

Employability Skills Inventory of Information Technology Graduates in the Philippines

Dr. Rommel L. Verecio
rlverecio@lnu.edu.ph
Leyte Normal University, Tacloban City
Philippines

Abstract:

This study surveyed the employability skills acquired by the BS Information Technology graduates from State Universities and Colleges in the Philippines. Work skills or employability skills were identified based on Commission on Higher Education (CHED) Memorandum Order 53, series of 2006, which categorizes as personal, interpersonal, and technical understanding skills. Descriptive survey method was used, which involved a questionnaire, interviews, and observations. One hundred twenty four (124) graduates from school year 2009-2010 to 2012-2013 served as respondents. The results showed that graduates expressed themselves as “competent” in all work skills indicators. This shows that graduates performances are good and satisfying but not the best. The implication from this finding is that the university still needs to work hard to improve the ability and employability of their graduates in the job market where quality is more needed than quantity.

Keywords: Employability Skills, Graduates, Employability, Job Qualification, Information Technology, Social Science, Descriptive Research.
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INTRODUCTION

Students may have different reasons for going to university. For many of them, the main reason is to explore the academic field they are interested in. However, some students attend university to gain an advantage in the job market in the future. Others go to university to meet people with different backgrounds and develop friendships. Regardless of the reason, it is important for students to remember why they are in university and do their best to achieve their goals.

The field of Information Technology (IT) is ever dynamic; its advancement and development had been rapid and its evolvement is a continuous process. To face the challenges of advancement, the Commission recognizes the need to be responsive according to the current needs of the country. Hence, it is essential and important that the country's IT capability should be continually developed and strengthened to be at par globally (CHED Memorandum Order 53, s. 2006).

The Leyte Normal University, Tacloban City offered BS Information Technology (BSIT) program as one of its many undergraduate programs. The curriculum is patterned after the Rules and Standards for the Undergraduate Information Technology Education (CHED Memo Order No.53, s.2006). Such rules and standards is a result of the series of workshops initiated by the professional organization in Information Technology education, PSITE (Philippine Society of IT Educators), where IT educators, practitioners, students and stakeholders in the IT industry are invited as participants to the workshop with the presence of a technical panel from CHED (Verecio, 2013). The curriculum includes courses that will facilitate the development of the students in the different disciplines of Information Technology especially the development of knowledge, skills and attitude that were embedded in the curriculum.

Further, basic courses in the curriculum will help the student to become knowledgeable in the different academic areas that will mold them to become a better student, professional, citizen and as a person. Graduates of BSIT are expected to have acquired but not limited to the following competencies the personal skills, interpersonal skills and technical understanding skills. All of these combine will result in the attainment of the vision and mission of the university as well as the goals of the IT and Computer Education unit. Quality graduates will result to employability and with all the tools they learned in the university, excellence in the chosen field is within reach, thus cementing the university's vision of a Center of Quality Education in the various fields like the Arts and Sciences.

The Leyte Normal University was able to produce four (4) batch of graduates from school year 2009-2010 to 2012 – 2013. The university is committed to meet the demand of the employers and accountable to its students performance. As part of the on-going efforts to measure the effectiveness of the program and to be continually responsive to the needs of the student, it is on this premise that this study is conducted to survey the work skills acquired by the BS Information Technology graduates across the 4-school year implementation which includes graduates of SY 2009-2010 to 2012-2013.

Theoretical Framework

This study is anchored on human capital theory and job matching theory as its theoretical underpinning.

The Human Capital Theory as cited by (Becker, 1994) argues that workers with higher skill levels receive higher compensation because they are more productive.

Employee involvement may require workers with more general skills to perform more complex tasks, which might result in more rigorous selection and hiring criteria and increase the demand for and wages of more educated workers. New practices may also require more firm-specific skills, which would increase employer-provided training and wages as well.

The theory is applicable to this study considering that the nature of the theory may also relate to the job of information technology practitioner. The nature of information technology work and the explosive growth of the field have created opportunities for rapid career progression and salary advancement. Thus, in order to be competitive and be more productive in this field, practitioners such as in the case of this study, the information technology graduates should continue to upgrade their skills and competencies through relevant trainings. Further, under this theory, information technology practitioners “invest” in various experiences, education and training with the understanding that employers will pay more for skilled workers.

