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THE IMPACT OF STUDENT ACADEMIC CONSULTATION PROGRAM OF THE COLLEGE OF COMPUTER STUDIES

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Abstract - Student Academic Consultation Program of the College of Computer Studies is a significant process in improving students' academic performance through building relationship between the faculty and the student. The Student Academic Consultation Program uses descriptive research utilizing the collected data from the accomplished academic consultation forms for school year 2017-18, the students' midterm grade and final grade by the College of Computer Studies faculty and perform data analysis and interpretation using t-Test. This research shows that there is a significant impact in the academic performance of the student. This program exposes the students' academic performance had greatly improved after performing the academic consultation. Student Academic Consultation Program had to be strengthened and may need further enhancements such as dealing with emotional, social and mental health.

Keywords: Student Academic Consultation Program; Academic Performance; consultation;

INTRODUCTION

College student life is very exciting, but it can also produce academic, social, and emotional concerns. Most of these students may experience overwhelm feeling and/or difficulty in dealing with stress. These stressors can sometimes make the student feel anxious, socially isolated and depressed. At the start, the student may think that he/she can do this but as time goes by, these pending concerns can make it difficult for these students to function well as they normally do. Facing these concerns is a sign of strength to recognize that he/she needs help. It is the first step in solving any problem. But the millennial nowadays, just try to escape from these concerns through social media. Some students find social media helpful but some will have an end result of low grades or more depressed than they ever feel.

On the other hand, as college instructor or professor is very challenging. Dealing with college students can be very taxing and sometimes very confusing. At the start of every class, the instructor needs to observe students' behavior, performance and attitude. Then, the realization by Midterm Period, if that student needs our extra help or service or not. Usually, the barometer of the student's performance is through his/her grade. Thus, to prevent from further damage especially

students with low grades or has very alarming grade, the instructor will conduct for a student consultation in order to find a way to fix the problem. Thus, student consultation and guidance necessary because it is a process of learning which is done through the relationship between two individuals (student and teacher). In this mutual relationship, the counselor/teacher, by his scientific and occupational skills and qualifications, tries to help the students with the methods corresponding to their needs. In the College of Computer Studies of UCLM, consulting services have been offered to students usually after midterm period. This student consultation is a process which is based on a helpful, face to face, and specialized relationship through which the counselors or teachers, using their knowledge and special skills, pave the way for the growth and problem solving of their student. As the society is so expanded and the relationship between individuals is complex, the need for providing consulting and guiding services is more tangible and the individuals who are often faced with changes of life situations will experience psychological pressure or excitement either positively or negatively.

OBJECTIVE OF THE STUDY

The main objective of this research is to determine whether the student academic consultation program of the College of Computer Studies in University of Cebu Lapulapu and Mandaue campus is significant in terms of student's academic performance improvement.

Related Studies

According to one study, a university faculty/student mentor program was evaluated for its effects on academic performance and retention. A matched pairs design was used in which 339 undergraduates assigned to mentors were paired with nonmentored students based on gender, ethnicity, GPA, and entering enrollment status. The results showed a higher GPA for mentored students, more units completed per semester and lower dropout rate. Amount of mentor-protégé contact was positively correlated with the GPA. (Campbell, T. & Campbell, D, 1997) Also, increasing teacher intervention implementation in general education settings through consultation and performance feedback wherein it examined the treatment integrity with which general education teachers implemented a reinforcement based intervention designed to improve the academic performance of elementary school students. Subsequent implementation of daily performance feedback by a consultant markedly improved treatment integrity and intervention use improved student performance for 2 of the Ss. (Witt et. al, 1997) In addition, an article applied meta-analytic methodology to integrate findings from 22 comparisons of the effectiveness of student-rating feedback at the college level. On the average, feedback had a modest but significant effect on improving instruction. Instructors receiving mid-semester feedback averaged 16 of a rating point higher on end-of-semester overall ratings than did instructors receiving no mid-semester feedback. The effects of student-rating feedback were accentuated when augmentation or consultation accompanied the ratings. (Cohen, 1980)

METHODS

This research was conducted not only for assessment of the effectiveness of the plan but also to determine whether it provides academic assistance to the students specifically on their academic performance. Data were collected from the academic consultation forms submitted by the teachers. This academic consultation form was constructed by the guidance office and approved by the Campus Director. The tool is used by the subject teacher to conduct a student consultation to students with poor academic performance and/or needs academic intervention. The data collected is focused on their academic grades. The midterm grades of the respondents were collected prior to the consultation while the final grades are recorded when the semester ends. The analysis and interpretation is done using the t-Test: Paired Two Samples for Mean using MS Excel.

RESULTS

This research was conducted only in the College of Computer Studies department for the entire School Year 2018-2019 on 139 respondents from different levels and subjects. Table 1 shows the number of students who passed and failed in first semester. Table 2 shows the number of students who passed and failed in the second semester. Table 3 shows the T-test result from the consolidated Student Academic Consultation reports for first semester and Table 4 shows the T-test result from the consolidated Student Academic Consultation reports for second semester.

Table 1. Frequency Distribution of Students' Grade for the 1st Semester (SY 2018-2019)

GRADE STATUS	GRADING PERIOD					
	MIDTERM			FINAL		
	No. of Students	%	Relative Frequency Dist.	No. of Students	%	Relative Frequency Dist.
Passed	39	52%		63	84%	
Failed	36	48%		12	16%	
Total	75			75		

Based on Table 1, there is a greater percentage of students who failed during midterm period compared to final period. Out of 75 students, 63 students were able to pass during the final period while 12 of them failed the subject.

Table 2. Frequency Distribution of Students' Grade for the 2nd Semester (SY 2018-2019)

GRADE STATUS	GRADING PERIOD					
	MIDTERM			FINAL		
	No. of Students	%	Relative Frequency Dist.	No. of Students	%	Relative Frequency Dist.
Passed	30	53%		49	77%	
Failed	34	47%		15	23%	
Total	64			64		

Looking at Table 2, there is a greater percentage of students who failed during midterm period compared to final period.

DISCUSSION

Based on the data presented in table 1 and 2, for the midterm period, there are 52% and 53% passed in both 1st and 2nd semester respectively. 48% and 36% of the total respondents failed in class during this period where the student consultation was not conducted yet. For the final grading period, 84% and 77% passed in both 1st and 2nd semester respectively. This means that there is an increasing number of students who passed the subject after the intervention. After performing the t-test data analysis using the consolidated data for the 1st semester, it shows that the p value result of 0.0107 is lesser than the alpha level of 0.05 which means that the null hypothesis is rejected. For the 2nd semester found in table 4, the p value is 0.0056 in which it is lesser than the alpha level of 0.05. which means also that the null hypothesis is rejected.

Therefore, the result shows that there is a significant difference in the academic performance of the respondents before and after the academic intervention. The student consultation of the College of Computer Studies provides a positive impact towards the academic performance of the students.

Furthermore, all teachers who conducted the academic consultation were affirmative that the program delivered a positive impact on the academic performance of their students because they became aware of their academic status. Moreover, teacher's feedback and advices had prompted them to do well in the following grading period. These was cited during the interview.

CONCLUSION AND RECOMMENDATION

Student consultation program plays a vital role of the students' development services in the department. It was formulated and implemented for years to provide feedback to students' academic performance specifically those students with low academic performance.

In this study, the result of the data analysis shows that there is a significant impact on the academic performance of the students through the increasing number of passers based on the data collected within the school year 2017-2018. The positive responses of the teachers' who conducted the academic consultation supplements the result of the data analysis.

With the positive feedback, it is recommended to strengthen the implementation of the said program for all faculty of the department and enrich its coverage in the line of social, emotional and mental and other aspects of the students which may consider as the source of the their poor academic performance. Furthermore, the data gathered in this area may be used for further improvement of the existing consultation form and the formulation of intervention programs to strengthen students' services of the department.

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Assessment of the Departmental Examination Outcomes of the College of Computer Studies of the University of Cebu Lapulapu and Mandaue: Proposed Intervention

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College of Computer Studies

Abstract: *This research study aimed to assess the Midterm and Final Departmental Examination of the first year BSIT and BSCS students at the College of Computer Studies first semester school year 2018-2019. The study specifically aimed to describe the results of the both the Midterm and Final departmental examinations for the sole purpose of designing an intervention plan. Descriptive type of research was utilized in the study. Results showed that majority of the students failed in the Midterm departmental examination it is contrary to the results of the Final departmental examination which shows that majority of the students have passed it. The researchers have found out that intervention is necessary specifically on the topics covered in the Midterm departmental examination.*

Keywords: *Departmental Examination, standardized examination*

INTRODUCTION

Departmental examination of the College of Computer Studies is constructed through collection of test items or questions from the faculty teaching the same subjects. After organizing questions, the designated lead faculty combines all the gathered item questions to form a specific examination. After the test, the result will be evaluated using Item Analysis that can provide a powerful technique for educators to guide and enhance instruction.

Departmental examination is also known as standardized examination. It is any sort of examination that includes all test takers responding in the same way to the same problems, or a selection of problems from the prevailing question bank, and that is scored in a standard or consistent manner that makes it possible to compare the relative success of individual students or groups.

College of Computer Studies envisions being a Center of Excellence in Information Technology and competitive worldwide. Part of the program for the improvement in the area of instruction, departmental examination during midterm and finals was adapted by the college.

Thus, researchers conducted this study to understand how the departmental examinations were done and its significance to the Information Technology students. Moreover, this will determine the contributions and improvement to the instruction. On the other hand, this examination may suggest effective teaching strategies that will certainly benefit the students.

STATEMENT OF THE PROBLEM

The study assessed the first year BSIT and BSCS degree program of the College of Computer Studies. A descriptive method is used in the analysis and presentation of data. One hundred sixty-eight students enrolled in BSIT and eighteen students in BSCS were enrolled in INTCOM11 and COMPROG11 and one hundred sixty-seven students in WEBDEV11 which only offered for BSIT degree program. The study is conducted to help the department decide on the improvement of the said subject offered.

Specifically, the study aims to answer the following:

1. What is the profile of the respondents in terms of:
 - 1.1 section;
 - 1.2 course?
2. What are the outcomes of the departmental examination?
3. Based on the outcomes, what program will be proposed?

RELATED STUDIES

Departmental examination can be evaluated to determine the level of learning of the learners within a course or topic. Hence, standardized tests are a significant cause of discussion in the U.S., many test specialists and teachers find them a fair and objective method of evaluating students' academic success, primarily because the standardized format, combined with computerized scoring, eliminates the potential for favoritism, bias, and subjective evaluations.

According to the study of Tolentino et, al. (2013), each person has different learning preferences and styles that benefit them including auditory, visual, logical, social, solitary or tactile. It is not uncommon for people to discover certain learning style that work best for them or styles that are preferable in certain situations.

According to Haskvitz (2013), teachers are always eager to learn new things, expand their knowledge base, experiment with better ways to achieve success. In reality, setting high standards bring out the best in students and create in them a feeling of accomplishment. Highly effective educators are adept at monitoring student problems and progress. They remediate when necessary and differentiate as needed. The students are encouraged to look for help and answers on their own. They are passionate about not teaching, but facilitating learning. They promote a deeper understanding of concepts and work habits than just learning the curriculum

suggests. According to Ogembo (2009), enhanced supervision of curriculum implementation in school, increases the amount allocated for tuition and release the funds in good time to enable prompt acquisition of learning materials. School managements, in conjunction with other stakeholders, should enhance teacher motivation and provide more and better teaching and learning facilities to enable a more conducive environment for learning.

Using effective management examination reform can strengthen system construction such as departmental examination. It allows us to understand the meaning, purpose and function of the test and can change the teacher and learner examination concept. Building the evaluation system can supervise the process as a whole.

RESEARCH METHODOLOGY

The researchers utilized the descriptive method of study. It was designed to gather information about the present and existing condition. It involved the process of gathering, analyzing, classifying and tabulating data about the cause and effect relationship and then making the adequate and accurate statistical methods.

The respondents were the 1st year Information Technology and Computer Science students who took up the midterm and final departmental examination first semester A.Y. 2018-2019. There were 185 respondents from COMPROG11 subject; 186 from INTCOM11 subject; and 168 WEBDEV11 subject.

A self – structured questionnaire was used as the main instrument of the study. The researchers utilized different references to look for related information that served as basis in making the questionnaire.

All data gathered were presented graphically to interpret the result and descriptive statistics such as frequency distribution and weighted mean was used. Frequency distribution and weighted mean was utilized to determine the results of the subjects in COMPROG11, INTCOM11 and WEBDEV11 departmental examination.

Formative assessment is the process of assessing students' learning in order to inform ongoing instruction that is supposed to help the students reach their learning goals. In comparison to formal classroom assessment activities (quizzes, tests, homework, etc.) which can inform instruction on a day-to-day basis, proximal formative assessment [1] refers to informal [2] , interaction- embedded [3] practices of formative assessment that help the teacher to productively structure the learning environment in the moment (<https://www.researchgate.net/publication/230024508> chapter 8 Some Thoughts on Proximal Formative Assessment of Student Learning).

The researchers uses the proximal formative assessment - the continual, responsive attention to students' developing understanding as it is expressed in real time - depends on students' sharing their ideas with instructors and on teachers' attending to them. Rogerian psychology presents an account of the conditions under which proximal formative assessment

may be promoted or inhibited: (1) Normal classroom conditions, characterized by evaluation and attention to learning targets, may present threats to students' sense of their own competence and value, causing them to conceal their ideas and reducing the potential for proximal formative assessment. (2) In contrast, discourse patterns characterized by positive anticipation and attention to learner ideas increase the potential for proximal formative assessment and promote self-directed learning. (<https://aip.scitation.org/doi/10.1063/1.3680066>).

RESULT AND DISCUSSION

The number of first year BSIT and BSCS students who took the departmental examination. A total of 185 in Comprog11 and 186 INTCOM11 obtained the examination with 90% for BSIT and 10% for BSCS first year students. First year BSIT students who took the examination in WEBDEV11 only since no subject offered in BSCS first year curriculum. These numerical results confirm that most respondents are first year BSIT students. Furthermore, it also confirms that few students only who are enrolled in BSCS Program.

Table 1
EXAMINATION RESULTS

MIDTERM DEPARTMENTAL EXAMINATION RESULTS							
SUBJECTS	RESPONDENTS		No. of passers		Passing (%)		Overall Percentage
	BSIT	BSCS	BSIT	BSCS	BSIT	BSCS	
INTCOM11	168	18	5	13	3%	72%	10%
COMPROG11	167	18	39	10	23%	56%	26%
WEBDEV11	168	-	42	-	25%	-	25%

FINAL DEPARTMENTAL EXAMINATION RESULTS							
SUBJECTS	RESPONDENTS		No. of passers		Passing (%)		Overall Percentage
	BSIT	BSCS	BSIT	BSCS	BSIT	BSCS	
INTCOM11	168	18	89	17	53%	94%	57%
COMPROG11	167	18	71	16	43%	89%	47%
WEBDEV11	168	-	107	-	64%	-	64%

Table(s) 1 shows the number of respondents based on the Midterm and Final departmental Examination for first year, the number of passers, the passing percentage and overall passing percentage of the subjects. This will help the department in improving and enhancing their strategy and methods of teaching. There is a dramatic increase of percentage results for both BSIT and BSCS program in the Final results.

Table 2
PASSING DATA COMPROG11

Course	Section	Size	Instructor	Midterm Passed	Final Passed	Passing (M) Average	Passing(F) Average
BSIT	1A	42	Ms. Tanquis	9	15	21%	36%
BSIT	1B	27	Ms. Tanquis	13	20	48%	74%
BSIT	1C	24	Ms. Reyes	7	15	29%	63%
BSIT	1D	35	Ms. Tanquis	5	8	14%	23%
BSIT	1E	12	Mr. Barzo	-	5	-	42%
BSIT	1G	27	Ms. Tanquis	5	8	19%	30%
BSCS	1A	18	Ms. Cag-ong	10	16	56%	89%

Table 2 shows the courses, sections, class size, instructor, number of students pass and the average rate per section in **COMPROG11** subject for both Midterm and Final departmental exam.

