

## MATCHING ICT SKILLS AND COMPETENCY FOR INDUSTRY EMPLOYABILITY: BASIS FOR CURRICULUM ENHANCEMENT

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### ABSTRACT

*The study evaluated the level of ICT skills and competencies needed by the industries from BS Information Technology graduates intended for curriculum enhancement in Zamboanga Peninsula Polytechnic State University. Academic and the Industry Sector assessed the needed competencies for an entry-level position in IT Department. More so, the study employed a descriptive-quantitative method and utilized weighted mean and T-test as statistical tools for analysis of data. Results revealed that both Industry and Academic sectors rated extremely required Technical Support Specialist, System Administrator, Web and Applications Developer, Network Engineer and Computer Programmer in the entry-level position in the IT Department. An expert level is necessary in terms of the competency in Managing Database System, Networking, and Programming both for Web and Computer as well as system design, analysis, administration, and maintenance. State Universities and Colleges (SUCs) and private Higher Education Institutions (HEIs) and the different industry sectors in the Zamboanga Peninsula have the same requirements in hiring BSIT graduates for entry-level positions that have acquired ICT skills as experts in their professional and common courses.*

*Keywords: Information Technology, Curriculum, ICT Descriptive-Quantitative Analysis, Philippines*

### INTRODUCTION

Technology is constantly developing, several sectors, both private and government-run, are adopting and formulating new techniques or strategies to reach their specific aims and objectives to become more productive. That is why the industry requires a trained and knowledgeable workforce, particularly in the field of information and communication technology, or ICT, to use and manage various ICT technologies that are now linked or integrated with today's industry's system (Mitra, 2013). In the last ten years, industries such as Agri-aqua, manufacturing, and commercial have incorporated information and communication technology (ICT) into their basic systems of operations in the Philippines and overseas.

The integration of technologies into industry requires a needed workforce particularly in the field of Information and Communication Technology (ICT). In connection to this, the education system must also produce qualified and competent graduates that can do the job that is expected of them and be highly qualified to meet the demands and expectations of their employer (Harmse, 2018). It is now the role of the State Universities and Colleges (SUCs) and private Higher Educational Institutions (HEIs) in the Zamboanga Peninsula to review the course they offer in Information and Communication Technology. Similarly, there is a gap in the curriculum alignment framework of ICT courses, particularly the Bachelor of Information Technology (BSIT), with various industries since the process of

reviewing the curriculum takes years, and the choice to reform the curriculum takes even longer (Shankararaman & Gottipati, 2016). Given the passage of time, these industries' ICT departments change or upgrade digital systems every year, or as often as new technologies or systems are invented. This premise assumes that higher education's ICT abilities are no longer relevant to industry requirements.

Accordingly, this study mapped out the ICT skills that industries require, as well as the level of competency and proficiency. In addition, this study determined the ICT skills that should be included in the BSIT curriculum, or whether these ICT abilities may be used to create new sets of components for a new course offering.

### OBJECTIVES OF THE STUDY

This study was conducted to determine the ICT competency and industry need as a basis for curriculum enhancement in the BS Information Technology Program in the State Universities and Colleges (SUCs) and private Higher Educational Institutions (HEIs) in the Zamboanga Peninsula.

In accordance, it sought to fulfill the following specific questions:

1. Identify the required ICT skills for BSIT Graduates as a basis for an entry-level position for employment in the industries.
2. Determine the level of competency or proficiency of the BSIT Graduates as required for an entry-level position in the IT Department.
3. Assess the significant difference in the level of competency or proficiency of the BSIT Graduates as required for an entry-level position in the IT Department as evaluated by the Academic and the Industry Sector.

### METHODOLOGY

The IT managers and personnel of the Agri-Aqua, Manufacturing, and Commercial industries served as the participants of this study. The researcher also included the faculty of the different universities and colleges of the BSIT program in

Zamboanga Peninsula as they can provide adequate and relevant answers in the survey.

