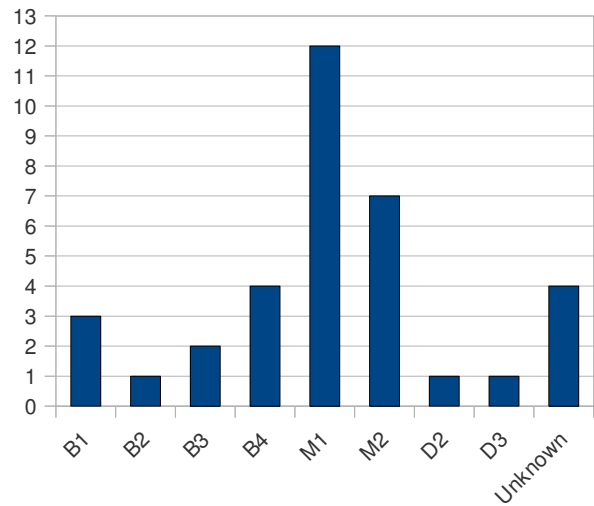

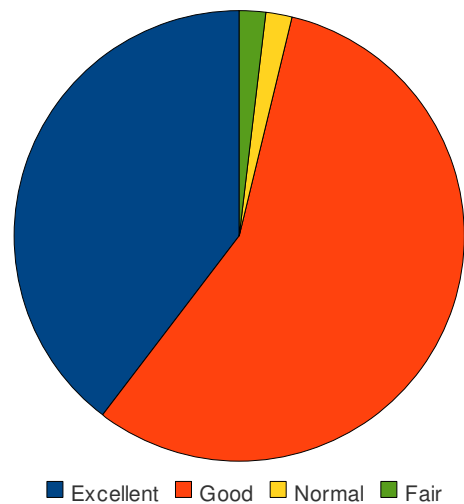*Fig.5: School year of student participants (B: Bachelor; M: Master; D: Doctor)*
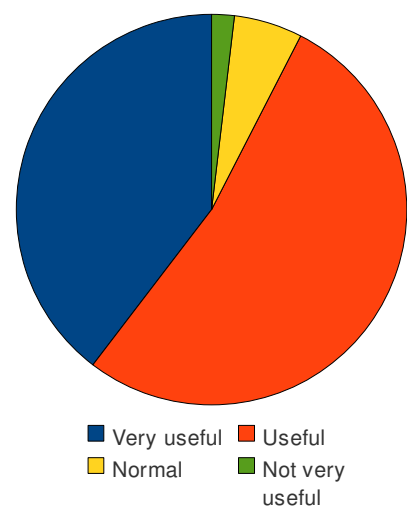

Fig.6: Contents

Fig.7: Usefulness

4.2 Evaluation to the workshop

The contents, usefulness, length of the workshop are being evaluated with a 5-level scale with an optional

comment:

(1) Contents: Excellent, good, normal, fair, poor

(2) Usefulness: Very useful, useful, normal, not very useful, not useful

(3) Length of workshop: Not enough time, not that enough time, appropriate, little bit long, long

As shown in Fig. 6 and Fig. 7, the evaluation of the workshop on the contents and usefulness are positive. Some opinions include "was able to discuss something apart from research", "was able to talk with female engineer and gained better understanding", "was able to know what the personnel staff are evaluating at" which shows that the workshop was able to help students to think about the career development. Of the opinions from the students, "the workshop has widen my view as I was able to listen to different opinions from students and company people" are common feedbacks, which shows that the workshop was successful in providing a chance for exchanging.

Also many people think the length of the workshop was "not that enough" or "appropriate" (Fig. 8), and this shows there are enough contents inside the workshop.

4.3 Planning for coming events

When asked to suggest some events they might be interested in, participants are given the following options to choose from (multiple selections are allowed):

(1) Interested event in future

- Seminar (from researchers of companies/academy)

- Discussion (if so, what topic you are interested)

- Exchange between students

- Skills lecture (statistics, presentation or others)

- Others (please write down)

(2) Areas you are interested in: IT, communications, electrical, electronic, material, mechanic, system, semiconductor, chemistry, economics, management, business, politics, social science, education, medical, biology, pharmacology, philosophy, psychology, art, others

As shown in Fig. 9 participants expect seminar as well as some skills lecture or discussions where they can participate actively. Also as shown in Fig. 10, most of the participants are interested in engineering fields such as IT and systems, but some of them have interest in fields like economics as well.

5. *Expectation for the future*

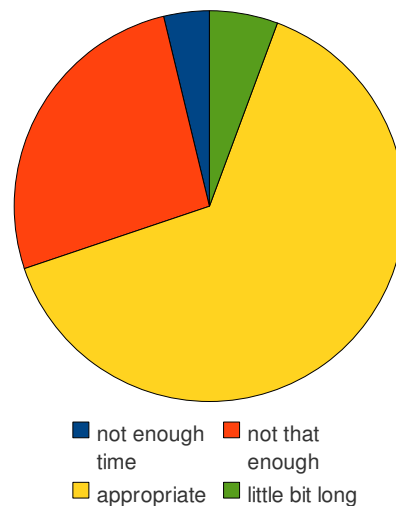The workshop this time has also received good feedbacks

not enough time   not that enough   appropriate   little bit long

Fig.8: Length of workshop

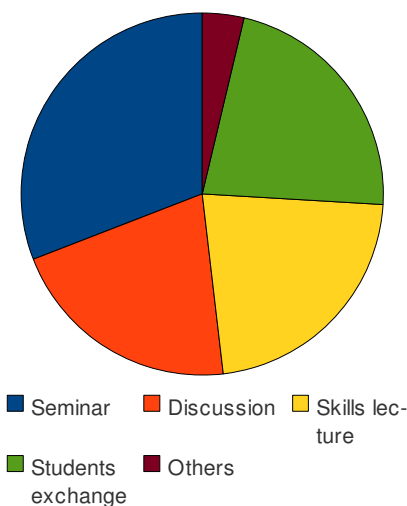Seminar   Discussion   Skills lecture   Students exchange   Others
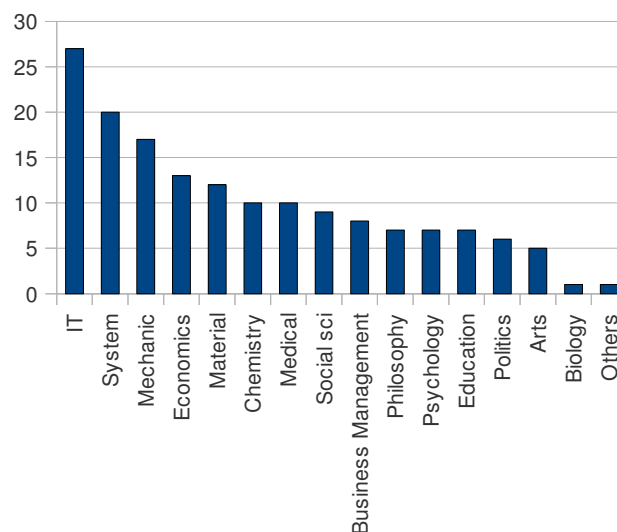
Fig.9: Interested activities

Fig.10: Interested area

from the participants as in previous workshops last year. The fourth workshop is planned to be in October 2010 in order to help more people in planning their career.

Acknowledgment