Table 3
PASSING DATA INTCOM11

Course	Section	Size	Instructor	Midterm Passed	Final Passed	Passing (M) Average	Passing (F) Average
BSIT	1A	41	Mr. Bucol	-	24	-	59%
BSIT	1B	27	Mr. Bucol	-	24	-	89%
BSIT	1C	24	Mr. Demecillo	1	10	4%	42%
BSIT	1D	36	Ms. Baluarte	2	16	6%	44%
BSIT	1E	13	Mr. Bucol	-	2	-	15%
BSIT	1G	27	Ms. Cag-Ong	2	13	7%	48%
BSCS	1A	18	Ms. Baluarte	13	17	72%	94%

Table 3 shows the courses, sections, class size, instructor, number of students pass and the average rate per section in **INTCOM11** subject for both Midterm and Final departmental exam.

Table 4
PASSING DATA WEBDEV11

Course	Section	Size	Instructor	Midterm Passed	Final Passed	Passing (M) Average	Passing (F) Average
BSIT	1A	42	Ms. Verdun	2	22	5%	52%
BSIT	1B	27	Ms. Baluarte	13	25	48%	93%
BSIT	1C	24	Ms. Reyes	6	19	25%	79%
BSIT	1D	36	Ms. Reyes	15	20	42%	56%
BSIT	1E	12	Mr. Verdun	4	10	33%	83%
BSIT	1G	27	Ms. Baluarte	2	11	7%	41%

Table 4 shows the courses, sections, class size, instructor, number of students pass and the average rate per section in **WEBDEV11** subject for both Midterm and Final departmental exam.

Table 5
PROPOSED TUTORIAL PLAN

Subjects	Time	Days	Laboratory/Room Assignment	In-Charge
INTCOM11	8:00-10:00	Saturday	211	PSITS Officers
COMPROG11	10:30-1:30	Saturday	C4	PSITS Officers
WEBDEV11	2:00-4:00	Saturday	C4	PSITS Officers

Table 5 shows the subjects, time, days, laboratory/room assignment and officer-in charge for the tutorials which happened every Saturday.

Table 6
ITEM DIFFICULTY INDEX WEBDEV11

Midterm Departmental Exam				
Index Range	Interpretation	Frequency of items	Discrimination Level	Action
0.00-0.26	Very difficult	17	Very poor item	Must be strongly eliminated
0.27-0.44	Moderately difficult	12	Poor item	Should be eliminated or need to be revised
0.45-0.64	Average	13	Marginal item	Need some revision
0.65-0.84	Easy	13	Reasonably good item	For improvement
0.85-1.00	Very Easy	10	Very good item	Retain

Final Departmental Examination				
Index Range	Interpretation	Frequency of items	Discrimination Level	Action
0.00-0.26	Very difficult	15	Very poor item	Must be strongly eliminated
0.27-0.44	Moderately difficult	10	Poor item	Should be eliminated or need to be revised
0.45-0.64	Average	12	Marginal item	Need some revision
0.65-0.84	Easy	13	Reasonably good item	For improvement
0.85-1.00	Very Easy	10	Very good item	Retain

Table 6 shows the item difficulty index which measure of the proportion of examinees who answered the item correctly of and the item discrimination index which measure of how well an item is able to distinguish between examinees who are knowledgeable and those who are not, or between masters and non-masters WEBDEV11 for both Midterm and Final Departmental Examination.

Table 7
ITEM DIFFICULTY INDEX INTCOM11

Midterm Departmental Exam				
Index Range	Interpretation	Frequency of items	Discrimination Level	Action
0.00-0.26	Very difficult	15	Very poor item	Must be strongly eliminated
0.27-0.44	Moderately difficult	12	Poor item	Should be eliminated or need to be revised
0.45-0.64	Average	13	Marginal item	Need some revision
0.65-0.84	Easy	10	Reasonably good item	For improvement
0.85-1.00	Very Easy	10	Very good item	Retain

Final Departmental Examination				
Index Range	Interpretation	Frequency of items	Discrimination Level	Action
0.00-0.26	Very difficult	10	Very poor item	Must be strongly eliminated
0.27-0.44	Moderately difficult	5	Poor item	Should be eliminated or need to be revised
0.45-0.64	Average	5	Marginal item	Need some revision
0.65-0.84	Easy	5	Reasonably good item	For improvement
0.85-1.00	Very Easy	5	Very good item	Retain

Table 7 shows the item difficulty index which measure of the proportion of examinees who answered the item correctly of and the item discrimination index which measure of how well an item is able to distinguish between examinees who are knowledgeable and those who are not or between masters and non-masters INTCOM11 for both Midterm and Final Departmental Examination.

Table 8

ITEM DIFFICULTY INDEX COMPROG11

Midterm Departmental Exam				
Index Range	Interpretation	Frequency of items	Discrimination Level	Action
0.00-0.26	Very difficult	15	Very poor item	Must be strongly eliminated
0.27-0.44	Moderately difficult	12	Poor item	Should be eliminated or need to be revised
0.45-0.64	Average	10	Marginal item	Need some revision
0.65-0.84	Easy	13	Reasonably good item	For improvement
0.85-1.00	Very Easy	10	Very good item	Retain

Final Departmental Examination				
Index Range	Interpretation	Frequency of items	Discrimination Level	Action
0.00-0.26	Very difficult	12	Very poor item	Must be strongly eliminated
0.27-0.44	Moderately difficult	8	Poor item	Should be eliminated or need to be revised
0.45-0.64	Average	10	Marginal item	Need some revision
0.65-0.84	Easy	10	Reasonably good item	For improvement
0.85-1.00	Very Easy	10	Very good item	Retain

Table 8 shows the item difficulty index which measure of the proportion of examinees who answered the item correctly of and the item discrimination index which measure of how well an item is able to distinguish between examinees who are knowledgeable and those who are not or between masters and non-masters COMPROG11 for both Midterm and Final Departmental Examination.

RECOMMENDATION

Departmental examination may be included in the college and university's school calendar. Teachers handling Departmental Examination topics should have a tracking guide on completing the topic covered per grading period. Before the departmental examination, using distinct variables, future researchers may undergo comparable research.

CONCLUSION

The impacts of student departmental exams are somehow associated with their teacher impacts. With this connection, based on the result there is an improvement and pursue the proposed plan by the researchers on the execution of the Departmental Examination.

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ASSESSMENT OF THE CISCO CURRICULUM IMPLEMENTATION IN THE BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY PROGRAM

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ABSTRACT

The Bachelor of Science in Information Technology Program of the College of Computer Studies in University of Cebu Lapu-lapu and Mandaue is a program with Cisco Curriculum integration. To satisfy the university vision particularly in democratizing quality education and a specific college mission to continuously offer relevant programs that would mould well-rounded computing individuals, assessment of the Cisco curriculum implementation is necessary. This study uses descriptive research by gathering of data through two different surveys using Google forms and a Graduate Tracer. The results was then numerically interpreted and it shows that the infusion of Cisco curriculum in the BSIT Program is very effective and increase the graduates' marketability in the industries . The implementation of Cisco Curriculum in the Bachelor of Science in program of the College of Computer Studies must continue. Also, it is advisable for the students to have enrichment programs for better awareness of Cisco courses and understanding the importance of networking knowledge and technical skills are very necessary in our digital world today.

Keywords: *Curriculum Assessment, Curriculum Evaluation, Curriculum Implementation, Graduate Tracer*

INTRODUCTION

Cisco CCNA Routing and Switching Curriculum was integrated with the Bachelor of Science in Information Technology of the College of Computer Studies since School Year 2001-2002 in the University of Cebu Lapulapu and Mandaue. This curriculum integration help students to develop workforce readiness skills and builds a foundation for the success in networking-related careers and degree programs. The Cisco CCNA Routing and Switching Curriculum provides foundational knowledge to support enterprise network infrastructures. It validates the ability of a student to configure, operate, and troubleshoot medium-size routed and switched networks. By just completing this curriculum and taking their certification exam, the student will be able to become a Network Administrator or a Network Support Engineer, or Network Engineer Associate or Network Specialist or Network Analyst in any major companies anywhere in the world.

University of Cebu Lapulapu and Mandaue is currently affiliated with (ASC) Academy Support System, had a dedicated Cisco Laboratory with reliable internet access, required networking equipment, had also installed Packet Tracer 7.3, the latest version for all courses for activities and assessments to work properly with qualified instructors who had completed the required training. This curriculum is appropriate for students at many educational levels and types of institutions, including schools, universities, colleges, career and technical schools, and

community centers. For new students, there is no prerequisite but as the student continue to level up, there is a required prerequisite course to accomplished first. Also, CCNA Routing and Switching curriculum in the BSIT Program has one mandatory subject only namely, DataComm31(Introduction to Computer Networks) and three Elective Subjects (IT Elective32, IT Elective 41 and IT Elective42). These subjects exposes students to the new era of networking that is needed by the industries. In addition, based on the industry forum held in UC Banilad, most of the companies are in need of applicants for jobs related to Cisco Networking such as Network Administrator, Network Engineer, Network Specialist, Technical Support, Network Support Specialist and the like. Having a Certified Cisco Certificate upon application is a big plus to their curriculum vitae.

For almost twenty (20) years of implementation, the researchers would like to evaluate if this Cisco Curriculum integration is still effective and relevant in the Bachelor of Science in Information Technology program or to discontinue implementing this and look for another courses that will help our graduates to be more globally competent. Thus, the researchers conducted a Cisco Curriculum assessment in the College of Computer Studies of the University of Cebu Lapulapu and Mandaue by gathering and analyzing information from alumni to assess if this curriculum is still efficacious.

RELATED STUDIES

According to the Department of Early Education and Care (EEC), the department support the use of child assessment systems in preschool settings to help educators individualize instruction and improve programs. Assessment should align with instructional goals and approaches then find the assessment program that best assesses those goals. (Lesaux, 2019)

Also, in Georgia, their Department of Education's strategic plan emphasizes in transforming the agency into one that provides meaningful support to schools and districts. The Georgia's Systems of Continuous Improvement framework focuses on the systems and structures that must be in place for sustained improvement in student outcomes. It also utilizes a problem-solving model to provide a clear process for identifying improvement needs, planning for improvement, and implementing, monitoring, and evaluating the improvement efforts. (Snow and Van Hemel, 2008)

Lastly, situating curriculum assessment within a curriculum development framework can be develop by a series of iterative steps. All the steps involved in the curriculum development will help each smaller step in the curriculum assessment process. The intent is to see the link between any individual course or even any one class in which a student might be engaged and the mission, needs and strengths of the programme itself. (Wolf, et al., 2006)

METHODS

This research was conducted to assess the effectiveness of the Cisco Curriculum offered in the Bachelor of Science in Information Technology program of the College of Computer Studies. The integration of Cisco Subjects had started since 2001 and it is high time to identify if Cisco Curriculum should continue to be offered or to simply change to other courses that the students particularly need in the digital world today. This research used descriptive method. With this, the researchers created two surveys to gather data using Google forms and a Graduate Tracer. The

researchers had 66 Alumni respondents in the first survey. The survey was distributed using Google forms. The survey results were interpreted by finding the modal value. The second survey is a Graduate Tracer with 85 respondents from School Year 2011 until 2016. The data gathered were presented quantitatively and statistical tools were used such as averaging, percentage technique and weighted mean.

RESULTS AND DISCUSSIONS

Curriculum

Assessment

The first survey was conducted only in the College of Computer Studies on sixty-six (66) respondents working in different industries. Table 1 shows the Audience Input, Involvement and Outcomes. Table 2 shows Curriculum Content and Skills Development and Table 3 shows Cisco Curriculum Evaluation.

Table 1 : Audience Input, Involvement and Outcomes

	Very Effective	Effective	Fair	Ineffective	Mode
Cisco Curriculum build on the interest of my networking skills	33	21	6	6	Very Effective
Cisco Curriculum actively engaged me in participating online classes	34	18	10	4	Very Effective
Cisco Curriculum was used to guide me in the educational development process	26	21	10	9	Very Effective
Cisco Curriculum promoted my behavioral change towards my relationship with my friends, co-workers and teachers	37	17	7	5	Very Effective
Cisco Curriculum improved my networking knowledge and skills	40	16	6	4	Very Effective
The knowledge and skills I have learned from Cisco is relevant to my life	33	16	9	8	Very Effective

Table 1 shows that the majority of the College of Computer Studies Alumni respondents find the Audience Input, Involvement and Outcomes very effective. As shown in the table above, forty (40) respondents voted very effective in improving their networking knowledge and skills. Also, thirty-three (33) respondents rated very effective in building on the interest of the learners and thirty-four (34) respondents rated very effective in actively engaging them in all the activities to be performed during online classes. Twenty-six respondents evaluated very effective during their Cisco days in improving educational development process and thirty-seven (37)

respondents evaluated very effective in promoting behavioral change to their relationship with their classmates, teachers and co-workers. Lastly, thirty-three (33) respondents shows the learning they have accumulated is very relevant to their life.

Table 2: Curriculum Content and Skills Development

	Very Effective	Effective	Fair	Ineffectiv	Mode
Cisco Curriculum is based on current education and technology	15	38	5	8	Effective
Cisco Curriculum focus on relevant skills development	16	35	8	7	Effective
Cisco Curriculum presents a balanced view of the course	12	42	6	6	Effective
Cisco Curriculum includes clear, measurable learning	12	41	7	6	Effective
Course Intended Learning Objectives are clearly linked to Program Outcomes	12	40	8	5	Effective
The Cisco Program has established strong validity and reliability	16	37	7	6	Effective

Table 2 reveals Cisco Curriculum Content and Skills Development is effective. As shown in the table above, Forty-two (42) respondents rate effective about Cisco curriculum having a balanced view of the course thus, recognizing any aspects that are not yet clearly understood. More than or equal to forty (40) respondents evaluated Cisco Curriculum effectiveness in clearly presenting the learning objectives that must be acquired by the students and effectively linked it to program outcomes. Lastly, more than or equal to thirty-five (35) respondents assess effective on the basis in current education and technology, focusing on relevant skills development and establishing strong validity and reliability.

Table 3: Cisco Curriculum Evaluation

	Very Effective	Effective	Fair	Ineffective	Mode
Cisco Curriculum includes assessment instruments that have been student-tested and instructor-tested.	34	21	5	6	Very Effective
Cisco Curriculum demonstrates acceptable Subject area properties.	37	16	8	5	Very Effective
Cisco Curriculum uses evaluation methods and items are clearly linked to Learning Objectives.	36	19	5	6	Very Effective
Cisco Curriculum have assessment instruments that includes those designed to be administered prior to, during, and after implementing the curriculum so that effectiveness can be established and reported.	40	12	5	9	Very Effective

Table 3 reveals majority of the respondents attested that Cisco Curriculum Evaluation very effective. Wherein forty (40) respondents show Cisco curriculum have assessment instruments that includes those designed to be administered prior to, during, and after implementing the curriculum so that effectiveness can be established and reported. Thirty-four (34) respondents attest that Cisco curriculum includes assessment instrument that was evaluated every semester by students and instructors itself through email. More than thirty-five respondents attest that Cisco curriculum demonstrates acceptable subject are properties and uses evaluation methods and items are clearly linked to Learning Objectives.

Graduate Tracer

The second survey presents about the employability rate of the alumni of the BSIT Programs particularly about Cisco-related occupations. Table 4 shows the sampling of respondents on the Graduate Tracer last 2011 until 2016. Table 5 reveals about the graduates' employment status. Table 6 and Table 7 shows the different classifications of the occupations of the respondents from 2011 until 2019 with its corresponding rank.

Table 4: Sampling of the Respondents on the Graduate Tracer

Year Graduated	Total Graduates	No. Of Respondents	Percentage of Distribution
2011	62	14	12
2012	58	12	11
2013	130	10	26
2014	83	9	16
2015	104	22	20
2016	71	18	14
TOTAL	508	85	100

Table 4 shows that there are 12 percent response rate from 2011, 11 percent response rate from 2012, 26 percent response rate from 2013. This is so far the highest response rate from 2011 until 2016. From 2014, 2015 and 2016, the response rate are 16 percent, 20 percent and 14 percent respectively. Majority of the respondents were from Year 2015 graduates with 22 respondents and with the least respondents from Year 2014 graduates having only 9 respondents.