The study utilized the Descriptive-Quantitative research design. The descriptive research technique is appropriate for this study as it describes the ICT skills required for an entry level position for employment in the industry of the BSIT graduate and their level of competency or proficiency. This is quantitative research as it uses numerical data obtained from survey questionnaire to evaluate if the ICT skills and competencies of the BS Information Technology Curriculum match the ICT skills required for employment by different sectors of the industry in Agri-Aqua, Manufacturing, and Commercial Industries.

The study adopted the purposive non-random sampling design in the selection of participants specifically the employees under the managerial level and ICT personnel or ICT Staff of the Agri-Aqua, Manufacturing, and Commercial Industry. Likewise, the faculty of BSIT program from different SUCs and HEIs was included. The researcher chose this form of sample technique because only selected personnel with ICT knowledge and abilities, in the researcher's opinion, can provide relevant responses to the survey questions.

The study evaluated the level of competency or proficiency of the BSIT Graduates as required for an entry-level position in the IT Department as evaluated by the Academic and the Industry. The indicators were adopted from the curriculum of the BSIT program, CHED Memorandum Order (CMO) 25. S. 2015 of the BSIT Curriculum. However, the instruments were given to experts for the validity of its contents and construct. Appropriate research ethics and guidelines governed the investigation. The selected respondents received a consent letter for involvement in the study's conduct, as well as appropriate permission to answer the survey questionnaire. To protect the respondents' privacy, the respondent's confidentiality was scrupulously protected and their identities were kept hidden. Any information obtained from any source was properly recognized through citation and referencing. As a result, the ethical element of the research was closely adhered to in this study. The researchers sought approval of the respondents to allow the



researchers to present in the other forum or fora. The researcher sought permission from the management and administration of the various Industry and Academe to collect the necessary data. To collect data from selected Managerial Level personnel as well as ICT Personnel or IT Staff from each type of industry, the approved letter from the top management industry were presented to the selected employees for the collection of the data through survey questionnaires. The schedule distribution and retrieval were arranged with the top management of the different industries or to the Human Resource Management Personnel.

To facilitate the analysis of data, Weighted Mean and T-test for Independent Samples were utilized as statistical tools.

## RESULTS AND DISCUSSION

This section presents the interpretation and analysis of the data obtained from the respondents in the selected ICT employees in the industry and State Universities and Colleges (SUCs) and the private Higher Education institutions (HEIs) in Zamboanga Peninsula. The presentation and discussion of the results were carried out according to the sequence of the problems.

### 1. ICT skills required of a BSIT Graduate as a basis for an entry-level position for employment by the Agri-Aqua, Manufacturing, and Commercial Industries

#### 1.1. Primary Job ICT skills in Industry

Table 1 exhibits the industry’s primary job positions as “Extremely Required” were the Technical Support Specialist and Web and Applications Developer with mean scores of 4.43 and 4.27. “Highly Required” were the Systems Administrator and Network Engineer which garnered mean scores of 4.17 and 4.15. The Grand Mean was 3.96 with a descriptive value of “Highly Required”.

In research from Karr (2021), Technical Support Specialist & Web Application Developer are one of the 7 In-Demand ICT Careers in the Philippines.

Table 1  
ICT skills required of a BSIT Graduate as a basis for an entry-level position (Primary Job Role) for employment by the Agri-Aqua, Manufacturing, and Commercial Industries as rated by the Industry Sector

Primary Job Roles	Computed Mean	Description
1. Web and Applications Developer	4.27	Extremely Required
2. Junior Database Administrator	3.98	Highly Required
3. Systems Administrator	4.17	Highly Required
4. Network Engineer	4.15	Highly Required
5. Junior Information Security Administrator	3.63	Highly Required
6. Systems Integration Personnel	3.57	Highly Required
7. IT Audit Assistant	3.50	Highly Required
8. Technical Support Specialist	4.43	Extremely Required
<b>Grand Mean</b>	<b>3.96</b>	Highly Required

Extremely Required (ER) - 4.21 – 5.00; Highly Required (HR) - 3.41 – 4.20; Moderately Required (MR) - 2.61 – 3.40; Less Required (LR) - 1.81 – 2.60; Not Required (NR) - 1.00 – 1.80

IT graduates who excelled in programming that specialize in creating a website and also IT graduates who are skilled in providing technical assistance can get this job which is in demand in the industry.

