EMPLOYABILITY INDEX OF COMPUTER SCIENCE GRADUATES

Zoida Clara Yamba, Adel Monette Rivera, Richard Vincent Misa, Benjamin Mahinay and Iris Mae C. Mendoza

Department of Arts Sciences – Computer Science Program,
University of Mindanao-Tagum College

ABSTRACT

The study sought to determine the employability of Computer Sciences graduates from a private school in Davao del Norte Philippines. The researchers utilized a survey questionnaire which were distributed to the graduates. The instrument used for data gathering was based on the Graduate Tracer Study designed by Commission on Higher Education. A total of 82 graduates from year 2015-2019 were identified as participants and 53 (64.63%) were successfully traced. Results show that most graduates were able find a job in less than 6 months. Moreover, the jobs landed by the graduates were diverse wherein graduates opted to work jobs that are not related to Computer Science discipline. Recommendations were drawn from the results which can be used equip graduating students with the necessary skills demanded in the Computer Science industry

KEYWORDS: Computer Science Education, Employability Index, Graduates

1. INTRODUCTION

Academic institutions face tremendous pressure to design curricula relevant to the needs of the industry. The success journey of the BSCS program will not only end with the accomplishment of the revised curricula but also, the quest to trace the achievement of the graduates after graduation. Tracing graduates is integral in assessing the relevance of programs relative to the needs of the industry. Moreover, data gathered from traced graduates allows programs to redesign the curriculum fitted to the needs of the industry [1].

The graduates stand as the greatest evidence pointing towards the effective of a program. The employment of graduates is important data that shows the relevance of any college program in the labor market. Moreover, the employment status of graduates is a key indicator of the effectiveness of college programs [2].

The Commission on Higher Education (CHED) mandates Higher Education Institutions (HEI) to trace graduates. HEIs all over the Philippines trace their graduates to collect data, particularly on the employability. The collected data can provide relevant information for HEI management to implement

data driven decisions. Thus, this study was initiated to provide data on the employability of Computer Science graduates.

2. METHODOLOGY

This study identified participants based on the Computer Science graduates from year 2015 up to year 2019. A total of 82 graduates were produced in over four school years. All participants are graduates of UM Tagum College (UMTC). A survey questionnaire was designed to collect data from the graduates. This instrument had the following components *(Demographic Profile, Employability, Education and Training, and Volunteerism and Leadership).*

The following steps were undertaken in collecting data:

1. **Permission to Conduct Study.** The researchers sent a letter of request to the office of the registrar of UM Tagum College, requesting for the list of BS Computer Science graduates from School Year 2015- 2019.

2. **Administration of the Instrument**. Questionnaires were distributed personally, through emails and social media like Facebook. The researcher employed the use of Google site to convert the paper questionnaire into an electronic copy. Setting a specific schedule for the time and place of distribution of questionnaires was also done by the researchers. Respondents who cannot be reached out through personal contact were provided questionnaires through their email address or Facebook account.

3. **Collecting and Analyzing Data**. Lastly, the questionnaires were retrieved which followed with the data tabulation and analysis. The data underwent two statistical treatments. Frequency distribution was employed to arrange the data showing frequency of occurrence of the different values of the variables and their ranges. In addition, Percentage was utilized to show how large one quantity is relative to another quantity, or fraction of the total aside from the tabular presentations of the results of the survey.

3. RESULTS AND FINDINGS

This component of the paper presents the results and interpretation of the findings. Discussions detail the demographic profile of the respondents, employment information, educational training's work profile, and volunteerism and leadership. A total of 52 graduates were traced from the overall number of 82, which would mean that 63.41% were traced.

Table 1. *Year Graduated*

Year Graduated	F	%
2015 - 2016	9	16.98
2016 - 2017	6	11.32
2017 – 2018	10	18.87
2018 – 2019	22	41.51
2019 - 2020	6	11.32
TOTAL	**52**	**100**

Demographic Profile. Table 2 shows that there are 39 respondents who are single (73.58%), 16 of the respondents are female (30.19%), 40 of the respondents ages 20-25 years old (75.47%). In addition, the highest number of respondents are coming from the batch of 2018-2019.