Table 5: Graduates Employment Status

Batch	No. Of	Employed	Not Employed	Never Employed
2010-2011	14	14	0	0
2011-2012	12	11	0	1
2012-2013	10	9	0	1
2013-2014	9	9	0	0
2014-2015	22	20	2	0
2015-2016	18	17	0	1
TOTAL	85	80	2	3

Table 5 reveals that majority of the alumni respondents are currently employed. Out of 85 alumni, 80 of them are currently employed while the rest are self employed, engage in business or pursuing academic growth. It also showed that majority of the respondents who are hired are from Batch 2014-2015 with 20 respondents.

Table 6: Classification of the Graduates' Occupation as of 2016

Occupation Classification	Total	Percentage	Rank
Software Engineer	32	38	1
IT Staff	10	12	2
Network Specialist and/or Technical Support	8	10	3
BPO/Customer Support/Search Engine Optimization	5	6	4.5
Others	5	6	4.5
Network Administrator	4	5	7
Game Developer/Designer	4	5	7
Data Analyst	4	5	7
Banking and Finance	3	4	9.5
Documentary Officer/Tester	3	4	9.5
Manager/Corporate Executive/Supervisor	2	2	12
IT Specialist/Consultant	2	2	12
Teacher	2	2	12
System Analyst	1	1	14

Table 6 shows that classification of the graduates' occupation as of last 2016. Despite the fact that Cisco Curriculum had only one mandatory subject namely DataComm31 with course description Introduction to Computer Networks, it reveals that Cisco related jobs (the one highlighted) ranks 3rd place and 7th place respectively in the occupation classification. It is also shown that 12 out of 85 respondents landed in Cisco related jobs.

Table 7: Classification of the Graduates' Occupation as of 2019

Occupation Classification	Total	Percentage	Rank
Software Engineer	69	31	1
Technical Support Specialist/Technical Operator	28	12	2
IT Clerk/Staff	20	9	3
IT/Data Processor/Analyst/Entry Specialist	15	7	4
Others	14	6	5
Tester/Test Engineer/Web Quality Analyst	12	5	6
Survey Analyst/Survey Quality Assurance Tester/Programmer	10	4	7.5
IT Administrator/ Network Engineer	9	4	7.5
Multimedia Designer	7	3	9
System Analyst	5	2	10.5
Office of Government and Special Interest Organization	5	2	10.5
Managing Proprietor/Supervisor	4	2	12.5
Purchase/Marketing/Social Media	4	2	12.5
IT Instructor	3	1	12.5
Banking and Finance	3	1	15
Manufacturing and Medical Staff	3	1	15
IT Consultant	2	1	15
Project Manager	2	1	19.5
Customer Service Representative	2	1	19.5
SEO Specialist	2	1	19.5
Information Security Administrator	2	1	19.5
Virtual Assistant/Chat Support	2	1	19.5

To supplement the data revealed in Table 6, the researchers gather another data from the Office of the Dean of the College of Computer Studies for the latest result of the Graduate Tracer as of this year. Table 7 shows the current status of the classification of the graduates' occupation and that there is an increased in number of employed respondents in jobs related to the BSIT program most specially with Cisco related jobs. The table reveals Cisco related jobs (the one highlighted) ranks 2nd and 8th place respectively. There are 28 alumni who are hired as Technical Support Specialist or Technical Operator, and 9 alumni who are currently employed as Network Engineer or IT Administrator.

Thus, the results revealed the infusion of Cisco Curriculum in Bachelor of Science in Information Technology Curriculum of the College of Computer Studies in University of Cebu Lapulapu and Mandaue is very effective and should continue to be inculcated in the BSIT Program.

CONCLUSIONS AND RECOMMENDATIONS

In par with the University of Cebu Vision, democratized quality education and with the College of Computer Studies Mission particularly in continuously offering relevant programs that would mould well-rounded computing individuals, this research, Assessment of the Cisco Curriculum Implementation is very necessary. The Assessment of the Cisco Curriculum Implementation in the BSIT Program have revealed that UCLM had been providing our students with standard quality education and there is an increase in the employability rate of the graduates once they finished the program despite offering only one mandatory subject in Cisco Curriculum and the other 3 subjects are just Elective Subjects. Its integration in the program is truly very efficacious. Since the result of this research is very effective, therefore Cisco Curriculum should continue to be infused in the Bachelor of Science of Information Technology program of the College of Computer Studies.

With a very effective assessment in inculcating Cisco Curriculum in the BSIT Program, it is recommended to carry on the implementation of Cisco courses in the BSIT program and add another mandatory subject to find more ways to enrich Cisco courses awareness and let the students understand the importance of networking skills in our digital world.

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The Effectiveness of the Faculty Development Program of the College of Computer Studies

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Abstract of the Study

Faculty Development Program (FDP) is an important endeavor to improve faculty competence, thus improved teaching and learning. FDP is a set of activities to support and improve faculty in terms of professional, personal and instructional skills. The Faculty Development Program of the College of Computer Studies is assessed in terms of its impact and effectiveness. This is a descriptive research that utilized survey questionnaires distributed to the faculty of the College and treated using frequency, percentages and weighted mean. The study revealed that the Faculty Development Program of the College is effective in terms of professional, personal and instructional development. In support of its effectiveness and impact, the faculty obtained excellent and very satisfactory ratings from the students and the Academic Head. Enhancements of the program may also be considered such as further improvements in the personal development, increase number of faculty with industry immersion and post-graduate degrees.

Keywords: Faculty Development Program, Instructional Development

Introduction

Faculty competence is a fundamental aspect of quality education in institutions. Like most organizations, institutions need strategies to sustain competitive advantage thru honing and improving performance of the faculty to be able to deliver and relay to students. One of these is the faculty development program. Faculty Development Program is a set of activities designed to improve and attain new knowledge, skills and competencies of the faculty. It enables proficiency in instruction, management, leadership and personality of the faculty leading to effective and quality teaching and learning.

According to Donna Rogers as cited by Mandaviya and Dwivedi(2016), faculty members need to be prepared especially with the rapid changes in technology and shifting paradigms in education (Mandaviya & Dwivedi, 2016). With periodic training, experience and improved interpersonal skills, faculty will be able to contribute to curriculum, deliver knowledge, perform skills, be updated with the latest trends and explore new ideas as well. However, these activities thru the faculty development program needs to be evaluated in terms of its impact and effectiveness. In this manner, improvements and changes in the program can be determined and help faculty excel in their fields as well.

The study on the impact and effectiveness of the Faculty Development Program is a more specific survey for the faculty of College of Computer Studies. This study sought information on

the faculty particularly on their academic status as well as identifying the relevance and effectiveness of the faculty development activities to their performance.

University of Cebu LM College of Computer Studies is committed to its vision of producing quality and globally competitive computing professionals. Thus, it should activate from qualified and competent faculty who are the sources of knowledge and skills. This study will show the academic standing, results of the evaluation from students and the Dean and effectiveness of the faculty development program for the past two years (2017-2019) in terms of professional development, personality development and instructional development.

Related Studies

One study surveyed the impact and effectiveness of faculty development program in fostering the faculty's knowledge, skills and professional competence. It emphasized that Faculty development programs have been shown to foster teaching, assessing, research, leadership and administrative skills of medical and allied health faculty. The results reflects that there is a significant and positive impact of FDPs on professional development of the faculty (Guraya & Chen, 2019).

In another study, researchers found out that the faculty have a positive attitude towards attending and applying the skills learnt in FDPs. It also showed that most faculty are student oriented and that research skill is a deficiency (Sarkar, Bharani, Ganger, & Balasubramanian, 2015).

Another research studied that the faculty development program have appeared to have positive impact on the learner's behavior. It further stressed that effective aspects of the faculty development program included its content, format and social network (Wadha, Das, & Ratnapalan, 2014)

Objectives of the Study

This study is expected to determine the effectiveness of the Faculty Evaluation Program of the College of Computer Studies for School year 2017-2019.

Specifically, this study aims to:

1. Identify the profile of the respondents in terms of academic standing;
2. To determine the relevance of the Faculty Evaluation program of the College in terms of:
 - a. Effectiveness of the faculty development activities;
 - b. Faculty Ratings by students and the Dean ;
3. To propose recommended improvements on the faculty development program.

Framework of the Study

The system approach is adopted in this study. It consists of four (4) parts namely: input, process, output and feedback.

Input: The researcher considered the faculty data in terms of academic standing and faculty evaluation by the students and the dean for the past two school years (2017-2018 and 2018-2019) and a survey on the effectiveness of the faculty development program.

Process: The study considered the analysis of the profile of respondents, distribution of questionnaire.

Output: It is focused on the results on faculty performance in terms of evaluation by the Deans student ratings and the effectiveness of the faculty development program.

Feedback: Feedback occurs when there are revisions or modifications in the system. It may go back to the input stage or to the process stage if there is a problem encountered from the output that needs revisions or changes in the system

Methodology

The descriptive method of research was considered in the conduct of the study. The researchers carried out this research by observing several accepted procedures. First is the gathering of the results of the student ratings for the past two school years (2017-2018 and 2018-2019) and the validation and approval of the survey instrument to the UCLM Research and Statistics Office (URSO). Second, the researchers finalized the survey instrument and distributed thru google forms. Third, a numerical analysis was gathered and performed. Lastly, the proposed measures to enhance and improve the faculty development program were prepared.

Faculty Profile

Table 1: Age Range of the Faculty

Age Range	f	%
20-24 years old	1	8%
25-29 years old	1	8%
30-34 years old	3	23%
35-39 years old	3	23%
40-44 years old	1	8%
45-49 years old	3	23%
50-54 years old	1	8%
TOTAL	12	100%

The age range of the faculty is varied as there is an equal number of those who belong to range of 30-34, 35-39 and 45-49 years old.

Table 2: Faculty Ranking

Ranking	f	%
Professor A	0	0
Professor B	0	0%
Professor C	1	8%
Associate Professor A	0	0%
Associate Professor B	0	0%
Associate Professor C	1	8%
Senior Instructor A	0	0%
Senior Instructor C	1	8%
Junior Instructor A	2	17%
Junior Instructor B	1	8%
Junior Instructor C	3	25%
Lecturer	3	25%
TOTAL	12	100%

Faculty Ranking is an important mark of a faculty status in the University. This is the process by which academic and professional qualification and credentials of a teacher are evaluated for the purpose of determining his position and advancement (University of Cebu Academic Rank and Promotion, 2016). Schemes were identified to determine the points and assign a rank to faculty. In Table 2, it shows that majority of the faculty are ranked with Junior Professor C as the most number and Professor C as the highest rank given to the faculty.

Table 3 : Number of Years Teaching in UCLM

Number of Years Working In UCLM	f	%
3 years and below	4	33%
4-9 years	3	25%
10-14 years	3	25%
15-19 years	1	8%
20-24 years	1	8%
25 years and above	0	0%
TOTAL	12	100%

Table 3 shows that most of the respondents are in the university for 4 years (33%). This is followed by 4-9 years and 10-14 years (25%).

Table 4 : Educational Attainment of the Faculty

Educational Attainment	f	%
Bachelors Degree	4	33%
Masters Degree	6	50%
Post Graduate Degree	2	17%
TOTAL	12	100%

Table 4 reveals that most the faculty have had Masters degree (50%) and post graduate degrees (17%).

Table 5: Number of Faculty with Industry Experience/Immersion

	f	%
No. of Faculty with Industry Experience/Immersion	7	58%

Faculty immersion is an important endeavor for the College. It allows partnerships and linkages with the industry to enable the faculty to enhance knowledge, be updated with the latest trends and keep up with the demands of the private and public sectors. Table 5 shows that 58% of the faculty have engaged in faculty immersion or have industry experience.

Table 6: Faculty Development Activities Attended

Faculty Development Activities	f	%
Technical Trainings	9	75%
Research	9	75%
Classroom Management	7	58%
Methods and Management in teaching	4	33%
Networking and Linkages	4	33%
Communication Skills	2	17%
Team Building	6	50%
Syllabi Making	9	75%
Test Questions, TOS and Rubric Making	7	58%
Teaching resources such as Instructional Manual, presentations and course guides	6	50%

Faculty Development Program is a wide range of activities to support faculty needs and improve their performance. Table 6 reveals that most of the activities attended by the faculty are technical trainings (75%), research (75%) and syllabi making (75%). The least activity attended was communications skills (17%).

Effectiveness of the Faculty Development Program

To identify the effectiveness of the faculty development program, a survey was conducted to determine its impact, if it has achieved improved performance and contributed to the faculty. The Faculty Development Program includes the professional, personality and instructional development.

Table 7: Effectiveness of the Professional Development

	SA	A	D	MODE
I have implemented the philosophy and objectives of the institution and the specific objectives of the programs of the College.	7	5	-	SA
I have improved my field of expertise and interest through the seminars and workshops I attend.	8	4	-	SA
I have improve my researching abilities and orientation through the research activities I participate.	5	7	-	SA
I have introduced innovative ways (blended learning, MOOCS, flipped classroom, etc.) in the classroom	6	4	-	A
I have updated my academic qualifications thru immersions, advanced studies (masteral and doctoral degrees), consultancy and research.	8	4	-	SA
I am able to use different methods and strategies in teaching and learning.	9	3	-	SA
I am able to create a pleasant atmosphere in class.	8	4	-	SA
My teaching performance has improved.	8	4	-	SA
I am able to participate in the activities of the professional organizations I belong to.	8	2	2	SA
I am able to join interest groups and academic clubs to improve my skills	7	3	2	SA
I actively participate in the community extension activities of the College and the Institution	8	3	1	SA
	AVERAGE			SA

Professional Development emphasized the development of individual faculty members in their professional responsibilities as educators, researchers and administrators (Kamel, 2016).

Table 7 reveals that majority of the respondents have agreed that they have introduced innovative ways with the use of blended learning while majority of the respondents have strongly agreed that they have utilized different methods and strategies in teaching and learning. All in all, the faculty Strongly Agrees that the faculty development program has improved their professional skills and has contributed to their development as a whole.

Table 8: Effectiveness of the Personality Development

I have enhanced my skills in:	SA	A	D	MODE
a. Stress Management	6	5	1	SA
b. Team work and workplace conflict management	7	4	1	SA
c. Time Management	6	5	1	SA
d. Financial Management and Budgeting	3	7	2	A
e. Decision Making	6	6	-	SA
f. Problem Solving	8	4	-	SA
g. Positive Self-Image and Spiritual Growth	7	4	1	SA
h. Effective Communication through presentations, public speaking and feedback giving	7	4	1	SA
	AVERAGE			SA

Personality development stressed on life planning, interpersonal and communications skills of the faculty (Kamel, 2016). Table 8 shows that majority of the respondents have strongly agreed that the faculty development program has improved their skills in Stress Management, Team work and Workplace Conflict Management, Time Management, Financial Management and Budgeting, Decision Making, Problem Solving, Positive Self-image and Spiritual Growth and Effective Communication through presentations. In general, the faculty Strongly Agrees that the faculty development program has improved their interpersonal skills and has contributed to their personality development.

Table 9: Effectiveness of the Instructional Development

	SA	A	D	MODE
I have enriched my lessons through additional readings, use of the library and other instructional resources	9	2	1	SA
I have improved understanding on the development of syllabus and course modules	7	5	-	SA
I understand the principles involved in test construction and measurement	7	5	-	SA
I am able formulate assessment activities such as table of specifications, test examinations/assessment tools and rubrics	9	3	-	SA
I have produced laboratory manuals and worktexts for student to use	3	5	4	A
	AVERAGE			SA

Instructional development emphasized the development of faculty skills involving instructional technology, small group teaching, media, courses, and curriculum design (Kamel, 2016). Table 9 shows that majority of the respondents have agreed that they have produced laboratory manuals and worktexts while majority of them have strongly agreed that the most effective is the formulation of assessment activities. In summary, the majority of the faculty Strongly Agreed that the faculty development program has improved their instructional skills and has developed them.

Table 10: Students Ratings

Ratings	2017-2018		2018-2019	
Excellent	12	100%	8	67%
Very Satisfactory	-	-	4	33%
Satisfactory	-	-	-	-
Poor	-	-	-	-
Needs Improvement	-	-	-	-
TOTAL	12	100%	12	100%

Student ratings focused on the perceived increase in active learning, delivery of prompt feedback, clarity of lecture materials while faculty reported increases in their perception of competence and confidence related to lecture-based teaching. Thus, survey from students can also determine the effectiveness of the FDP (Kamel, 2016). The Faculty Evaluation by Students comprises of the following : Preparation, Teaching and learning process, learning environment and teacher's professionalism. Table 10 shows that majority of the faculty have an Excellent rating (100%) in the faculty evaluation by students which proves that the faculty development program is effective.