#### 1.2. Secondary Job ICT skills in Industry

Table 2  
ICT skills required of a BSIT Graduate as a basis for an entry-level position (Secondary Job Role) for employment as rated by the Industry Sector

Secondary Job Roles	Computed Mean	Description
QA Specialist	3.92	Highly Required
System Analyst	4.00	Highly Required
Computer Programmer	4.05	Highly Required
<b>Grand Mean</b>	<b>3.99</b>	Highly Required



Table 2 illustrates that secondary job position for employment that is “Highly Required” is the Computer Programmer with a mean score of 4.05. It scored a Grand Mean Score of 3.99 with a descriptive value of “Highly Required”.

According to Lopez (2016), as a student, one needs to build skills in computer programming and operation that meet the current and future needs of the industries. (Miltner, 2017) underscored the idea that computer programming or “coding” is a necessary skill for the jobs of the future.

### 1.3. Primary Job ICT skills in Academe

**Table 3**  
*ICT skills required of a BSIT Graduate as a basis for an entry-level position (Primary Job Role) as rated by the Academic Sector*

Primary Job Roles	Computed Mean	Description
1. Web and Applications Developer	4.52	Extremely Required
2. Junior Database Administrator	3.78	Highly Required
3. Systems Administrator	4.77	Extremely Required
4. Network Engineer	4.42	Extremely Required
5. Junior Information Security Administrator	4.03	Highly Required
6. Systems Integration Personnel	4.20	Highly Required
7. IT Audit Assistan	3.93	Highly Required
8. Technical Support Specialist	4.85	Extremely Required
<b>Grand Mean</b>	<b>4.31</b>	<b>Extremely Required</b>

Table 3 presents that the Technical Support Specialist, System Administrator, Web & Applications Developer, and Network Engineer were assessed as “Extremely Required” with a mean score of 4.85, 4.77, 4.52 & 4.42. While “Highly Required” ICT skills required are the Systems Integration Personnel & Junior Information Security Administrator with a mean

score of 4.20 & 4.03. It has a Grand Mean of 4.31 with a descriptive value of “Extremely Required”.

According to Miltner (2017) that IT graduates who have acquired the skills, especially in programming in creating Web and Software Application at the same time know how to manage the network and the system has a bigger chance of being hired or acquiring the position in the industry.

### 1.4. Secondary Job ICT skills in Academe

**Table 4**  
*For an entry-level position (Secondary Job Role) as rated by the Academic Sector*

Secondary Job Roles	Computed Mean	Description
QA Specialist	4.33	Extremely Required
System Analyst	4.83	Extremely Required
Computer Programmer	4.85	Extremely Required
<b>Grand Mean</b>	<b>4.67</b>	<b>Extremely Required</b>

Table 4 displays the secondary job position for employment as rated by the Academic Sector. It scored a Grand Mean Score of 4.67 with a descriptive value of “Extremely Required” of which the highest rating is the Computer Programmer with a mean score of 4.85.

As cited by Stokdyk (2021), computer programmer designs develop, and test software and ensure software adheres to best practices in performance, reliability, and security. Computer programmers can work developing mobile applications, coding video games, programming websites, and much more. This implies further those skills in computer programming are very much in demand in the industry and the Academe somehow marked this as Extremely Required together with QA Specialists and System Analysts to produce graduates who can meet the demand of the industry in terms of computer programmer availability.

### 1.5. Primary and Secondary Job ICT skills in Industry and Academe





Table 5 presents the Overall Grand Mean Score of 4.23 with a descriptive value of “Extremely Required” for Primary & Secondary entry-level positions rated by both the Industry and Academic Sector.