Another theory adopted in this study was **job-matching theory** that argues that main goal of education and training is to prepare graduates for the tasks they are going to perform on their jobs. The theory suggests that a mismatch between the required skills and the skills a graduate actually possesses has important consequences for productivity, wages and probability to get a job. Therefore, the competency level required by employers must be equivalent with competency level of the graduates. The required specialization for the job should be match to graduates’ field of specialization. Job match also can be identified by the degree to which graduates are able to utilize the knowledge, skills and attitudes to the work context (Barnard *et al.*, 2001).

The theory is used in the study as information technology students should acquire appropriate and relevant trainings in preparation for their future employment after graduation. Employers will screen the applicants qualifications and chose them if they match the available jobs. Further, employers will choose the most suitable candidates to avoid any expensive training cost later and probably this worker will be paid higher than the group without matching skills.

The theories cited above serves as benchmark in the study.

Objectives of the Study

This study evaluated the employability skills acquired by the BS Information Technology from Leyte Normal University, Tacloban City from SY 2009-2010 to 2012-2013.

Specifically, it sought answers to the following:

1. What is the profile of the BSIT graduates in terms of:
 - 1.1 Age
 - 1.2 Gender
 - 1.3 Year Graduated
2. What is the evaluation of the respondents’ on the following employability skills such as:
 - 2.1 Personal Skills
 - 2.2 Interpersonal Skills
 - 2.3 Technical Understanding Skills

3. What employability skill/s needs improvement?
4. What inputs can be proposed to level up the employability skills acquired in terms of the following?
 - 4.1 Curriculum
 - 4.2 Facilities
 - 4.3 Faculty
 - 4.4 Industry Partner

METHOD

Research Design

The research method used by the researcher in this study was the descriptive method, which involved a questionnaire to evaluate the employability skills acquired by the BS Information Technology graduates of Leyte Normal University, Tacloban City from SY 2009-2010 to 2012-2013. A Focus Group Discussion with IT faculty and facilities survey were conducted and that the recommendations of accreditors were analyzed

Research Procedure

The researcher sought permission through the Head of the Information Technology and Computer Education Unit of the Leyte Normal University, Tacloban City. This was done for the determination of graduates from school year 2009-2010 to 2012-2013 and for the distribution of the questionnaires.

Respondents of the Study

This study was confined to all the graduates of the BS Information Technology of Leyte Normal University, Tacloban City from school year 2009-2010 to 2012-2013. This includes a total of one hundred fifty six (156) respondents involved in the study. The data is presented below:

SCHOOL YEAR	MALE	FEMALE	TOTAL
2009-2010	12	24	36
2010-2011	21	21	42
2011-2012	15	15	30
2012-2013	28	20	48
Grand Total			156

Further, out of 156 expected respondents there were only 124 who participated the survey which is almost 79.48% of the entire population.

Data Gathering Instruments

The researcher used surveyed questionnaires as main data gathering tool for this study. The instrument consists of two parts; the first part is composed of the demographic profile of the graduates and the second part focused on the work skills. Such instrument was adopted from Commission on Higher Education Memorandum Order 53 Series of 2006 "Policies and Standards" for the delivery of undergraduate Information Technology education.

The data collection was done through in-person distribution, e-mail and the use of social networking media such as facebook, were deemed necessary for those respondents who were not able to answer in-person distribution because of some reasons.

Further, respondents were given enough time to think about the questions as stated on the questionnaire, thus producing more accurate information period.

Statistical Treatment of Data

Responses from the questionnaires were directly encoded and analyzed using Microsoft Excel application – descriptive statistics (frequency counts, percentages, and mean).

This was used to determine the respondents' evaluation on the employability skills such as personal skills, interpersonal skills, and technical understanding skills. The qualitative description per employability skill indicator was determined using the following scales presented on the next page:

Limits of Scale	Qualitative Description
3.26 – 4.00	Very Competent
2.51 – 3.25	Competent
1.76 – 2.50	Incompetent
1.00 – 1.75	Very Incompetent

RESULTS AND DISCUSSIONS

This section presents the results of the study. It deals with the profile of the BS Information Technology graduates and work skills evaluation.