Table 11: Dean's Rating

Ratings	2017-2018		2018-2019	
Excellent	6	55%	4	36%
Very Satisfactory	5	45%	7	64%
Satisfactory	-	-	-	-
Poor	-	-	-	-
Needs Improvement	-	-	-	-
TOTAL	11	100%	11	100%

Although the students' ratings is the most accurate judge of teaching effectiveness, the Dean or Academic Head plays an important role in the evaluation process. Classroom observation is also a best way of evaluation teaching (Flaherty, 2014). Table 11 shows that there is a high

percentage of faculty who got an excellent ratings in the Deans' Rating. The faculty performance of the faculty is also evaluated in the areas of preparation, teaching and learning process, learning environment and teachers professionalism.

Conclusion and Recommendations

Quality and updated professional training programs for the faculty is essential to the many institutions in order to compete and be at the level of the fast changing world. Thus, it is clear that faculty development program has become well established, grown and a standard activity in most institutions.

However, as seen in the results, there are still some important areas to consider for the improvement and enhancement of the program as follows :

1. Activities may focus on the areas of communication and linkages and methods and management in teaching as these are the least attended by the faculty.
2. Develop programs and activities that may increase faculty completing Masters Degree and post graduate programs.
3. Involve faculty in the immersion program or allow other faculty to have industry experience.
4. Include seminars and workshops on blended learning , financial and budgeting and creation or formulation of lab manuals and worktexts as part of instructional development.

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AN EVALUATION OF MOODLE AS A LEARNING MANAGEMENT TOOL FOR UCLM-CCS

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College of Computer Studies

Abstract of the Study

The proliferation on the use of the Internet and online learning platforms has paved way to new management of learning. Various Learning Management Systems, such as Moodle now available for the improvement of education in general. The availability of Learning Management Systems has enabled stakeholders in creating a platform for convenience and flexibility. The present investigation is a quantitative study to evaluate MOODLE (Modular Object Orientated Dynamic Learning Environment) as a learning management tool for the College of Computer Studies in UCLM. The research was able to gather 324 respondents or 50% of the total population of the College. The research determines that most of the CCS students are male (72%) with an age range between 18 to 19 years of age (46%). Majority or 37% of the students have used Moodle for almost a year and 67% for WebDev11 as the subject that uses Moodle the most. Students strongly agree that Moodle is a learning management tool in terms of accessibility, support to learning management, monitoring and feedback. Class notes, quizzes and assignments are the most useful features for the students. User Interface has the greatest number of issues and concerns or 23%. These issues and concerns will also be considered for the improvement of Moodle.

Keywords : *Moodle, Learning Management Tool, Learning Management Software*

Introduction

Learning platforms have expanded with the availability of the internet, affordable and accessible resources. Most learning platforms are online, some are even cloud-based and are open-source. Learning Management System or LMS is one of the learning platforms used today.

Learning Management Systems (LMS) have become a testament to innovation and revolution in the education system. The shift towards online learning management system has provided both the learners and the educators better opportunity for engagement and a new environment to keep up with the advancements in technology. The organization of learning materials, its accessibility and distribution, monitoring performance and feedbacking are just some of the rewards of the LMS. Institutions have implemented LMS to augment the existing resources and leverage teaching and learning initiatives. But it should be emphasized that there are underlying factors such as acceptability and availability of requirements for LMS to be successful.

There is a guarantee that LMS will provide the flow of information in a secure and efficient manner (Goyal & Tambe, EFFECTIVENESS OF MOODLE-ENABLED BLENDED LEARNING IN PRIVATE INDIAN BUSINESS SCHOOL TEACHING NICHE PROGRAMS, 2015). Furthermore, its statistical analysis allows teachers to determine and assess the performance of the students. With the benefits of LMS, no wonder it has become part of blended learning. According to the study entitled Learning Management Systems on Blended Learning Courses, there are at most 180 LMs available in the market as of 2017 (Kuran, Pedersen, & Elsner, 2018).

Moodle which stands for Modular Object-oriented Dynamic Learning Environment is one the most popular LMS today. It is widespread in all areas of education and in commercial organizations as well. It has 104,915 active sites with the Philippines having 318 sites, registered in 225 countries, 100 languages

and with millions of users (www.moodle.org, 2019). As a popular open-source LMS, it has features such as dashboards, learners tracking, multimedia support and support mobile integration as well.

Taking a step to innovation and technology, institutions like University of Cebu should be onboard. Moodle has been utilized in UCLM-CCS since 2012. This started with a few teachers using the platform for online examinations and assignment submissions. Up to this time, Moodle has been part of the teacher's tool for teaching and students' resource for learning.

In this study, the researcher will evaluate Moodle as an educational tool in terms of accessibility, performance, monitoring and feedback. This study will also identify its utilization, usefulness and some barriers that needs to be addressed.

Related Studies

Richard Hall (2016) enumerated the benefits of Moodle to the learners as follows: ease of use, engaging content, communication and collaborating with peers, dashboard, tests, accessing the materials 24/7, self-reflection and gamification. (Hall, 2016). He further stated that online learning, specifically Moodle is the ideal solution to bring the classroom into the 21st century.

The benefits of Learning Management System include organization and safety of data, monitors learner's progress and performance, improves resource allocation (Pappas, 2017).

According to the study of Bahsh and Daoud entitled "Evaluation the Use of Moodle to Achieve Effective and Interactive Learning", universities can increase competitiveness through increasing efficiency of teaching. The use of LMS specifically, Moodle can ensure the flexibility and quality of course delivery, accessibility of education resources and advanced learning activities and collaborative work of students (Bahsh & Daoud).

Objectives of the Study

This study is expected to evaluate Moodle as a Learning Management Tool for UCLM CCS. Specifically, this study aims to:

1. Define the utilization of Moodle;
2. Evaluate Moodle as a Learning Management Tool in terms of:
 - 1.1. Accessibility
 - 1.2. Support to learning management
 - 1.3. Monitoring and Feedback
3. Determine the usefulness of the various tools and features;
4. Determine the issues and concerns on the use of Moodle.
5. Identify improvements on the utilization of Moodle.

Framework of the Study

The system approach is adopted in this study. It is consisting of four (4) parts namely: input, process, output and feedback.

Input: The researchers considered the students data in terms of student information, courses using Moodle, the utilization and usefulness of the different features of Moodle and its evaluation as a learning Management tool.

Process: The study considered the analysis of the profile of respondents, distribution of questionnaire.

Output: It is focused on the results on the utilization of Moodle and its evaluation of as a learning management tool.

Feedback: Feedback occurs when there are revisions or modifications in the system. It may go back to the input stage or to the process stage if there is a problem encountered from the output that needs revisions or changes in the system

Methodology

The descriptive method of research was considered in the conduct of the study. The researchers carried out this research by observing several accepted procedures. After the approval from the Program Research coordinator, the researchers distributed the questionnaire thru google forms. Responses were gathered and numerical data analysis was proposed.

The respondents of the study consisted of 641 students of the College of Computer Studies. However, there were only 319 questionnaires retrieved or 53% response rate. All data were presented quantitatively. The statistical tools used were: averaging, percentage technique, weighted mean.

Results and Discussions

On Demographic Profile

Table 1 : Sampling of Respondents

YEAR LEVEL	Total Number of Students	No. of Respondents	Response Rate	Percentage Distribution
1st year	296	106	36%	33%
2nd year	167	131	78%	40%
3rd year	74	40	54%	12%
4th year	104	47	45%	15%
TOTAL	641	324	51%	100%

Table 1 shows that most of the respondents are first year students or 36% response rate. The first years also has the greatest number of students in the entire College and the 3rd year level has the least number of students as also shown in the total response rate of 12%.

Table 2: Gender of the Respondents

Gender	N	f
Male	234	72%
Female	90	28%
TOTAL	324	100%

Table 2 shows that majority of the respondents are Male with 72% of the total number of respondents.

Table 3 : Age

Age	N	F
18-19	150	46%
20-21	98	30%
22-23	35	11%
24-25	18	6%
26 and above	23	7%
TOTAL	324	100%

Table 3 displays that most of the age bracket of the respondents is between 18-19 years old (46%) followed by 20-21 years old (30%).

Utilization of Moodle

To understand the influence of Moodle, the research collected data as to identifying how long have the students used Moodle, subjects using Moodle and where they usually access the e-learning platform.

Table 4 : No. of Years Using Moodle

No. of Years	N	f
0-1 year	119	37%
1-2 years	134	41%
3-4 years	54	17%
above 4 years	17	5%
TOTAL	324	100%

Table 4 shows that most of the respondents have used Moodle for less than a year. This also coincides with the data in Figure 1 that most subjects using Moodle are first year subjects (Comprog11 and WebDev11), signifying that most of the respondents are first years and first-time users.

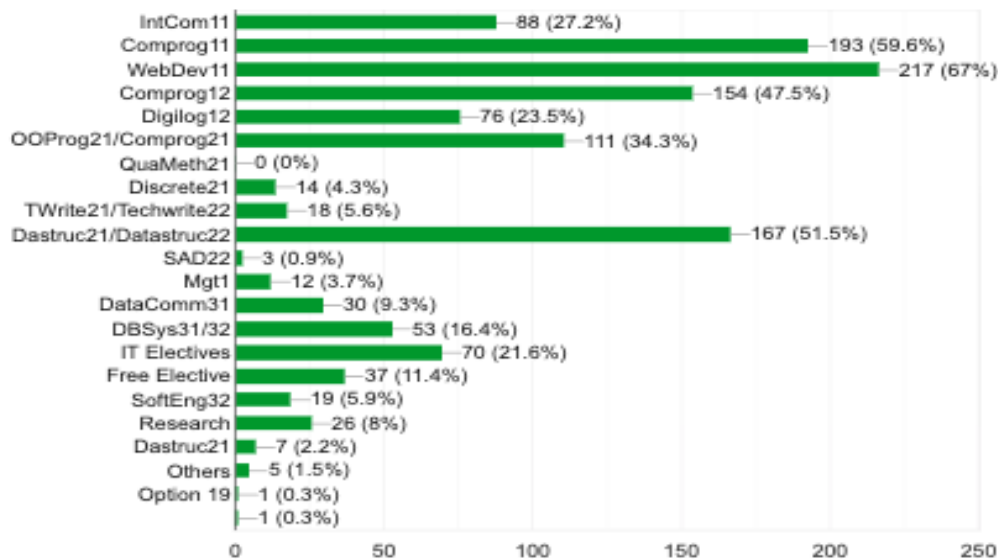


Figure 1: Subjects Using Moodle

Table 5 : Access to Moodle

Access to Moodle	N	%
In School	314	59%
At Home	211	40%
Internet Café/Computer shop	7	1%
TOTAL	532	100%

Table 5 shows that most of the students access Moodle in school. Moodle, as an online platform, can be accessed anywhere for as long as there is internet connection. In school, CCS can be accessed in the laboratory even without Internet Connection.

Evaluation of Moodle as a Learning Management System

Moodle is evaluated as to its effectiveness as a learning management tool to students. Table 6 shows the three (3) functions for evaluation which are Accessibility, support to learning management, and monitoring and feedback.

Accessibility to Moodle means being readily available and consistent to a wide audience (e-Think). Table 6 signifies that the students strongly agree on the accessibility of Moodle. In terms of performance in the classroom, students Strongly Agree that it has improved their performance in the classroom as regards to being aware of the content, outcomes and tracking of performance. Further, for Monitoring and feedback, students strongly agree to this functionality. Immediate response to activities and report generation supports the learning management.

Table 6 : Evaluation of Moodle as a Learning a Learning Management

Accessibility	Strongly Agree	Agree	Disagree	Mode
	[3]	[2]	[1]	
Access to learning materials 24/7	180	143	1	Strongly Agree
Ease and fast access to learning resources and materials	169	152	3	Strongly Agree
Improved uploading and submission of assignments and projects	195	125	4	Strongly Agree
Sharing and download of lecture notes and assignments	197	120	7	Strongly Agree
Updated announcements and class notices	199	118	7	Strongly Agree
	Average Weighted Mean			Strongly Agree
Support to learning management				
Awareness on the learning outcomes and competencies	156	165	3	Strongly Agree
Awareness of learning performance	161	160	3	Strongly Agree
Improved understanding of the lesson	165	155	4	Strongly Agree
Faster completion of academic activities	165	154	5	Strongly Agree
Improved planning of learning activities	168	151	5	Strongly Agree
Personalized homepage to manage notes and resources	173	147	4	Strongly Agree
upgraded mode of submission of deliverables	169	150	5	Strongly Agree
tracking the progress of the activities	171	148	5	Strongly Agree
	Average Weighted Mean			Strongly Agree
Monitoring and Feedback				
Immediate feedback on the results of assessment	159	161	4	Strongly Agree
Tracking progress of deliverables	148	173	3	Strongly Agree
statistical and graphical display of results of assessment	159	160	5	Strongly Agree
Faster generation of reports	153	166	5	Strongly Agree
	Average			Strongly Agree

Usefulness of the features of Moodle are also considered. A listing of the different features was assessed and Table 8 showed that Class notes specifically on the downloading and uploading of files have the highest ranking and the most useful of the all the features of Moodle. It is then followed by Quiz and Announcements, ranked 2 and 3 respectively. Chat is the least useful of all feature which is ranked 12.

Table 7 : Usefulness on the various features of Moodle

Usefulness of Moodle	Very Useful	Useful	Not Useful	Mode	Rank
Class Notes (uploading and downloading of files)	238	83	3	Very Useful	1
Quiz	225	95	4	Very Useful	2
Announcements	223	98	3	Very Useful	3
Assignments	209	112	3	Very Useful	4
Completion Activity/Tracking	210	107	7	Very Useful	5
Survey	193	127	4	Very Useful	6
User Profile	167	147	10	Very Useful	7
Database	161	154	9	Very Useful	8
Forum	160	148	16	Very Useful	9
Attendance	167	128	29	Very Useful	10
Gradebook	153	149	22	Very Useful	11
Chat	98	150	76	Useful	12

Issues and Concerns on the use of Moodle

Table 8 : Issues and Concerns on the Use of Moodle

Issues and Concerns on the Use of Moodle	F	%	Rank
Interface/user Design	126	23%	1
Technical Support(Networking and Bandwidth)	102	19%	2
Security and Privacy Issues	98	18%	3
Technical Skills	69	13%	4
Literacy to Moodle	65	12%	5
Additional Work	65	12%	5
Others	11	2%	7
None	10	2%	8
TOTAL	546	100%	

Table 9 displays that user interface and design (23%) has the highest number of issues. Because Moodle is based on templates or ready-made designs, administrators of Moodle are choosing from the available templates for faster and easy administration. Concerns and issues on Moodle also include Technical Support (19%) and Security/Data Privacy Issues (18%). Because Moodle is an online platform, requirements includes internet connection and is located in the local server of UCLM. Thus, when there is no internet connection and when the server is down, Moodle cannot be accessed and disabling its

accessibility. Although students raise the privacy and security, Moodle ensures the protection of privacy and security. This is done by requiring students to log-in and forced to change their password on first log-in.

Improvements on the Utilization of Moodle

On the results of the survey, the research was able to gather data to further improve the utilization of Moodle as follows:

1. Focus on the use of Gradebook, Attendance and chat as these are the features with lowest usefulness;
2. Consider enhancing the conduct of monitoring and feedback to increase its effectiveness for learning management
3. Request for technical assistance in improving the user interface of Moodle.
4. Conduct orientation and dissemination of the Moodle policy to understand Moodle in general in terms of technical support, privacy and security issues.

Conclusion and Recommendations

Based on the findings of the study, Moodle is a learning Management Tool for students with most remarks of Strongly Agree in terms of Accessibility, performance in the classroom, monitoring and feedback. The study concludes that class notes, quizzes and assignments are the most useful features of Moodle.

It is also emphasized that the user interface has the highest number of issues and concerns. This is an indication that administrators of the Moodle may seek external assistance to improve on its user interface. In terms of technical support, privacy and security, the administrators of Moodle may conduct an orientation to disseminate understanding and awareness on these issues and concerns.