**Table 5**  
*ICT skills required of a BSIT Graduate as a basis for an entry-level position (Primary & Secondary Job Position) as rated by Industry & Academic Sector*

Sector	Entry-Level Position	Grand Mean	Overall Grand Mean	Combined Overall Grand Mean	Description
Industry	Primary Job Position	3.96	3.98	4.23	Extremely Required
	Secondary Job Position	3.99			
Academic	Primary Job Position	4.31	4.49		
	Secondary Job Position	4.67			

This implies further that both sectors have a similar selection in terms of hiring BSIT graduates for an entry-level position in the industry in order to realize the goals of the academe of which the ICT programs must align themselves to the needed requirements of the industry. According to Lopez (2016), a student needs to build skills in computer programming and operation that meet the current and future needs of the industries.

**2. Level of competency or proficiency of the BSIT Graduates as required for an entry-level position in the IT Department**

**2.1. Professional Course Competency level of BSIT graduates as rated by Industry**

Table 6 shows the computed mean for the level of competency or proficiency of the BSIT Graduates as rated by the industry in terms of skills in Professional courses. Database Management System got the highest mean score of 4.57 with a descriptive value of “Expert”, then followed by Information Management with a mean score of 4.40, System Administration and Maintenance with a mean score of 4.35, Advance Database System with a mean score of 4.28, and Quantitative Methods with Simulation, System Analysis and Design, Software Engineering, and Networking 2 with the same mean score of 4.27. The overall

mean is 4.17 with a descriptive value of “Advanced”.

**Table 6**  
*Level of competency or proficiency of BSIT Graduates as rated by Industry (Professional Course)*

Skills in Professional Course	Mean	Description
Database Management System	4.57	Expert
Information Management	4.40	Expert
Quantitative Methods with Simulation	4.27	Expert
System Analysis and Design	4.27	Expert
Advance Database Systems	4.28	Expert
Software Engineering	4.27	Expert
System Integration & Architecture 1	4.17	Advanced
System Integration & Architecture 2	4.05	Advanced
Networking 1	4.15	Advanced
Networking 2	4.27	Expert
Introduction to Human Computer Interaction	4.08	Advanced
Multimedia Systems	4.02	Advanced
Information Assurance and Security 1	3.90	Advanced
Capstone Project and Research 1	3.83	Advanced
Capstone Project and Research 2	4.02	Advanced
Social and Professional Issues	4.15	Advanced
Application Development & Emerging Technologies	4.10	Advanced
System Administration and Maintenance	4.35	Expert
<b>Grand Mean</b>	<b>4.17</b>	<b>Advanced</b>

This indicates that the professional Course competency level of BSIT graduates as rated by the industry must attain the level of Expert, especially in terms of Information Management and Managing the Database System as well as System Maintenance. According to Miltner (2017), BSIT graduates should acquire the skills necessary in building up and managing a system. These are also the in-demand skills found on the website of bukas.ph. That is why it is important to be an expert in this area.

**2.2. Common Course Competency level of BSIT graduates as rated by Industry**

Table 7 displays the computed mean for the level of competency or proficiency of the BSIT Graduates as rated by industry in terms of the skills of the Common Courses of the BSIT Program. Computer Programming got the highest mean score of 4.22 with a descriptive value of “Expert”, then followed by Web Programming &



Development with a mean score of 4.17 with a descriptive value of “Advanced”, Computer Programming 2 with a mean score of 4.12, Introduction to Computing with a mean score of 4.10. The Grand Mean was 4.08 with a descriptive value of “Advanced”.

**Table 7**  
*Level of competency or proficiency of the BSIT Graduates as rated by Industry (Common Course)*

Common Course	Mean	Description
Introduction to Computing	4.10	Advanced
Computer Programming, I	4.22	Expert
Computer Programming 2	4.12	Advanced
Discrete Structures 1	3.88	Advanced
Data Structures and Algorithms	3.98	Advanced
Web Programming & Development	4.17	Advanced
<b>Grand Mean</b>	<b>4.08</b>	<b>Advanced</b>

Computer programmer designs develop, and test software and ensure software adheres to best practices in performance, reliability, and security. This implies further those skills in computer programming are very much in demand in the industry that somehow only marked as “Expert” (Stokdyk, 2021).