Table 1
Distribution of Respondents by Profile

Age	N	%
19	16	12.90
20	25	20.16
21	42	33.87
22	25	20.16
23	10	8.06
24	6	4.84
Total	124	100.00

Gender		
Female	71	52.76
Male	53	42.74
Total	124	100.00
Year Graduated		
2010	25	20.16
2011	33	26.61
2012	27	21.77
2013	39	31.45
Total	124	100.00

The data shown in Table 1 contains the profile of BSIT graduates which consist of age, gender, and year graduated.

Age. The most number of respondents as shown in the table were 21 years old (33.87%; n=42), came next is 20 and 22 years old having the same number of respondents (20.16%, n=25), this was followed with 19 years old (12.90%, n=16), 23 years old (8.06%, n=23) while 24 years old represent the smallest portion of the sample (4.84%, n=6).

Gender. The data disclosed that female respondents dominates having (52.76%; n=71) and male which has (42.74%; n=53) from 124 respondents.

Year Graduated. The data showed that most graduates graduated in 2013 (31.45%; n=39), 2011 (26.61%; n=33), 2012 (21.77%; n=27) and the smallest is in year 2010 (20.16%; n=25).

Table 2
Distribution of Respondents by Employability Skills

Personal Skills	n	Mean	Interpretation
Personal-discipline skills	124	3.29	Very Competent
Critical thinking skills	124	3.10	Competent
Inter and Intra person motivation skills	124	3.21	Competent
Problem solving skills	124	3.08	Competent
Planning and organizing skills	124	3.07	Competent
Ethical thinking	124	3.12	Competent
Entrepreneurial thinking	124	2.91	Competent
Innovative	124	3.04	Competent
Perseverance in pursuing goals and continuous improvement	124	3.17	Competent
<i>Overall</i>	<i>124</i>	<i>3.11</i>	<i>Competent</i>

Interpersonal Skills

Teamwork and collaborative skills	124	3.29	Very Competent
Oral and written communications	124	3.07	Competent
Conflict resolution skills	124	2.80	Competent
<i>Overall</i>	<i>124</i>	<i>3.05</i>	<i>Competent</i>

(Table 2 - - Continued)

Technical Understanding Skills

System Analysis and Design	124	2.76	Competent
Operation of database, network and multimedia systems	124	2.85	Competent
Software integration, testing and Documentation	124	2.81	Competent
System Management and Administration	124	2.72	Competent
Principles of Accounting	124	2.54	Competent
<i>Overall</i>	<i>124</i>	<i>2.74</i>	<i>Competent</i>

Work Skills Overall Mean

124	2.96	Competent
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The data presented in Table 2 showed that graduates expressed themselves as Competent in almost all indicators under Personal Skills, Interpersonal Skills and Technical Understanding Skills. Altogether, the combined work skills as assessed by the graduates has a mean of (n=124, M=2.96) which they expressed themselves as Competent. The results indicated that graduates performances are good and satisfying but not the best. The implication from this finding is that the university still needs to work hard to improve the ability and employability of their graduates in the job market where quality is more needed than quantity.

Employability Skills that Need Improvement

To determine the employability skills that need improvement, Table 2 disclosed that under **Personal Skills** indicators, the bottom three which has a least mean are "Entrepreneurial Thinking", "Innovative" and "Planning and Organizing Skills". The **Interpersonal Skills**, indicators that need improvement are "Conflict Resolution Skills", "Oral and Written Communication" and "Teamwork and Collaborative Skills". While, in terms of **Technical Understanding Skills**, "Principles of Accounting", "System Management and Administration" and "Systems Analysis and Design" are the indicators that need improvement.

Inputs to Level Up Employability Skills

Curriculum. The BSIT curriculum is built upon a core of courses and a series of professional courses. As reflected in the Summary of BSIT Curriculum of Leyte Normal University (shown in Appendix A) the strength identified are the following: 1) The total

number of units as reflected in the curriculum meets the CHED minimum requirements as stated on CHED CMO 53, s. 2006; 2) The curriculum provides opportunities for industry immersion and practical trainings to expose the students to the actual work in the industry; and 3) There is a strong support from the administration in the delivery of effective instruction.