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**Graduate Tracer Study of
University of Cebu Lapu-Lapu and Mandaue
College of Computer Studies
From 2011-2019**

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Abstract

Tracer Studies are important as a way of understanding the relevance and quality of programs being offered in the Universities. They are also an important tool in determining the marketability of the graduates as well assisting in the formulation of policy towards finding solutions to unemployment, thus producing globally competitive Graduates. Further, this determines the employability of the BSIT Graduates of SY 2011-2019 and reveals specifically their demographic profile and relevance of the program to employability. The study used descriptive method. Data gathered through questionnaire from 225 respondents were statistically treated using frequency and percentages and weighted mean. Most respondents came from Batch 2015-2016. Most of the alumni respondents were male. The age range among the respondents is between 21 to 35. Most of them are single. Majority or 96% of the respondents are employed. Most of them are working permanently in private organizations and working as software engineers in IT companies. Most of them perceived that their job matches with their program of study. It was revealed that on the relevance of their program of study to employability, most of them perceive as relevant specifically the skills and competencies. Some measures to boost the BSIT program for employability of the graduates are to offer subjects to focus on real industry work, use and be exposed with updated and latest tools and technologies in web development, AI and Data.

Keywords : Tracer Study, BSIT Graduates, Descriptive Research, UCLM

Introduction

The employability of the graduates is one of the factors to evaluate the effectiveness of an academic institution and the standard of instruction of a program. The quality of the graduates is also the basis to determine if they have the required outcomes of a particular field. Graduate Employability means that higher education alumni have developed the capacity to obtain and/or create work (Kinash, 2015). Moreover, employability is a sign that higher education and the industry have sustained the knowledge and skills of the graduates necessary to succeed in the real industry work.

Higher education is a key driver of the economic growth of countries. It is then the hope of any country that the universities produce the manpower needed to propel the country into high, sustained and equitable development and this can be achieved if Higher education respond well to changes in the labor market (Orbeta, Gonzales, & Cortes, 2016).

With the aid of the Graduate or Alumni Tracer studies, the Higher education and the College offering the program will examine if they have sustained and maintained the relevance and applicability of the degree, through knowledge, skills and attitude acquired. This also serves as a feedback from the graduates if they have obtained the required skills of the industry. Furthermore, these studies can also aid in more graduate employability by improving, updating and revising the curriculum and instruction of

an institution, thus, acting upon to the demands of the industry from graduate feedbacks. Related to this, graduate tracer studies help the education institutions assess the attainment of its vision, mission and goals.

The new Graduate Tracer Study of the University of Cebu Lapu-Lapu and Mandaue is a more specific survey for the computing programs. This survey sought information on the graduates particularly the nature of their work as well as identifying the relevance of their degree to their current jobs. In addition, the graduates were asked to give suggestions on how to further improve the curriculum.

University of Cebu LM College of Computer Studies is committed to vision in producing quality and globally competitive computing professionals, hence accomplishing this study. This study identifies the employability of the IT graduates starting from School year 2010-2011 up to 2018-2019. Specifically, this will show the employment data of the graduates as to demographic profile, level of competency in terms of knowledge, skills and attitudes.

Related Studies

One research project emphasized the importance of graduate tracer studies to address the challenges for Malta's education system. It addresses the issue on graduate's employability, career patterns, and progression in the labor market. It further addressed that there should be a graduate survey to allow monitoring over time particularly with the graduates transition into the labour market and their labour market outcomes (Education, 2016).

Another article explained the importance of Tracer studies. It is to provide and maintain curriculum relevancy with investigation on the links between higher education and graduate employment. (Use of Alumni Tracer Study to Maintain Curriculum Relevancy, 2018).

Another study explains the intrinsic and extrinsic benefits of Graduate Tracer studies. Intrinsic results can be used by Higher Education to point areas for improvement in study and service programs (Badiru & Wahome, 2016).

Objectives of the Study

This study is expected to determine the employability of the BSIT graduates of University of Cebu LM College of Computer Studies from school year 2010-2011 up to 2018-2019.

Specifically, this study aims to :

1. Identify the demographic profile of the respondents in terms of:
 - 1.1. Alumni data;
 - 1.2. Educational background; and
 - 1.3. Employment Information.
2. To determine the relevance of the program to the employability among the alumni respondents in terms of:
 - 2.1. Curricular structure;
 - 2.2. Skills; and
 - 2.3. Competencies.
3. To propose recommendations for curricular improvements for the competitiveness of the BSIT graduates.

Framework of the Study

The system approach is adopted in this study. Figure 1 presents the concept of the study. It consisted of four (4) parts namely: input, process, output and feedback.

Input: The researcher considered the following profile of the Bachelor of Science in Information Technology graduates from SY 2011-2019 in terms of a) alumni data, b) educational background, c) employment information, d) relevance of the program to the employability in terms of curricular structure, skills and competencies.

Process: The study considered the analysis of the profile of respondents, distribution of questionnaire

Output: It is focused on the general and specific whereabouts of the BSIT graduates including the proposed suggestions and recommendations to enhance their competitiveness.

Feedback: Feedback occurs when there are revisions or modifications in the system. It may go back to the input stage or to the process stage if there is a problem encountered from the output that needs revisions or changes in the system.

Methodology

The descriptive method of research was considered in the conduct of the study. The researchers carried out this research by observing several accepted procedures. First, permission to conduct the research proposal was solicited by the researchers after the presentation and approval by the Research Committee through the UCLM Research and Statistics Office (URSO). Second, The researcher prepared and validated questionnaires were sent to the graduates through email, Facebook Alumni group accounts and other forms of delivery. A letter was attached to the questionnaire to inform the respondents about the study and assure them about the confidentiality of the data. Third, the researchers retrieved the answered questionnaires. Fourth, numerical analysis in the gathered data was performed. Lastly, the proposed measures to enhance the competitiveness of graduates of BSIT Programs were prepared.

The respondent of the study consisted of 866 graduates from Batch 2011 to 2019. However, there were only 225 questionnaires retrieved or 26% response rate. All data gathered were presented quantitatively. The statistical tools used were: averaging, percentage technique and weighted mean.

Table 9 : Sampling of the Respondents on the Tracer Study

Year Graduated	Total Graduates	No. Of Respondents	Response Rate	Percentage of Distribution
2011	62	18	29	8
2012	58	22	38	10
2013	130	28	22	12
2014	83	14	17	6
2015	104	33	32	15
2016	71	34	48	15
2017	109	25	23	11
2018	124	28	23	12
2019	125	23	18	10
TOTAL	866	225	249	100%

Results and Discussions

This section discusses the results and findings of the study which were made as the basis in the formulation of conclusions and recommendations including the proposed enhancement program.

On Demographic Profile

Alumni Data

Table 1 showed that majority of the respondents were from Batch 2014-2015 and Batch 2015-2016. Table 2 showed that most of the respondents are male. It also revealed that the average age of the respondents is 23 and lastly, it also revealed that majority of the civil status of the alumni respondents are single in all batches.

Table 10 Alumni Data Profile

Year Graduated	Total Graduates	Male	Female	Average Age	Single	Married
2011	18	12	6	27	17	1
2012	22	15	7	27	21	1
2013	28	18	10	27	25	3
2014	14	12	2	26	10	4
2015	33	25	8	24	32	1
2016	34	24	10	23	32	2
2017	25	12	13	23	25	0
2018	28	19	9	23	27	1
2019	23	16	7	23	23	0
TOTAL	225	153	72		212	13

Educational Background

Table 3 shows that there are only a few respondents who took up and passed professional examinations; finish advanced studies like master's and doctorate degrees and other professional studies after finishing their undergraduate studies.

Table 11 : Educational Background Profile

Year	No. Of Graduates	Passed Professional Exams	Bachelor	Masters	Post Graduate	Professional Studies
2010-2011	18	2	18	-	-	2
2011-2012	22	2	22	-	-	2
2012-2013	28	2	28	-	-	2
2013-2014	14	1	14	-	-	-
2014-2015	33	2	33	-	-	3
2015-2016	34	-	34	-	-	3
2016-2017	25	1	25	-	-	2
2017-2018	28	1	28	-	-	1
2018-2019	23	-	23	-	-	-
	N=255	11	225			15

Employment Information

Table 4 shows that majority of the alumni respondents are currently working. There are a minimal number of them who are not employed or never been employed due to the reasons such no job opportunity or engaging in advanced or further studies.

Table 12 : Employment Status

Batch	No. Of Graduates	Employed	Not Employed	Never Employed
2010-2011	18	18	-	-
2011-2012	22	22	-	0
2012-2013	28	27	1	-
2013-2014	14	13	1	-
2014-2015	33	32	0	1
2015-2016	34	32	1	1
2016-2017	25	25	0	-
2017-2018	28	28	0	-
2018-2019	23	19	4	-
	N= 225	216	7	2

Table 5 shows the employment history of the alumni respondents as to employment type. It can be observed that almost all employed are regular or permanent. Only a few are temporary and casual.

Table 13 : Employment History as to Employment Type

Batch	No. Of Graduates	Regular or Permanent	Temporary	Casual	Self-Employed
2010-2011	18	16	0	2	0
2011-2012	22	18	3	0	0
2012-2013	28	22	3	0	2
2013-2014	14	13	0	0	1
2014-2015	33	23	7	1	1
2015-2016	34	25	6	1	1
2016-2017	25	20	2	1	2
2017-2018	28	22	3	2	1
2018-2019	23	9	9	0	1
	N= 225	168	33	7	9

Table 6 indicates the employment history of the alumni respondents according to employment sector. It reveals that all the alumni respondents are working in the private organizations.

Table 14 : Employment History Profile as to Employment Sector

Batch	No. Of Graduates	Private	Government	NGO/Non-Profit
2010-2011	18	18	0	0
2011-2012	22	21	1	0
2012-2013	28	25	2	1
2013-2014	14	13	0	1
2014-2015	33	32	1	0
2015-2016	34	33	1	0
2016-2017	25	21	3	1
2017-2018	28	28	0	0
2018-2019	23	23	0	0
	N=225	214	8	3

Figure 1 shows that among the organizations or companies that alumni respondents are employed in the IT Industry have the most number. This is followed by other industries such as Banking and finance, manufacturing and retail among others. And the third is the BPO/KPO.

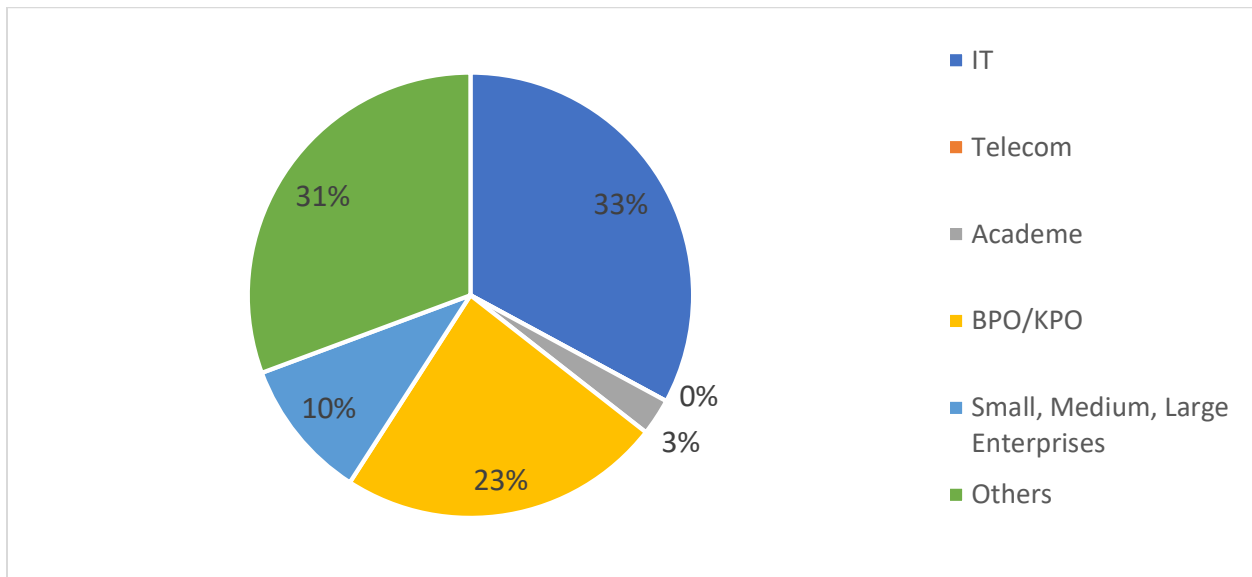


Figure 2 Major Line of Business Employers Major Line of Business of Employers

Further, Figure 2 shows that 97% of the alumni respondents are working locally, specifically in the cores cities of Cebu: Cebu City, Mandaue City and Lapu-Lapu City.

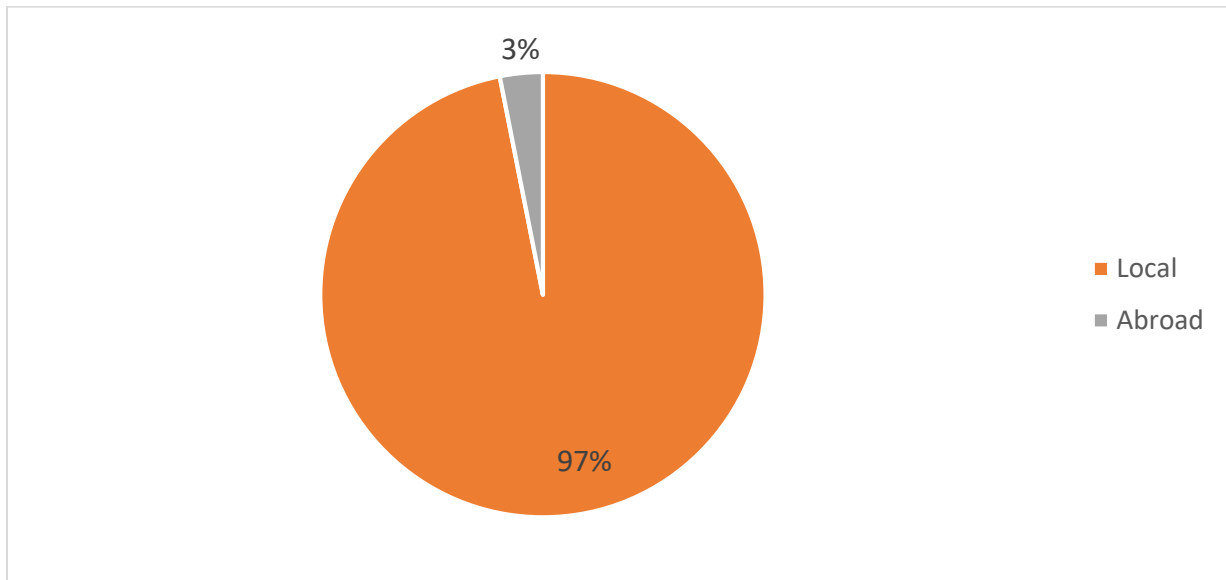


Figure 3 : Place of Work (Local/Abroad)

Table 7 reveals that the highest percentage in occupational classification of the alumni respondents is Software Engineers with 31%. This is followed by Technical Support specialist 12% and IT Clerk or Staff with 9% .

Table 15 : Occupational Classification Profile

Occupational Classification	Total	%
Software Engineer	69	31%
Technical Support Specialist/Technical Operator	28	12%
IT Clerk or Staff	20	9%
IT/Data Processor/Analyst/Entry Specialist	15	7%
Others	14	6%
Tester/Test Engineer/Web Quality Analyst	12	5%
Survey Analyst/Survey Quality Assurance Tester/Programmer	10	4%
IT Administrator/Network Engineer	9	4%
Multimedia Designer	7	3%
Systems Analyst	5	2%
Official of Government and Special Interest Organizations	5	2%
Managing Proprietor or Supervisor	4	2%
Purchase/Marketing /Social Media	4	2%
IT Instructor	3	1%
Banking and Finance	3	1%
IT Consultant	2	1%
Project Manager	2	1%
Customer Service Representative	2	1%
SEO Specialist	2	1%
Manufacturing and Medical Staff	3	1%
Information Security Administrator	2	1%
Corporate Executive or Manager	1	0%
Virtual Assistant/Chat support	2	1%
Corporate Executive or Manager	1	0%
	225	100%

The alumni respondents were also asked if their first job was related to their program of study. Figure 3 shows that 80% validates that their job relates to their BSIT Program. 20% of the alumni respondents said otherwise.

