UNIVERSITI TEKNOLOGI MALAYSIA

ASSIGNMENT 3: SKILLS IN UNIVERSITY AND INDUSTRY

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Industry Talk titled “Skills In University and Industry” was held at Bilik Kuliah 1, N28, UTM Johor Bahru, on 17th December 2024, starting from 8 am. The industry talk is divided into two sessions. The first session was about ‘Designing Success from Graphic Multimedia to Leading Project’ by Mr. Mohd Hakimi Iqmall, the IT officer of UTM Digital. The second session was a talk about ‘Preparing for Entrepreneurship in IT’ by Mr. Nik Mohd Habibullah, the chief executive officer of Micro Semiconductor Sdn. Bhd.

At the start of the talk, both Mr. Mohd Hakimi Iqmall and Mr. Nik Mohd Habibullah shared their experience in the industry. In 2017, Mr. Mohd Hakimi Iqmall did his internship at ME-Tech Solution Sdn. Bhd. . His main job was doing 3D model and animation. After graduated, he worked at Okakichi Sdn. Bhd. from 2018 to 2019. His role was a game programmer of the game ‘Kingdom Ran’. In 2019 to 2021, he worked for UTM Research Computing and had created systems RADIS 4.0 and ICESys. From 2021 until now, he worked at UTM Digital. The system he developed includes Welfare Services System, Clinic Panel System, Kenaikan Gaji Tahunan(KGT), Payroll 2.0, Sistem Saraan Perkhidmatan Awam(SSPA) System and Integrity System. For Mr. Nik Mohd Habibullah, he was involved in team graphic UTM to launch montage for digital library when he was in his year 3 of degree. He now owned his companies NI Solution, Micro Semiconductor Sdn. Bhd. and DatSINI which he collaborated with Universiti Kebangsaan Malaysia (UKM). He had created his own product GetMeHired and Dialysis Manager. Their experience is very valuable and gives us a lot of inspiration.

After introducing his experience, Mr. Mohd Hakimi Iqmall presented the essential skills that are needed for success in computer science. The technical skills that are required for computer science include mastering programming languages such as C, C++, and Java as programming technique is the basic skill in computer science industry that every students start learning in their foundation. We should also be familiar with version control systems like GitHub and GitLab. Besides, he shows the importance of mastering development tools with examples of Visual Studio, VS Code and Sublime as well as having a deep understanding of database structure, including tables, columns and other structures. As research showed, It managers value database information when hiring workers (Cheryl L. Aasheim, Lixin Li & Susan Wiliams, 2009). Debugging systems is also important as they identify and fix system issues. At the process of developing a system, good debugging skills enable the issues to be solved in short amount of time. Security awareness, and analytical and logical skills related to algorithms and data structure are also considered critical. In addition, the knowledge of system frameworks such as .net, Laravel and Yii is also a skill needed to succeed in the computer science.

The combination of both “soft” and “hard” skills will continue to be needed (Cheryl L. Aasheim, Lixin Li & Susan Wiliams, 2009). Other than technical skills, Mr. Mohd Hakimi Iqmall also talked about management skills which are required by the industy. He highlighted the importance of problem-solving, which is critical in the planning and analysis phases. Technical skills are also essential in the design, development and testing phases to collaborate with other developers, as well as communication skills are crucial to narrow the gap between stakeholders, developers and end users. The knowledge of SDLC methodologies guides participation in different types of SDLC approaches such as Waterfall, Agile, KanBan and DevOps. Testing and quality assurance (QA) skills, risk management, documentation and reporting are also required to ensure clarity of the project lifecycle. Besides that, he stressed the importance of leadership and team collaboration as we mostly work in a team. With good leadership and teamwork, everyone could work in good atmosphere and the whole process will go smoother as well.