### 2.3. Elective Course Competency level of BSIT graduates as rated by Industry

**Table 8**  
*Level of competency or proficiency of the BSIT Graduates as rated by Industry (Elective Course)*

Elective Course	Mean	Description
Object Oriented Programming	3.95	Advanced
Platform Technologies	3.95	Advanced
Integrative programming & Technologies I	3.87	Advanced
Integrative programming & Technologies II	3.77	Advanced
<b>Grand Mean</b>	<b>3.88</b>	<b>Advanced</b>

Table 8 discloses the computed mean for the level of competency or proficiency of the BSIT Graduates as rated by Industry in terms of the skills in Elective Courses of the BSIT Program. Object-

Oriented Programming and Platform Technologies scored the highest mean score of 3.95 with a descriptive value of “Advanced”, then followed by Integrative programming & Technologies I and Integrative programming & Technologies II with a mean score of 3.87 and 3.77 with a descriptive value of “Advanced”. The Grand Mean is 3.88 with a descriptive value of “Advanced”. This denotes that the industry is only required for only in the “Advanced” stage when it comes to programming and other platform technologies in Elective Courses.

### 3. Professional, Common & Elective Course Competency level of BSIT graduates as rated by Industry

**Table 9**  
*Level of competency or proficiency of the BSIT Graduates as rated by Industry in Professional, Common & Elective Course*

Course	Grand Mean	Description
Professional	4.17	Expert
Common	4.08	Advanced
Elective	3.88	Advanced
<b>Overall Grand Mean</b>	<b>4.05</b>	<b>Advanced</b>

Table 9 shows the computed mean for the skills in professional course with a mean score of 4.17 with a descriptive value of “Expert”, then followed by Common and Elective Course with a mean score of 4.08 and 3.88 with a descriptive value of “Advanced”.

This implies that the BSIT Graduates should have an “Expert” level of competency or proficiency in their Professional Course starting on Database Management System, Information Management, System Administration and Maintenance, Advanced Database Systems, Quantitative Methods with Simulation, System Analysis and Design, Software Engineer, Networking and Computer Programming as rated by Industry sector and considered as the top highest paying jobs in the country as mentioned in the published article of (Tutay et al., 2019).

### 3.1. Professional Course Competency level of BSIT graduates as rated by Academe



**Table 10**  
Level of competency or proficiency of BSIT Graduates as rated by Academic (Professional Course)

Skills in Professional Course	Mean	Description
Database Management System	4.60	Expert
Information Management	4.08	Advanced
Quantitative Methods with Simulation	4.22	Expert
System Analysis and Design	4.55	Expert
Advance Database Systems	4.37	Expert
Software Engineering	4.40	Expert
System Integration & Architecture 1	4.10	Advanced
System Integration & Architecture 2	4.30	Expert
Networking 1	4.63	Expert
Networking 2	4.57	Expert
Introduction to Human Computer Interaction	3.83	Advanced
Multimedia Systems	3.88	Advanced
Information Assurance and Security 1	4.13	Advanced
Capstone Project and Research 1	4.20	Advanced
Capstone Project and Research 2	4.25	Expert
Social and Professional Issues	3.98	Advanced
Application Development & Emerging Technologies	3.87	Advanced
System Administration and Maintenance	4.55	Expert
<b>Grand Mean</b>	<b>4.25</b>	<b>Advanced</b>

Table 10 presents the computed mean for level of competency or proficiency of the BSIT Graduates as rated by Academic in terms of skills in Professional Course. Networking 1 had the highest mean score of 4.63 with a descriptive value of “Expert”, then followed by Database Management System with a mean score of 4.60, Networking 2 with a mean score of 4.57, System Administration and Maintenance & System Analysis and Design with both had a mean score of 4.55, and Software Engineering with a mean score of 4.40. For a mean score of “Advanced” in their descriptive value starting with Introduction to Human Computer Interaction with a mean score of 3.83, Application Development & Emerging Technologies with a mean score of 3.87, and Multimedia Systems with a mean score of 3.88.