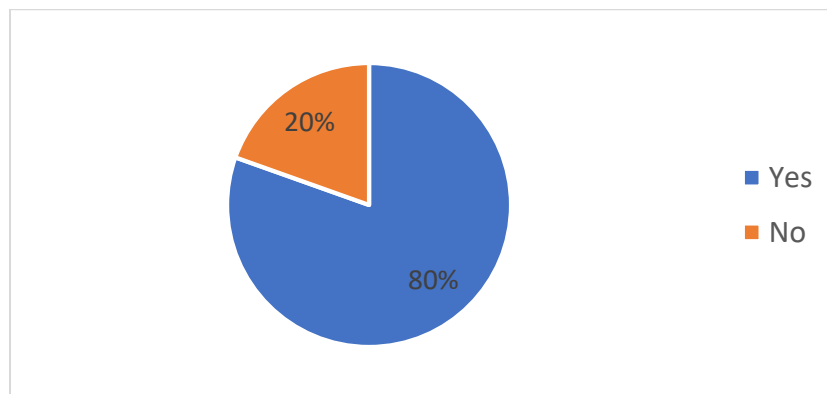


Figure 4 Relationship of the First Job to the Program of Study

Because the IT profession is one of the in demand jobs nowadays, Figure 4 proves it. In less than a month, 45% of the alumni respondents were able to find an IT related job followed by 38.3% of those in 1 to 6 months.

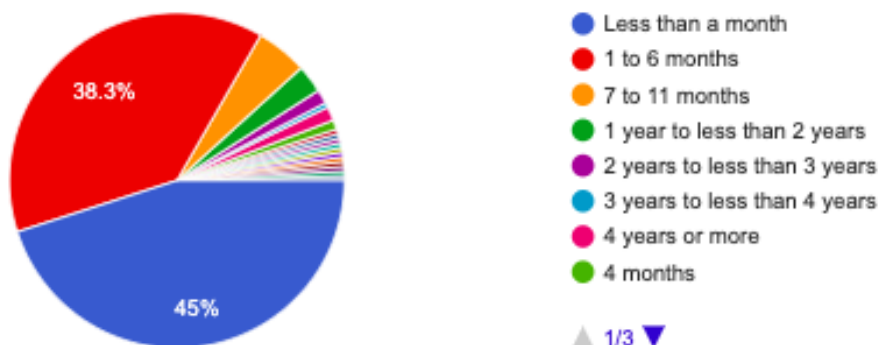


Figure 4: Duration from Graduation to Landing in First Job

Relevance of Program to Employability

Skills

Table 8 presents the alumni respondents perception on the relevance of the program of study to their employability in terms of skills. It was found out that Technical Skills is very relevant to their work followed by Ethical Skills. Leadership and Management skills are the lowest with a mean of 3.21.

Table 16 Relevance of the Program of Study to Employability as to Skills

Skills	To a Great Extent	To Some Extent	Very Limited	Not At All	Weighted Mean	Descriptive Value	Interpretation
	[4]	[3]	[2]	[1]			
Research Skills	93	100	23	9	3.23	To some Extent	Relevant
Ethical Skills	113	97	13	2	3.43	To a Great Extent	Very Relevant
Communication Skills	122	78	22	3	3.42	To a Great Extent	Very Relevant
Relations/Interpersonal	107	96	16	6	3.35	To a Great Extent	Very Relevant
Leadership/Management Skills	94	93	29	9	3.21	To some Extent	Relevant
Technical Skills	128	79	14	4	3.47	To a Great Extent	Very Relevant
WEIGHTED AVERAGE:					3.35	To a Great Extent	Very Relevant

Curricular Structure

Table 9 presents the respondents perception on the relevance of the program of study to their employability in terms of curricular structure. It was found out that Relevance to your profession has the highest relevance (3.16) followed by the teacher-student relationship (3.07), range of courses or subjects

and quality of instruction. Physical plant and facilities is the lowest having a mean of 2.77. The Composite mean is 3.35 interpreted as very relevant.

Table 17 : Relevance of the Program of Studies as to Curricular Structure

Curricular Structure	Very Highly [4]	Highly [3]	Fairly [2]	Poorly [1]	Weighted Mean	Descriptive Value	Interpretation
Philosophy & Objectives	48	122	54	1	2.96	Highly	Relevant
Relevance to your Profession	67	126	32	0	3.16	Highly	Relevant
Teachers Competence	53	108	58	6	2.92	Highly	Relevant
Teacher's Knowledge of Subject Matter	60	107	50	8	2.97	Highly	Relevant
Teaching and Learning Environment	51	118	53	3	2.96	Highly	Relevant
Teacher Student Relationship	66	112	43	4	3.07	Highly	Relevant
Range of Courses or Subjects	45	131	47	2	2.97	Highly	Relevant
Quality of Instruction	52	118	53	2	2.98	Highly	Relevant
Interdisciplinary Learning	49	121	53	2	2.96	Highly	Relevant
Laboratory Resources	58	109	51	7	2.97	Highly	Relevant
Premium Given to Research	43	111	68	3	2.86	Highly	Relevant
Library Resources	40	113	66	6	2.83	Highly	Relevant
Co-Curricular Activities	57	109	57	2	2.98	Highly	Relevant
ExtraCurricular Activities	52	104	65	4	2.91	Highly	Relevant
Physical Plant and Facilities	37	111	66	11	2.77	Highly	Relevant
Class Size	42	127	49	7	2.91	Highly	Relevant
Orientation and Community Involvement	55	112	51	7	2.96	Highly	Relevant
Organization and Administration	11	115	38	7	3.06	Highly	Relevant
AVERAGE WEIGHTED MEAN:					2.96	Highly	Relevant

Competencies

On the relevance of program of study to employability in the context of competencies, it is revealed in Table 10 that among the 13 program intended learning outcomes, PILO 2 (An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.) garnered the highest mean of 3.37 interpreted as very relevant. This is followed by PILO 5 (An understanding of professional, ethical, legal, security and social issues and responsibilities) and PILO 3 (An ability to function effectively on teams to accomplish a common goal). The lowest mean of 3.12 interpreted as relevant was that of PILO 6 (An ability to communicate effectively with a range of audiences).

Table 18 : Relevance of Program of Study to Employability as to Competencies

Competencies	Strongly Agree [4]	Agree [3]	Disagree [2]	Strongly Disagree [1]	Weighted Mean	Rank	Descriptive Value	Interpretation
An ability to apply knowledge and computing and mathematics appropriate to the discipline	63	155	7	0	3.25	10	Agree	Relevant
An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.	87	135	3	0	3.37	1	Strongly Agree	Very Relevant
An ability to design, implements, and evaluate a computer-based system, process, component, or program to meet desired needs.	76	143	5	1	3.31	8	Strongly Agree	Very Relevant
An ability to function effectively on teams to accomplish a common goal	90	125	9	1	3.35	3	Strongly Agree	Very Relevant
An understanding of professional, ethical, legal, security and social issues and responsibilities.	89	129	7	0	3.36	2	Strongly Agree	Very Relevant
An ability to communicate effectively with a range of audiences	68	139	18	0	3.22	13	Agree	Relevant
An ability to analyze the local and global impact of computing on individuals, organizations, and society	70	140	15	0	3.24	11	Agree	Relevant
Recognition of the need for and an ability to engage in continuing professional development	67	144	14	0	3.24	12	Agree	Relevant
An ability to use current techniques, skills, and tools necessary for computing practice	80	132	12	1	3.29	9	Strongly Agree	Very Relevant
An ability to use and apply current technical concepts and practices in the core information technologies	80	137	8	0	3.32	7	Strongly Agree	Very Relevant
An ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and	81	136	8	0	3.32	6	Strongly Agree	Very Relevant
An ability to effectively integrate IT-based solutions into the user environment.	84	134	7	0	3.34	4	Strongly Agree	Very Relevant
An understanding of best practices and standards and their application	83	134	8	0	3.33	5	Strongly Agree	Very Relevant
AVERAGE WEIGHTED MEAN:					3.30		Strongly Agree	Very Relevant

Table 11 shows the summary on the relevance of the Program of Study to Employability, among the 3 dimensions, skills is very relevant, followed by competencies. The composite mean is 3.20.

Table 19 Summary on Relevance of the Program of Study to Employability

Dimensions	Average Weighted Mean	Interpretation
Skills	3.35	Very Relevant
Curricular Structures	2.96	Relevant
Competencies	3.30	Very Relevant
Composite Mean	3.20	Relevant

Improvement of the Curriculum

The Alumni were also asked for suggestions and recommendations for the improvement of the curriculum and instruction and were noted as follows:

1. For web development, engage in trending technologies like AJAX, AngularJS and MVC, emphasize more on the use of CSS and Javascript;

2. when assigning projects related to website/webpage/webapp/html, have a semester wherein classes are divided into groups and assign a project related to industry and follow the SDLC especially Agile;
3. Usage of repository software like TFS and Turquoise compared to saving the whole visual studio solution file in server or shared drive;
4. Exposure to current and latest tools and technology such as AI and Data analytics;
5. Programming subjects such as Data Structures in Java and Laravel; and
6. Make classes more fun and interactive.

In addition, data was also gathered, as shown in Figure 5, to determine their Top 3 courses that are relevant to their previous and present jobs. Figure 5 shows that Programming (61%), Databases (55.7%) and Web Development (41.9%) have the highest ranking. This demonstrates that the curriculum and instruction should be strengthened in these areas for future employability and improve competitiveness of the graduates.

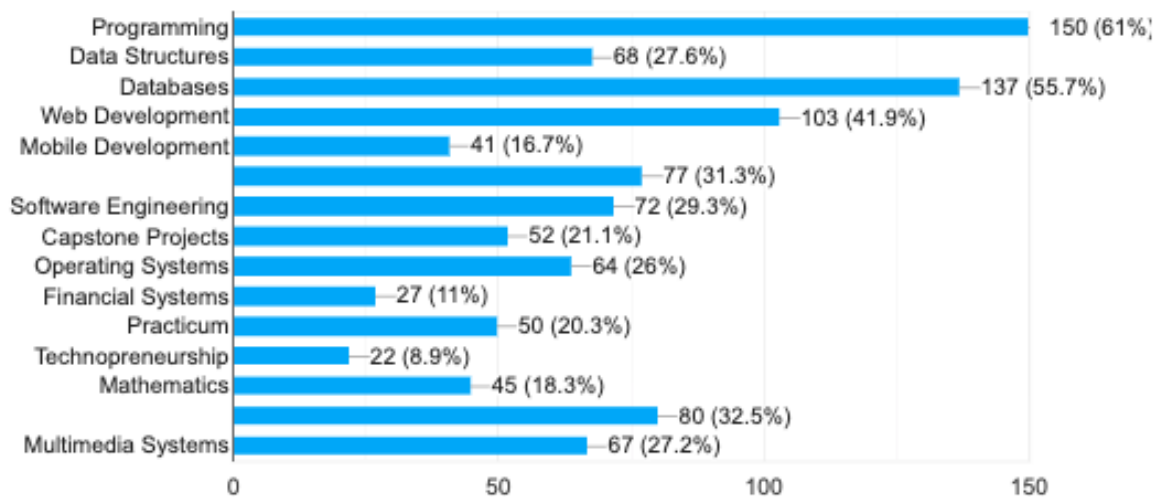


Figure 5: Subjects/Courses Relevant to Previous and Present Jobs

Conclusions and Recommendations

Based on the findings of the study, it is concluded that majority or 96 % of the alumni respondents are employed. Thirty-one percent of them are working as Software Engineers or Programmers and are employed in IT Company or in an IT line of business locally. On the relevance of the BSIT Program to their employability, it is concluded that they perceived it to be relevant especially in the Skills and competencies.

It is then recommended based on the findings to propose measures to enhance the BSIT program in such a way as graduates will work in higher IT skills. Elective subjects may also be strengthened to focus on real industry work to prepare the students for project management, data analytics, software management and other latest development platforms. Further, students and faculty development

programs should be developed and monitored so that knowledge, skills and competencies of the students will be enhanced.

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IoT UPDATES: PROPOSED INTERVENTION

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ABSTRACT

Internet of Things (IoT) provides a promising opportunity to establish powerful industrial systems and applications by emerging the growing ubiquity of Radio Frequency Identification (RFID), wireless, mobile and sensor devices to small and big companies all over the digital world. Internet of Things will transform the real world objects into intelligent virtual objects. The Internet of Things (IoT) aims to unify everything in our world under a common infrastructure, giving us not only to control of things around us, but also keeping us informed of the current state of the things. The Wireless Sensor Networks (WSNs) and Wireless Fidelity (Wi-fi) are playing main key role in several application scenarios in universities, institutions, hospitals, organizations and even in agriculture. This study uses descriptive research method by gathering data through survey of awareness in using Internet of Things (IoT) applications and current trends. Also, the advantages and challenges for Internet-of-Things is presented. The researchers proposed to start making our very own university, University of Cebu Lapu-lapu and Mandaue, a smart university by starting off in the collaboration of the Final Outputs of the students from the Bachelor of Science in Computer Engineering and Bachelor of Science in Information Technology.

Keywords: *Internet of Things, Digital Transformation, Digital Networks, Digital Technology, Digital Innovation, Radio Frequency Identification, Wireless Fidelity, Wireless Sensor Networks, Smart University*

INTRODUCTION

In our digital world today, almost all people cannot make it through the day without their mobile phone. Truthfully, there are more smart devices than there are people today and a growing number of people are connected to the Internet, one way or another, 24 hours a day. There is an ever increasing number of people relying on one or more smart devices. These smart devices include smart phones, exercise and health monitors, tablets, e-readers, laptops and the like.

Modern digital networks make all of this possible. Our world is quickly being covered with networks that allow digital services to interconnect and transmit data. These devices monitor, communicate, evaluate and in some cases automatically adjust to the data that is being collected and transmitted. As our society embraces these digital devices, digital networks continue to grow around the world and as the economic benefits of digitalization continue to develop, the researchers are beholding a digital transformation. Digital transformation is the application of digital technology to provide the stage for business and industry to innovate. This digital innovation is now being applied to every aspect of human society.

To make thirty billion things work together to provide trillions of gigabytes of data to enhance decision-making and improve lives and businesses needs networks that provide the

foundation for the Internet and the digital world. These methods that we use to communicate continue to evolve from wires and now to wireless connections.

Before a student of a Bachelor of Science in Information Technology Program graduates, they will create Capstone Project wherein the students will develop innovative applications that is relevant in our society. Also, a group of students of Bachelor of Science in Computer Engineering Program graduates, they will create a Design Project wherein the students will create a fully functional hardware prototype that is needed in a certain environment. These Final Projects cost a lot of money, time, resources and effort that leads to the delay of the students coveting their diploma. With this, the researchers would like to proposed the merging of two programs, Bachelor of Science in Computer Engineering and Bachelor of Science in Information Technology in the creation of the Final Project of the students in their Design Project and Capstone Project. The engineering students will develop the hardware part (creating the prototype) and the IT students will develop the software part (creating the program to make the prototype work). Thus, making sure in the near future for the University of Cebu Lapu-lapu and Mandaue to become the first smart university in Cebu.

RELATED STUDIES

Based on a study conducted by Talavera, on IoT applications in environmental and industrial agriculture, there are four areas including prediction, monitoring, control and logistics, are considered. Two important subjects are mentioned and answered in this study. The first one is about the fundamental technological efforts in IoT-based applications for agro industrial and environmental issues, and the second one is about the infrastructures and technologies used in the mentioned solutions. It is derived that the maximum of the papers were concentrated on monitoring (62%), and then control (25%), logistics (7%), and prediction (6%). (Talavera,2017)

Also, based on a full investigation in some issues such as smart IoT objects systems, service modeling, target applications, target platforms and service composition approaches for the IPs in IoT The main weakness of this survey is that the evaluation factors including availability, response time, cost, and scalability as important quality factors were not analyzed. (S.N. Han, et al., 2016)

These are several application domains which will be impacted by the emerging Internet of Things as shown in Figure 1. The applications can be classified based on the type of network availability, coverage, scale, heterogeneity, repeatability, user involvement and impact (O. Vermesan, 2013). The applications categorize into four application domains: (1) Personal and Home; (2) Enterprise; (3) Utilities; and (4) Mobile.