Moreover, the areas for improvement on the curriculum may include on: 1) The course pre-requisite needs to be reviewed and be properly classified in order to improve the curriculum for the next revision; 2) Involvement of other stakeholders like students, alumni, industry representatives should be considered aside from in-house curriculum committee for the next curriculum review; 3) I.T. subjects with laboratory should have a total of 5 contact hours per week, 2 hours lecture and 3 hours laboratory.

Facilities. As observed during the research survey on the facilities the following strengths are: 1) Computer laboratories are well kept, clean, neat and equipped with functional multimedia units; 2) Laboratory facilities, tools and equipment are periodically inventoried; and 3) Specific program requirements are in accordance with the guidelines set forth by CHED as per evident found in CMO 53. s. 2006.

The areas needed for improvement are as follows: 1) Student access to computer of at least 54 hours per semester were not meet; 2) Safety tools cannot be found in trouble shooting laboratory; 3) Some laboratories do not have laboratory manual; 4) Application and programming languages software installed in the computer laboratories have no licenses and 5.) Continuously upgrade the collection of the library, both print and non-print materials of recent copyright to support the course offering.

Faculty. It is evident that most of the faculty members are master's degree holder and are handling subjects' in-line with their field of specialization and the institutions grants lot of fringe benefits given to them.

Hence, the areas identifies as needing for improvement were: 1) Sending of faculty to trainings and seminars maybe done periodically to enhance and upgrade their knowledge and skills and become effective teachers. and 2) Encourage faculty to pursue doctorate program in-line with their field of specialization.

Industry Partner/ Linkages. It was evident that the university has limited partnership and linkages with industry. It was further encouraged that university need to interact and collaborate with industries for them to get some benefits in the future such as 1) Assisting in the formation of students to be competent professionals through student internship; and 2.) Integration of specialized skill set requirements of the industry partner may be adopted into the curricula.

Further, the curriculum, facilities, faculty and industry partner or linkages are major indicators that play a vital role in the development of work skills of the students.

CONCLUSIONS

This study was conducted to evaluate the employability skills acquired by the BS Information Technology graduates of Leyte Normal University, Tacloban City from SY 2009-2010 to 2012-2013. Despite of the positive response on the evaluation where graduates expressed themselves as "competent" in all work skills indicators, the challenge is always present as it aims for excellence.

The needs of employers are constantly developing and employees are expected to perform and functions a number of different roles during their working life. While there will

always be some job-specific skills that an employer is looking for, most employers will also want to have some general skills.

Therefore, the challenge is mutual to both the university and students, which is to equip with a new and broader range of skills. This places new demands to graduates as well as the organization they may work for. To stay in the labor market they will constantly have to maintain the currency of their skills in order to be more competitive, flexible, creative and innovative.

RECOMMENDATIONS

In relation to the foregoing findings and conclusion drawn, the researcher formulated the following recommendations:

1. Partnerships between the university and industries needs to be effective, sustained and equitable. A collaborative effort from host industry and institutions will provide opportunities to expose students' in the development of their work skills for future global demands.

2. The design of the curriculum (and student experience in general) should articulate with the needs of business and emerge from a strong partnership with industries.

3. Work skills or employability skills equipped to students should focus to employability and must be the center of the universities strategic planning and the individual faculty handling the program.

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AUTHOR INFORMATION

Rommel Lagutan Verecio has completed BS Computer Science, MS Information Technology and Doctor of Management in Human Resource Management. Presently, he is connected at Leyte Normal University, Tacloban City as an Information Technology instructor. He presented his paper entitled "Students' Evaluation of an Interactive Multimedia Courseware" during the 8th Annual Education and Development Conference in Bangkok, Thailand and "On-the-Job Training of the BS Information Technology Program of Leyte Normal University, Tacloban City: An Assessment" during the 2nd International Conference on Interdisciplinary Research Innovations (ICIRI) in Malolos, Bulacan, Philippines. E-mail: rlverecio@lnu.edu.ph.