Table 2. *Graduate's Profile*

Civil Status	F	%
Single	39	73.58
Married	14	26.42
TOTAL	**53**	**100**
Gender		
Male	37	69.81
Female	16	30.19
TOTAL	**53**	**100**
Age		
20-25	40	75.47
26-30	9	16.98
31 and above	4	7.55

TOTAL	53	100

Employability. According to the survey stated on, 96.23% of the respondents are employed. This primarily attributed to the demand of Computer Science industry. Graduates in this field are marketable and employable in different companies [3]. As evidenced by the number of hired graduates, there is a high demand for graduates in the field of Computer Science.

Table 3. *Profile of the Respondents by Employment Status*

Employment Status	ꓝ	%
Permanent	35	66.04
Contractual	10	18.87
Self-employed	6	7.55
Unemployed	2	7.55
TOTAL	**53**	**100**

Table 3 shows the employment status of the graduates in their different jobs. Most of the graduates are employed permanently (66.04%), while 18.87 % are employed on a contract basis. This can be inferred that companies are giving good opportunities to the graduates in the field of Computer Science. Moreover, some companies hire contractual than regular workers to ensure their economic stability. There are 10 graduates who were hired as contractual. This implies that graduates are still striving hard to attain a regular status in the company for security of tenure.

Graduates of Computer Science graduates occupy diverse positions in their work. As shown in table 4 shows, Computer Science graduates have been employed in varying professional fields. A total of twenty-nine (29) graduates were employed in the Information Technology industry, fiftteen (15) are employed as Office Clerk, ten (10) are employed as Systems Developer, thirteen (13) Web designers/developers, five (5) Graphic Layout Artist, one (1) government staff and one (1) IT Network and Storage Specialist. In addition, a total of two (2) graduates are in the academe who were employed as faculty members. This means that graduates were hired in-line with their profession.

Table 4. *Current Job Roles in the Organization*

Position	F	%
Office Clerk	15	28.3
System Developer	10	18.87
Sales Representative	2	3.77
Web Designer/Developer	13	22.64
Faculty	2	3.77
Graphic/Layout Artist	5	9.43
Store Manager/Supervisor	2	3.77
Government Staff	1	1.89
IT Network and Storage Specialist	1	1.89
Total	**51**	**96.23**

24 graduates (45.29%) of them were able to acquire jobs related to the field of Computer Science. This shows that Computer Science graduates were able to use and apply knowledge of their learning in the field of computing. On the other hand, 50.94% of the traced graduates were not able to apply their knowledge and skills in Computer Science because they did not land jobs related to Computer Science. Regardless of the number of graduates who landed jobs unrelated to their field, it is remarkable to note that most traced graduates were employed.

Table 5. *Job relation to Computer Science field*

Job related to BS Computer Science		
Yes	24	45.29
No	27	50.94
TOTAL	**51**	**96.23**

Education and Training. Table 6 shows the personal values developed in college by the respondents of UMTC BS Computer Science program. First rank is value of dedication/ hardwork. This implies that the UMTC BS Computer Science graduates are committed in their profession. This meant that graduates are caring and persevering in carrying out their task. Second in rank is professionalism. This means that the respondents conduct themselves professionally in front with their customers and employers. This implies that the university has successfully instilled personal values that are of great

substance in their work environment. Third in rank is the value of self-motivation/ the ability to work without or less supervision. This means that the respondents happen to demonstrate ability to initiate and lead. This implies that the respondents can work independently and autonomously. Fourth in rank is the value of positive attitude/ energy/ passion. This means that the UMTC BS Computer Science graduates are cited for their unrestrained passion for work, a sunny disposition and upbeat and positive attitude. Last is motivation for growth and learning. This means that the respondents are willing to learn and develop their work performance.