	Smart Home/Office	Smart Retail	Smart City	Smart Agriculture/Forest	Smart Water	Smart transportation
Network Size	Small	Small	Medium	Medium/Large	Large	Large
Users	Very few, family members	Few, community level	Many, policy makers, general public	Few, landowners, policy makers	Few, government	Large, general public
Energy	Rechargeable battery	Rechargeable battery	Rechargeable battery, Energy harvesting	Energy harvesting	Energy harvesting	Rechargeable battery, Energy harvesting
Internet connectivity	Wifi, 3G, 4G LTE backbone	Wifi, 3G, 4G LTE backbone	Wifi, 3G, 4G LTE backbone	Wifi, Satellite communication	Satellite Communication, Microwave links	Wifi, Satellite Communication
Data management	Local server	Local server	Shared server	Local server, Shared server	Shared server	Shared server
IoT Devices	RFID, WSN	Smart Retail	RFID, WSN	WSN	Single sensors	RFID, WSN, Single sensors
Bandwidth requirement	Small	Small	Large	Medium	Medium	Medium/Large

Figure 1. Application domains impacted by the emerging Internet of Things

Lastly, based on the results of a survey in IoT major technique, it discussed about platform layers including perception layer, network layer, service layer and the interface layer. The advantages of this study presented a comprehensive open issues and challenges in the Internet of Things. (Li et al., 2015)

METHODS

The main data were collected using a survey in the form of the questionnaire through Google forms as the primary means of instrumenting the data gathering process.

Table 1: Number of Respondents used for the study

Respondents	Population	No. of Respondents	Response Rate (%)	Percentage Distribution (%)
Back-end developer/s	5	2	40	7
DevOps/Software Engineer/s	10	2	20	14
Software Architect/s	2	1	50	3
Team/Project Manager/s	6	1	17	9
Professors/Instructors/Trainers	10	2	20	14
4 th year Students	36	17	47	52
Total	69	25	32%	100%

Table 1 shows the 25 re-selected respondents. Respondents who had the awareness, technical knowledge and experience working with Internet of Things (IoT) are the one who are considered for inclusion. Conversely, the respondents who are not knowledgeable in the Internet of Things (IoT) is excluded.

The instrument that was used in the study has twenty-one (21) questions and was divided into three sections. The first section was about the personal information of the respondents, including data, such as email address, employment type, name, company, age, position, development experience, years of service in the software industry and student information from 4th year level.

The second section focused on the awareness in using Internet of Things (IoT). It included areas about the phase of the journey in using the technology, Internet of Things experience, tools, frameworks, and programming languages; as well as best practices while working with IoT, several application domains mostly impacted by the emerging IoT, technologies commonly used in the society, current trends in Internet of Things protocols, and advantages and challenges in the use of such. Finally, the third section was composed of open-ended questions about their observations and current experiences in using Internet of things. Data were then collated, tabulated, and subjected to statistical treatment.

On the first part, the results was interpreted using simple percentage computation in determining the weights of the responses. The frequency of the responses generated was divided

by the total number of each respondent then multiplied by 100%. Furthermore, finding the modal value was used by the researchers as one of the descriptive statistics on the last part of the survey. Statements were provided to purposely seek the respondents' level of agreement on the advantages and challenges in using Internet of Things (IoT).

RESULTS AND DISCUSSION

In this section, it presents the responses of the respondents' background on the survey, the respondents' awareness in using Internet of Things and the advantages and challenges in using IoT.

Respondents

Roughly 100% of them are coming from private entities in Cebu. With small margin above majority (52.2% estimate), the respondents are aging between 21 to 25 years old. At least 13% of them are 26 to 35 years old.

Most 68% of them are 4th year students (with less than one-year development experience). Followed by Back-end developers, Software Engineers and Professors at 8% along with Software Architect and Team Manager at 4% (with 1-2-year development experience).

Thus, these numerical results confirm that respondents are not novice about industry-based development experience.

Awareness in using IOT

Phase of Journey

23 responses

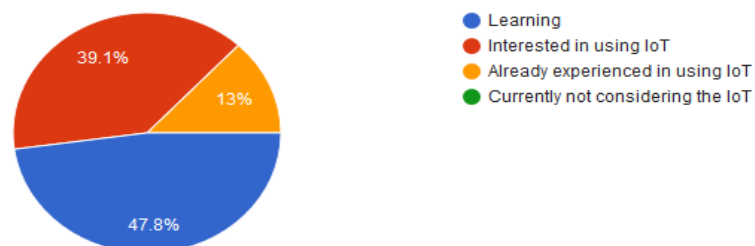


Figure 2. Phase of Journey in IoT

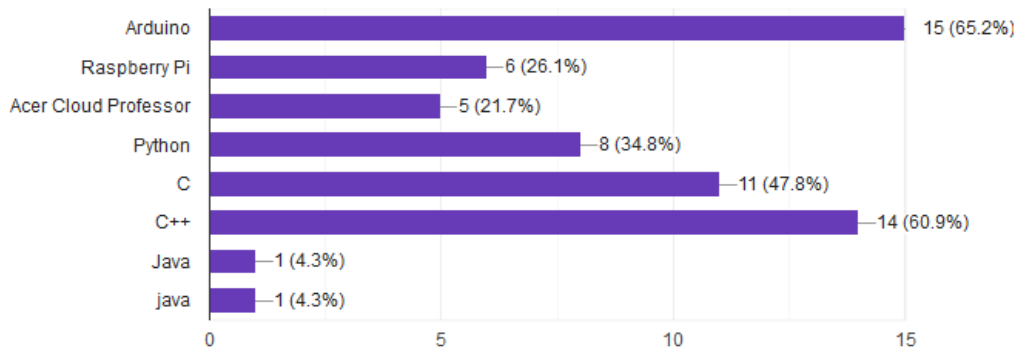


Figure 3. Best Practices for Working with IoT

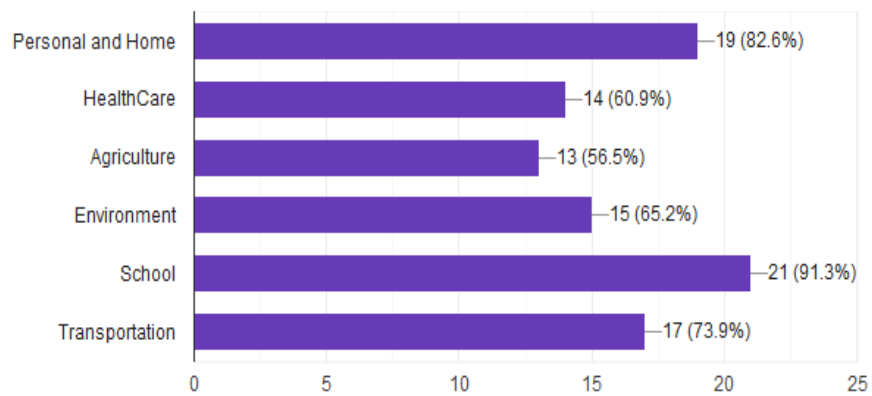
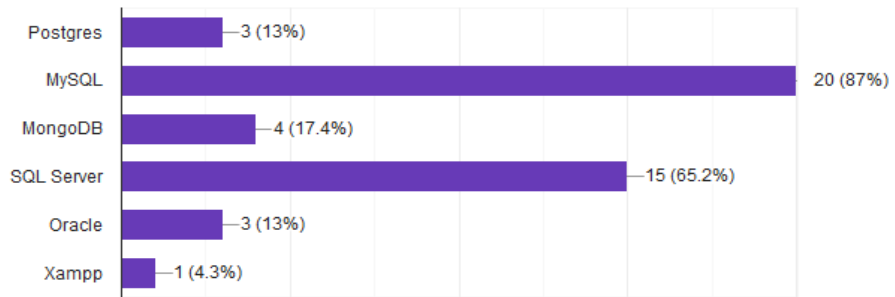


Figure 5. Impact of IoT in Different Areas of our Society

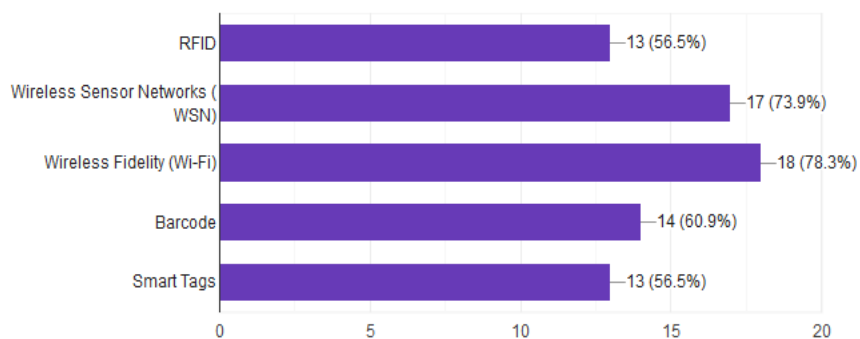


Figure 6. Technologies used in IoT

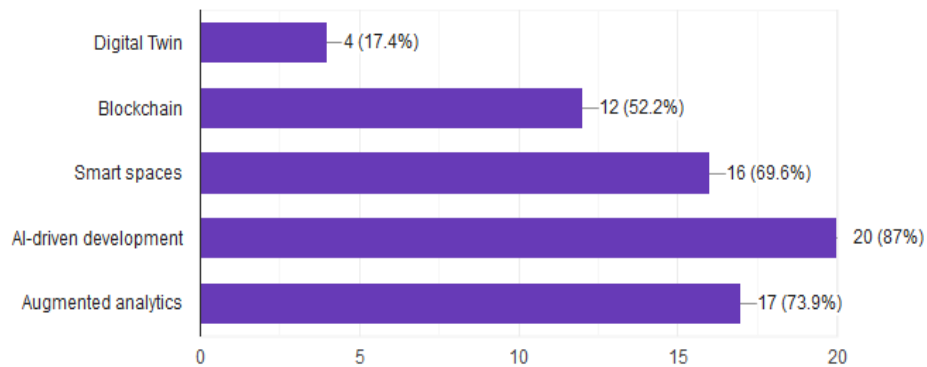


Figure 7. Current Trends in IoT

Advantages and Challenges in Using Internet of Things (IoT)

Respondents were asked on their level of agreement for the advantages of the features and challenges in using Internet of Things.

Table 3: Levels of Agreement on the Advantages of the Features in using IoT

FEATURES	MODAL RESPONSE (%)
Scalability	83% agreed
Independence	82% agreed
Manageability	92% agreed
Modularity	83% agreed
Maintainability	84% agreed
Performance	96% agreed
Technology Heterogeneity	86% agreed
Agility	84% agreed

Table 3 shows the great indicators in advantages in using IoT devices. The top 3 of these indicators that was agreed by the respondents are performance, manageability and technology heterogeneity. First, 96% respondents agreed that Internet of Things (IoT) Performance is the most important. Excellent performance level of an IoT device will provide an excellent customer support and very efficient company operations. Secondly, 92% of the respondents agreed in managing IoT solutions for greater control of things. Lastly, technology heterogeneity with 86% agreement from the respondents. The heterogeneity is necessary also because these bridges and de-couples the local area industrial communication protocols from the wide area network. The IoT is set to benefit the quality and efficiency of products and services in any.

Meanwhile, between 82%-84% of the respondents agreed on agility, maintainability, modularity, scalability and independence of the IoT devices. These are some of the benefits of IoT; the agility of the processes that can quickly respond to any significant change in weather,

humidity, air and/or health; Easy maintainability in restoring devices after a failure; modularity in IoT greatly facilitates the development of systems and the software that controls them; scalability in an IoT system needs to support large range of applications, devices, workloads, and complexity, balancing business requirements; and working independently is the least due to the availability of internet access. IoT will work when there is available internet connection. This means in Internet of Things, it is expected that a place will always have a room for leveling up and everything must be connected with the internet and are all controlled by a smart gadget like a mobile phone or tablet.

Challenges in Using IoT

Table 4: Challenges in using IoT

CHALLENGES	MODAL RESPONSE (%)
Complex Distribution Transactions	88% agreed
Testing of the whole system	97% agreed
Service Faults	91% agreed
Security	95% agreed

Table 4 shows the challenges in using IoT platform. The most critical with 97% respondents agreement is the testing of the whole system. It is important to check both the network and internal communication. Next challenge is IoT security with 95% agreement from the respondents concerning in safeguarding connected devices and networks. Another problem with 91% agreement from the respondents is service faults. There must be a fault management system in any IoT devices. The last problem is complex distribution transaction with 88% agreement in IoT. Due to its complexity, preventive measures and corrective modelling on succeeding iterations and/or updates is required. Overcoming all these challenges would truly create a very good smart place for everyone.

CONCLUSIONS AND RECOMMENDATIONS

Therefore, Internet of Things have brought a sea of technological changes in our daily lives, which in turn helps to making our life simpler and more comfortable though various technologies and applications. IoT integrates many devices equipped with sensing, identification, processing, communication, and networking capabilities as cyber physical system. Based on the respondents' results, IoT provides strong benefits for a company or institution or university that will surely give excellent customer service and very efficient company operations because of its faster performance level, manageability to absolutely control things, and its diverse state. Thus, making a smart workplace wherein all things are interconnected to each other and can be controlled anywhere as long as there is an internet connection. .

Since University of Cebu Lapulapu and Mandaue had been practicing Output-Based Teaching and Learning for holistic learning of students, the researcher's proposed to apply Internet of Things as soon as possible. Table 5 shows the action plan on how to make UCLM a smart

university by creating Collaborative Final Outputs of the students especially to the students under the program of Bachelor of Science in Computer Engineering and Bachelor of Science in Information Technology.

Table 5: Action Plan

GOAL: Collaborative Final Output for the graduating students of Bachelor of Science in Computer Engineering and Bachelor of Science in Information Technology who will apply Internet of Things Projects to be used anywhere in the University of Cebu Lapu-lapu and Mandaue.

OBJECTIVES	PERSON IN-CHARGE	DESIRED OUTCOMES	TIMELINE	BUDGET
To identify the students on the campus that can be dedicated for this purpose	Bachelor of Science in Computer Engineering and Bachelor of Science in Information Technology Graduating Students	BSCompE and BSIT Graduating Students will collaborate in creating their Final Project	August 2019	-
To create a Letter of Collaboration address to the Deans of the College of Allied Engineering and the College of Computer Studies	Dr. Aurora Miro, College of Computer Studies Dean and Engr. Roland Fernandez, College of Allied Engineering Dean	Approved Letter of Collaboration of the two colleges.	September 2019	-
To create a Letter of Approval to the Campus Academic Director of the Collaboration of Projects between the two colleges.	Dr. Anna Liza B. Son, UCLM Campus Academic Director	Approved Letter by the Campus Academic Director of UCLM	September or October 2019	-
To held a meeting/forum about the Collaboration Project	College Deans, BSIT and BSCompE Graduating Students	Collaboration Project Guidelines	2 nd Semester of School Year 2019-2020	1,000.00
To implement the Collaboration of Final Projects between BSCompE and BSIT Graduating students.	Capstone Project Instructors, Design Project Instructors, BSIT and BSCompE Graduating Students	Students will identify and implement an Internet of Things Project	2 nd Semester of School Year 2019-2020	5,000.00-10,000.00

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GaBuy: Consumer-Awareness Price Watch Application
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ABSTRACT

This study is conducted with its purpose to provide awareness to Filipino consumers and guide them on which goods to buy. GaBuy: Consumer-Awareness Price Watch Application, is a mobile application that lists the different basic necessities and prime commodities monitored by the Department of Trade and Industry (DTI). These goods being listed are goods that are necessary and essential for the survival of the citizens especially during times of calamity. The objectives of this study are: to develop a user-friendly and accessible price monitoring application, notify users on price changes of basic necessities and prime commodities, set a standard for product prices by utilizing the Suggested Retail Price (SRP) and provide awareness to consumers on the different prices and their constant change. The application can list the different goods showing their actual prices from different stores and comparing them to the SRP. The application also notifies users on their mobile phones on different announcements concerning basic necessities, prime commodities and their change in prices. Users of the application can rate and review the different goods sold in different markets to know their opinions of the goods being sold. The application is currently accessible to Android users on the mobile platform and only those with access to internet connection. Agile methodology is used in developing the application. On a high-level view, the development of GaBuy started with visualizing and focusing on the problem and the pain point of consumers, then visualizing on the value the application can give to consumers. After the initial phase, we started creating the high-level design of the application focusing on the main functionalities and capabilities of the system. After the design phase, we divide and plan the application into different modules and working on them one by one. After developing a single or a batch of modules, we deliver them to DTI with proper documentation and receive their feedback based on our working deliverable, adapting to DTI's inputs until the completion and deployment of the application.