The Grand Mean for this was 4.25 with a descriptive value of “Advanced”.

This means that the professional Course competency level of BSIT graduates as rated by the academe must attain the level of “Expert”, especially in terms of Managing the Database System as well as Networking and System Analysis and Design. According to Miltner (2017), BSIT graduates should acquire the skills necessary for building up and managing a system. These are also the in-demand skills found on the website of bukas.ph. That is why it is important to be an expert in this area.

### 3.2. Common Course Competency level of BSIT graduates as rated by Academe

**Table 11**  
Level of competency or proficiency of the BSIT Graduates as rated by Academic (Common Course)

Common Course	Mean	Description
Introduction to Computing	3.98	Advanced
Computer Programming I	4.48	Expert
Computer Programming 2	4.50	Expert
Discrete Structures 1	4.05	Advanced
Data Structures and Algorithms	4.45	Expert
Web Programming & Development	4.45	Expert
<b>Grand Mean</b>	<b>4.32</b>	<b>Expert</b>

Table 11 shows the computed mean for the Common Courses of the BSIT Program. Computer Programming, I & 2 had the highest mean score of 4.50 & 4.48 with a descriptive value of “Expert”, then followed by Web Programming & Development and Data Structures and Algorithms with a mean score of 4.45. Introduction to Computing had a mean score of 3.98 with a descriptive value of “Advanced”. The Grand mean is 4.32 with a descriptive value of “Expert”. This implies that skills in Computer Programming are very much in demand in the Academe that is somehow marked as “Expert” in this area (Stokdyk, 2021).

### 3.3. Elective Course Competency level of BSIT graduates as rated by Academe



**Table 12**

*Level of competency or proficiency of the BSIT Graduates as rated by Academic (Elective Course)*

Elective Course	Mean	Description
Object Oriented Programming	4.38	Expert
Platform Technologies	4.22	Expert
Integrative programming & Technologies I	4.48	Expert
Integrative programming & Technologies II	3.78	Advanced
<b>Grand Mean</b>	<b>4.22</b>	<b>Expert</b>

Table 12 exhibits the computed mean for level of competency or proficiency of the BSIT Graduates as rated by Academic in terms of the skills in Elective Courses of the BSIT Program. Integrative Programming and Technologies I had the highest mean score of 4.48 with a descriptive value of “Expert”, then followed by Object-Oriented Programming with a mean score of 4.38.

Last is Integrative Programming and Technologies II with a mean score of 3.78 and a descriptive value of “Advanced”. The overall mean was 4.22 with a descriptive value of “Expert”. This means that the academe requires object-oriented programming and platform technologies as marked as “Expert” except for Integrative programming & Technologies II which is only in the “Advanced” stage.

### 3.4. Professional, Common & Elective Course Competency level of BSIT graduates as rated by Academe

**Table 13**

*Level of competency or proficiency of the BSIT Graduates as rated by Academic in Professional, Common & Elective Course*

Course	Grand Mean	Description
Professional	4.25	Expert
Common	4.32	Expert
Elective	4.22	Expert
<b>Overall Grand Mean</b>	<b>4.26</b>	<b>Expert</b>

Table 13 shows the computed Overall Grand Mean of 4.26 with a descriptive value of “Expert”. This infers that the BSIT Graduates should have an “Expert” Level of competency or

proficiency in their Professional, Common, and Elective Courses as rated by the Academic sector. It could be inferred further that the Academe of the different State Universities and Colleges (SUCs) and private Higher Education Institutions (HEIs) should focus on mastering the competency of all three courses listed in the curriculum of BSIT Program. According to (Harmse, 2018), Higher Education institutions should have an understanding of the ICT industry regarding their expected skillset of ICT graduates that will prepare them for employment in the industry.