Table 6. *Personal Values Learned/Developed in College*

Values	f	Rank
Dedication/ Hardwork	40	1
Professionalism	35	2
Self-motivated/ ability to work with little or no supervision	28	3
Positive attitude/ energy/ passion	25	4
Motivated to grow and learn	22	5

Volunteerism and Leadership. The graduates showed some involvement in volunteerism, religious activities, and political campaigns. The mission to produce graduates who are good and productive citizens and contribute to the society are quite evident with the result. UMTC BS Computer Science graduates usually involve themselves in volunteer work. As stated, graduates are involved in in community service and particularly in leadership and political influence [4]. The university is very much concerned with community engagement with the participation of faculty, students, and staff of this university. Aside from volunteerism inside the university, graduates also engage themselves in different organizations outside the university.

Table 7. *Voluntary Works/ Community Involvement*

Activity	f	%
Community Volunteer Service	12	22.64
Religious Activity	8	15.09
Political Campaign	8	15.09

4. CONCLUSION

On the light side of the foregoing, the study could support that graduates of Computer Science of UM Tagum College are very highly employable, in fact, all of those that were reached by tracer study are employed. Although, most traced graduates were working not related to field of Computer Science. It is evident that the skills learned in Computer Science remain relevant to fields that are not vertically aligned to Computer Science. Essentially, graduates are participating in their communities, either professional or civic engagements. Most of them assume leadership roles as well.

5. RECOMMENDATION

The following recommendations were drawn based on the aforesaid results:

1. To further improve their professional skills, it is suggested that certification exams should be included in the syllabi for students to be proven competent. These certification exams may include but not limited to: NC II – Computer Hardware Servicing, NCIII – Animation, NCIV- Computer Programming, Microsoft Office Specialist, and the like to give them edge in landing a job.
2. Technology is always evolving; faculty members need to be updated in the latest software and technological tools for them to be more effective in teaching. It is suggested that Faculty Development Trainings and Industry Immersion Program must be given to the faculty members to keep the updated and continually improve their skills. Relevant trainings must be provided to faculty members who teach professional subjects.
3. Software and other technological tools are always updated by the industry. In order for students to keep abreast of the fast- changing technology, syllabi of all professional subjects must be strengthened.
4. Encourage students to participate in the various professional organizations for them to become updated and active on the latest trend in their field of profession. Students should also have the motivation to get involved in community extension activities.
5. Computer Science program should focus on the academic development and improvement of leadership capability among students for these reasons, it is suggested that more co-curricular activities should be integrated in the course.

6. REFERENCES

1. Aquino, A. B., Punongbayan, E. J., Macalaguim, L. P., Bauyon, S. M., Rodriguez Jr, R. A., & Quizon, G. R. (2015). Teacher education graduate tracer study from 2010 to 2014 in one state university in Batangas, Philippines. Asia Pacific Journal of Multidisciplinary Research, 3(5), 45-50.
2. Hazaymeh, E. N., & Dela Peña, M. K. (2017). A tracer study of La Salle University College of Engineering graduates. Retrieved August, 18(1), 52-68.
3. Riemenschneider, C. K., Armstrong, D. J., & Moore, J. E. (2009). Meeting the

demand for IT workers: A call for research. European Journal of Information Systems, 18(5), 458-461.

4. Giles, D. E., & Eyler, J. (1994). The impact of a college community service laboratory on students' personal, social, and cognitive outcomes. Journal of adolescence, 17(4), 327-339.

5. Key, J. P. (1999). Research Design in Occupational Education.Retrieved January 19, 2017, from https://www.okstate.edu/ag/agedcm4h/academic/aged5980a/598 0/newpage110.htm

6. Macatangay, L. (2013). Tracer Study of BSCS Graduates of Lyceum of the Philippines University from 2004-2009. Academic Research International, 4(5)

7. Perrone, L., & Vickers, M. H. (2003). Life after graduation as a "very uncomfortable world": an Australian case study. Education+ Training, 45(2), 69-78.

8. Petrick, Joseph. A., Robert. F. Scherer, James. D. Brodzinski, John. F. Quinn, and M. Fall. Ainina. (1999). Global leadership skills and reputational capital: Intangible resources for sustainable competitive advantage.

9. Ulinski, M., & O'Callaghan, S. (2002). A Comparison of MBA Students' and Employers' Perceptions of the Value of Oral Communication Skills for Employment., Journal of Education for Business, 2002. Retrieved February 03, 2017, from https://eric.ed.gov/?id=EJ651594