For the second session, Mr.Nik Mohd Habibullah talked about skills what are needed to be achieved in university and the industry. In his presentation, he talked about the IRPA method, which is Identify, Research, Prepare and Apply, a structured approach to career preparation and success. The first step is Identify, which involves a self-assessment to understand a person's strengths, weaknesses and ambitions. A student should evaluate the relevance of the chosen career to individual's academic background, required skills and qualifications, and whether individual goals are driven by financial rewards or professional fulfilment. The second step is Research, which encourages students to develop deeper their desire for industry and job roles. This includes evaluating their sustainability field, career growth and progression, financial stability of the company and workplace culture and environment. Understanding the competitiveness of the marketplace and identify companies’ reputations also can help students make the best career choices and avoid any “red flags”.

The third step is Prepare, in which students are advised to focus on building a well-rounded resume and portfolio. This includes presenting their educational background, certifications and work experiences with achievements. Hard skills such as familiar programming languages and developing software as well as soft skills like teamwork and communication were important. Training, courses and extracurricular activities were also verified as key

factors for employability. The fourth step is Apply, which involves actively seeking job opportunities through job portal platforms such as LinkedIn, Jobstreet and other company websites.

In conclusion, this industry talk provided students with key insight into how to meet the needs of both academics and industry. Encik Mohd Hakimi Iqmall focused on the technical and management skills necessary for success while Encik Nik Mohd Habibullah introduced the IRPA method to guide career preparation. Together, these sessions provided students with useful knowledge and inspiration to stand in their academic and professional pursuits.

Skills Categories	Managers	Faculty
Technical Skills		
Awareness of IT technology trends	4.04	4.14
Operating systems	3.99	3.64
Telecommunications/Networking	3.90	3.96
Security	3.91	4.04
Hardware concepts	3.92	3.51
Database	3.92	4.14
Packaged software	3.82	3.54
Web development languages	3.85	3.90
Systems development life cycle methodologies	3.75	3.63
Programming languages	3.72	3.64
Average	**3.88**	**3.81**
Organizational and Managerial Knowledge/Skills		
Knowledge of primary business functions	3.65	3.62
Project management skills	3.65	3.69
Knowledge of your company	3.59	3.64
Knowledge of specific industry	3.50	3.40
Leadership skills	3.63	3.29
Average	**3.60**	**3.53**
Interpersonal Skills/Traits		
Communication skills	4.54	4.68
Ability to work in teams	4.49	4.42
Interpersonal skills	4.37	4.32
Average	**4.47**	**4.47**
Personal Skills/Traits		
Honesty/integrity	4.62	4.63
Analytical skills	4.51	4.37
Flexibility/adaptability	4.33	4.29
Motivation	4.37	4.37
Creative thinking	4.18	4.00
Organizational skills	4.13	3.97
Entrepreneurial/risk taker	3.21	2.87
Average	**4.19**	**4.07**
Experience and GPA		
Relevant work experience	4.06	3.91
Any work experience	3.83	3.58
High GPA in IT-related courses	3.50	3.54
Internship experience	3.40	3.83
High overall college GPA	3.34	3.13
Co-op experience	3.20	3.41
Extra-curricular activities	3.04	3.12
Average	**3.48**	**3.50**

Table 5: Skills Categories

Reflection

How you will successful in the computer science in next four year?

(Lee Jian Yi)

In order to be successful in computer science in the next four years, I will focus study on programming languages like C++ and tools such as GitHub and VS Code as well as learn every possible skill that is important in graphics and multimedia so I can create connections with the people in the same field. I will improve my problem-solving skills and gain experience from tutorials and courses. Additionally, I will strengthen my communication and teamwork skills through team projects. Finally, I need to stay updated on the latest trends and technologies to increase my efficiency and productivity.

(Lau Zhi Ying)

To be successful in computer science in the next four years, I will put a lot of effort into my academics so that I will not only understand but also master what I have learned. Besides, I will work hard to improve the skills mentioned by Mr. Mohd Hakimi Iqmall especially management skills that requires time to develop. I will not only focus on knowledge but will also practice more and try to gain more practical experience. As what Mr.Nik Mohd Habibullah said, I will try to seek for job opportunities during my degree time but not after graduate. Lastly, I will keep improving myself and keep learning new things.

Reference

Cheryl L. Aasheim, Lixin Li & Susan Wiliams. (2009). Knowledge and Skill Requirements for Entry-Level Information Technology Workers: A Comparison of Industry and Academia. Journal of Information Systems Education.