### 4. Significant difference in the level of competency or proficiency of the BSIT Graduates as required for an entry-level position in the IT Department as rated by the Academic and the Industry Sector

**Table 14**

*Significant Difference in the Level of Competency or Proficiency of the BSIT Graduates as required for an entry-level position in the IT Department as rated by the Academic and the Industry Sector*

Variable	Mean Response	t-value	P-value	Remarks	Decision
Industry	4.05	-2.376	.019	Not Significant	Accept
Academic	4.26				

**Note:** P-value is greater than alpha= 0.05; Null hypothesis is not rejected.

P-value is less than alpha= 0.05; Null hypothesis is rejected

Table 14 shows t-test results in the Level of Competency or Proficiency of the BSIT Graduates as required for an entry-level position in the IT Department as rated by the Academic and the Industry Sector.

T-test for independent samples was used to establish the difference between variables. Since the P-value is greater than 0.05 level of significance, this means that there is no significant difference in the level of competency or proficiency of the BSIT Graduates as required for an entry-level position in the IT Department as rated by the Academic and the Industry sectors. The rule is to Accept Ho, if the P-value is greater than 0.05 level





of significance which is indicated in the table. This can be inferred, that the rating of the industry and academic sector are more or less the same. It only signifies further that the BS Information Technology Curriculum of the State Universities and Colleges (SUCs) and private Higher Educational Institutions (HEIs) in Zamboanga Peninsula are aligned to the demands of the industry in terms of the required ICT skills competency in Database Management System, Information Management, System Administration and Maintenance, Advanced Database Systems, Quantitative Methods with Simulation, System Analysis and Design, Software Engineer, Networking and Computer Programming.

## CONCLUSIONS

Based on the findings, the following conclusions were drawn:

1. Both Industry and Academic sectors rated extremely required Technical Support Specialist, System Administrator, Web and Applications Developer, Network Engineer and Computer Programmer in the entry-level position in the IT Department.
2. An expert level is necessary in terms of the competency or proficiency in Managing Database System, Networking, and Programming both for Web and Computer as well as system design, analysis, administration, and maintenance. He/She can provide guidance, troubleshoot, and answer questions related to this area of expertise and the field where the skill is used.
3. State Universities and Colleges (SUCs) and private Higher Education Institutions (HEIs) and the different industry sectors in the Zamboanga Peninsula have the same requirements in hiring BSIT graduates for an entry-level position that have acquired ICT skills experts in their professional and common courses.

## RECOMMENDATIONS

Based on the findings the following recommendations were made:

1. The BS Information Technology program of the different State Universities and Colleges (SUCs) and private Higher Education Institutions (HEIs) should enhance linkages to its industry stakeholders to keep up and be updated to the demands of the industry workforce in terms of hiring BSIT graduates.
2. School Administrator or Dean of the College should devise training workshop for ICT Instructors/Professors especially in areas like Networking, System analysis and Design, Computer & Web programming and Database Management System to enhance the level of competency or proficiency of the BSIT students.
3. The Dean or Administrator of the College should conduct monitoring and class observations to see to it that the IT Instructors/Professors are giving emphasis and concentrating more on the competencies which the industries noted as extremely required and encourage students to take a National Certificate or NC of TESDA in Computer System Servicing and Computer and Web Programming to be competent for a greater chance of employment as an entry-level position in the industry.
4. The Dean or Administrator of the BSIT program must pursue a higher level of accreditation to further enhance the curriculum in order to be at par of the program needs of the industry in aligning and matching the required needed ICT competency of the BSIT graduates.

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his Academic Requirements for Ph.D. majoring in Technology Management at ZPPSU. A full-fledged Master of Engineering Education major in ICT and a graduate of BS Computer Engineering at Western Mindanao State University. An active member of the International Organization of Educators and Researchers Inc. (IOER) and the National Research Council of the Philippines (NRCP) Division of Engineering and Industrial Research.

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## AUTHOR'S PROFILE



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