Introduction

Filipino consumers traditionally go out for grocery shopping twice a month, especially on paydays, in bulk, but this behavior has shifted, and Filipino consumers now shop for groceries seven times a month on average, only buying what they need (Nielsen, 2013). Not all Filipinos are currently aware of the change in prices of basic necessities and prime commodities. Consumers are only given a heads-up on prices through television, but the information traversed through television, but the information traversed through it is incomplete and restricted to only specific regions. Not all consumers have time to watch or listen to the morning broadcast, making them oblivious to the increase in product prices. With the implementation of Tax Reform for Acceleration and Inclusion (TRAIN), Filipinos are getting anxious over the increased prices of electricity, food, transportation, etc.

(Inquirer, 2018). Some consumers are very frugal and tend to switch to cheaper alternatives, but it is very problematic grocery shopping when they don't know the prices, especially if they are on a budget, always wandering from store-to-store, market-to-market just to value the money being spent by the consumers.

The SRP, or Suggested Retail Price, serves as the basis for product prices, and is updated almost on a weekly basis. The SRP is provided by the retailers and manufacturers and is then given to DTI, or Department of Trade and Industry. The SRP supposedly changes every day but there are many processes involved for it to be approved and released to the public, causing a delay in the relay of information, adding more problems to consumers. Product quality is a must in purchasing basic necessities and prime commodities, price matters but so does product quality. Some Filipino consumers have the preference of buying the cheapest product regardless of the quality and its effectiveness when used.

Information is very essential in the current era where technology is advancing rapidly. In the digital era, having more information gathered gives you a commanding advantage in different fields depending on the information. But unlike before, where data gathering requires a subtle amount of effort, data can now be accessed merely and effortlessly because of the Internet. Online services are rising as technology, and the Internet is expanding. Most consumers now have access to the Internet that can assist them in almost anything when it comes to gathering information. But sometimes the Internet, being too broad, cannot provide what the users are precisely looking for. Local prices necessities can be provided by the Internet but there are many constraints. The consumers, who do not have access to the Internet, rely on daily news reports, which only provides prices on specific areas. Developers create applications for that problem. Applications or Software Applications are system programs that are designed for the end-user (Techopedia, n.d.). Applications enable users to perform tasks efficiently compared to doing tasks manually, or by hand. Technology has advanced rapidly and equipped, so far, the most convenient way of doing different jobs – mobile applications. Advances in mobile technology can develop a variety of applications that can be used by people on the move (Harrison, Flood, & Duce, 2013). Application Programming Interface, or API, is one of the technological advances available on both the web and mobile platforms that provide ease and convenience to both app users and developers. API is a software intermediary that allows two applications to talk to each other (Mulesoft, n.d.). API's are now commonly used in developing mobile apps, some of the API's that are free to use, especially the API's provided by Google. API's can provide maps, enabling the use of GPS, or Global Positioning System, and charts that scales on the statistics provided by the app.

The proponents aim to create a system that aids in purchasing necessities, prime commodities and awareness towards the current and, possibly, future prices. The proposed application is entitled "GaBuy: Consumer-Awareness Price Watch Application" "GaBuy" is an application for both web and mobile platforms that lists necessities and prime commodities approved by DTI. The proposed application notifies the users on what prices are on par with the SRP and which prices are currently increasing to provide awareness to current prices and possible price hikes. Users can also search for specific products that they want to buy.

“GaBuy” provides a price trend based on prevailing prices and locates the establishment selling a specific product through a location map. To ensure the quality of the products, “GaBuy” has a rate-and-review section for users to input their opinions on a specific product and rate it to give users a heads-up on what to buy and what not to buy.

Price monitoring applications, especially for the mobile platform, are common but not all are the same. For local competitors, DTI already has a price monitoring system called “E- Presyo” where consumers can check the prevailing prices of basic necessities and prime commodities that are being monitored by the DTI (DTI, n.d.). Meralco is a price monitoring application to monitor electricity usage on appliances with Meralco’s “Orange Tag” (Meralco, n.d.).

Objectives of the Study

The primary objective of this conducted study is to develop and create an organized and significant web and mobile-based online price monitoring system that will assist consumers by providing an accurate price list of necessities and prime commodities, affiliated with the Department of Trade & Industry (DTI).

The proponents aim to:

- develop a user-friendly and accessible price monitoring application;
- build an application that will help consumers spend less by giving them information about the prices of goods and indicating if the product is on par with the SRP;
- set a standard for product prices by utilizing the Suggested Retail Price (SRP);
- provide awareness to consumers when it comes to price change;
- assist grocery shoppers on which products to purchase;
- notify users on price changes of basic necessities and prime commodities.

Methods

The study was conducted in Cebu City, in the Department of Trade and Industry (DTI) Region VII branch (About DTI, n.d.). Part of DTI’s goal is to reduce inequality and poverty by expanding the economic opportunities for Filipinos with small and medium enterprises and Filipinos working overseas. This goal is planned to be attained by 2022 and to accomplish it, DTI, with the cooperation of the Filipinos, needs to – increase local and foreign direct investments, increase competitiveness, innovativeness and resilience of industries and services, improve access to finance, to production networks, and to markets, enhance productivity, efficiency, and resilience, ensure consumer access to safe and quality goods and services. Some of these tasks need to be performed to achieve their goal involves price-monitoring.

The proponents of GaBuy conducted an interview with the representatives of DTI – Cebu. The highlights of the interview were the SRP (Suggested Retail Price), price change and DTI’s IT-related initiatives. In the interview, the representative of DTI stated that the manufacturers of goods are the ones providing the SRP based on the production costs. DTI only handles and disseminates the information. The actual SRP changes almost every day but

DTI cannot update this information on a daily basis as it goes through formal verification processes, making consumers unaware of the sudden increase or decrease in the prices of goods. The term “overpricing”, in layman’s term, is the excessive increase in the price of a certain goods. But DTI only considers the price as overpriced if – the specified product is monitored by DTI and if there is 10% constant increase within 3 months. DTI is now venturing in a multiple initiatives involving creation of applications (both web and mobile). The representative of DTI mentioned of proposing an application similar to GaBuy but only monitors the prices of sari-sari stores in order for them to set a price standard or a different SRP for those small local stores.

The New System

The development of “GaBuy: Consumer-Awareness Price Watch Application” is focused on the monitoring of products in real time through the assistance of the Department of Trade and Industry (DTI). The proponents determined the scope and limitations of “GaBuy”, before its development, to identify the boundaries of the system.

The Users can:

- View the product list based on different categories: Agricultural Resources, Manufactured Resources, Natural Resources, Health Resources, and Energy Resources;
- search for a specific product;
- “Bookmark” a product to conveniently track certain products;
- create a shopping list to assist grocery shoppers on what they want to buy;
- locate a product through maps API;
- rate and review a product to ensure the quality of products based on the other user’s reviews
- view announcements;
- get notified on price changes.

The Admin can:

- Add a product through input or file import;
- add an announcement to notify the users;
- generate the complete list of basic necessities and prime commodities, their prices and the market locations;
- provide notifications to users on sudden decrease or increase of prices.

The Main Use-Case Diagram

Use case diagrams provide an overview of “GaBuy: Consumer-Awareness Price-Monitoring Application” regarding its functionalities and user-interaction.

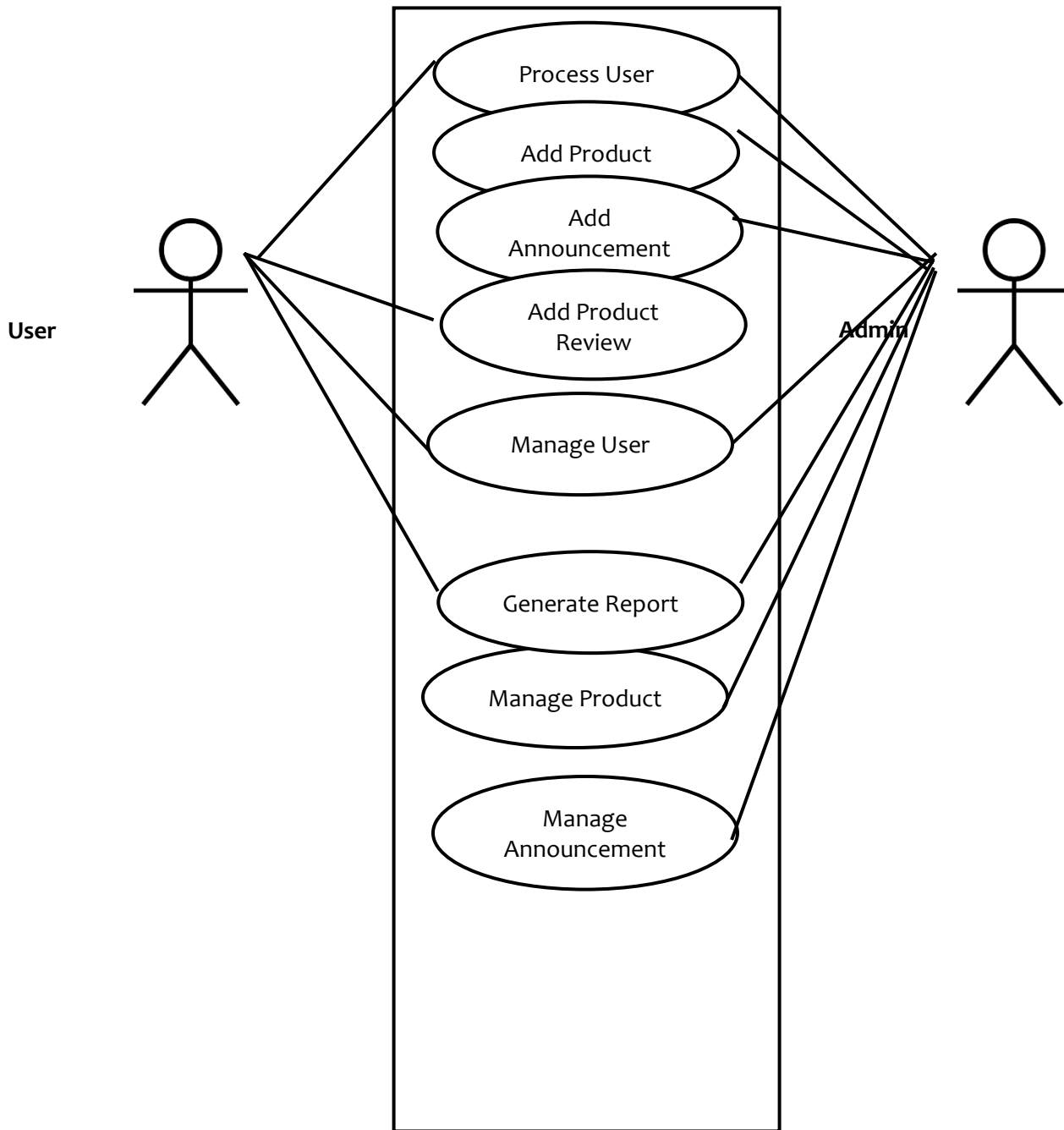


Figure 5: **GaBuy Business Use Case Diagram**

CONCLUSION

The proponent has gathered enough information to reach a hypothesis that led to the development of “GaBuy: Consumer-Awareness Price Watch Application”. The Filipino society needs more convenience as we are facing day-to-day problems in different fields. The proponent developed “GaBuy” to give ease to Filipino consumers’, especially to those who are doing the grocery shopping for their households. The interview with DTI supported the proponents’ cause of improving the Filipino consumers’ lifestyle even in the smallest possible way, by giving them awareness of different prices of essential goods in the different stores.

Therefore, the development of “GaBuy” can help a multitude of people, since in the digital era, most people have access to smartphones even in the lower social classes, which is our main target customers. Through the use of the application, consumers will be able to plan their grocery expenses properly and consume lesser time purchasing when they already know what and where to buy essential goods.

RECOMMENDATIONS

Based on the gathered information pointed out in the manuscript of the conducted study, there are multiple lapses that cannot be implemented in the application due to restrictions. Here are the recommendations for future researchers or the authorities involved in the study:

- Data gathering should be precise, as it is the basis of the study. During the data gathering, multiple opinions were heard from various people, from local grocery shoppers to the authorities from DTI. Moreover, the digital data provided by DTI has lapses and typographical errors which resulted in time-consuming corrections. Which is enough reason why data gathering should be precise and analyzed.
- There is no control over the establishments or people involved in the scope of the study. There are stores that may or may not follow the SRP, and DTI is only capable of monitoring, not reprimanding. The proponents recommend proper monitoring, not reprimanding. The proponents recommend proper monitoring of the stores to gather more accurate data as mentioned on the previous bullet.
- On the technical side, always ensure that the end user is able to comprehend the flow of the application and the developers are following the standard guidelines in developing a software/application.

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Needs Assessment of the Participants of Computer Literacy Program (CLIP) in Partner Community

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Abstract

Determining the needs of the participants in a community extension program prioritizes the topics that they will be interested to attend. This ensures that participants are motivated and interested in various topics presented in the program. The study assessed the needs of participants from Village Looc, Mandaue City, Cebu, Philippines, on the computer literacy program (CLIP) offered by the UCLM College of Computer Studies. The findings of the study were the basis for a proposed annual extension program plan for June 2018 to May 2019.

Introduction

Today's youth could definitely be called the computing generation. Baby boomers may have been introduced to computers at college or on the job, and older people may never have used a computer until after retirement, if at all, but many of today's young people have been brought up with computing technology. From video games to computers at school and home, most children and teens today have been exposed to computers and related technology all their lives. Although the amount of computer use varies from school to school, students in elementary and secondary schools typically have access to computers either in the classroom or in a computer laboratory, and virtually all colleges have some sort of computing facility available for student use (Morley & Parker, 2007).

Some of the most prominent policies in schools throughout the industrialized world today relate to the rapid introduction of computers. The most common rationale for introducing educational microcomputing is the concept of 'computer literacy'. It is a concept, however, which is so poorly defined and delineated, and so unclear as to purpose and procedure, that it may best be investigated as a form of ideology. The justificatory arguments for computers in classrooms are primarily vocational or practical. They are based on assumptions that computers will be pervasive in the workplace of the future, or that they are soon going to be 'everywhere'. The more purely pedagogical arguments are secondary: that learning about computers is a worthwhile experience in and of itself, and that computers can be useful productivity tools for other academic work (Goodson & Mangan, 1996).

In addition to curiosity (and perhaps a course requirement), a person will recognize that it will not be easy to get through the rest of life without knowing about computers. Computer literacy may be three-pronged defined: awareness, knowledge and interaction. As one studies about computers, the person becomes aware of the importance, versatility and its pervasiveness in the society. The person will also learn what computers are and how they work. This requires learning some technical jargon. And there is no better way to understand computers than through interacting with one. So being computer literate also means being able to use a computer for some simple applications (Capron & Johnson, 2004).

Today, it is easy for nearly everybody to use a computer. Microcomputers are common tools in all areas of life. Writers write, artists draw, engineers and scientists calculate using microcomputers. Students and business people do all this and more. New forms of learning have developed. People who are homebound, who work odd hours, or who travel frequently may take Web courses. A college course need not fit within a quarter or a semester. New ways to communicate to find people with similar interests, and to buy goods are available. People use electronic mail, electronic commerce, and the Internet to meet and to share ideas and products (O' Leary & O' Leary, 2011).

Many people believe that computer literacy is vital to success. Computer literacy, also known as digital literacy, involves having a current knowledge and understanding of computers and their uses. Because the requirements that determine computer literacy changes as technology changes, you must keep up with these changes to remain computer literate (Shelly & Vermaat, 2011).

Prior to the implementation of UCLM College of Computer Studies' computer literacy program, it is important to determine the needs of the participants as they undergo ten months of computer literacy training. In the study of Amparado, Camayra, Dorio and Patindol, the researchers identified the sustainable community extension programs for Village Looc, Mandaue City, Cebu, Philippines. They discovered that in 2008, the needs of the community were solid waste management, literacy and livelihood programs. Furthermore, the needs in 2016 were solid waste management, health education, literacy, livelihood, greening, livestock raising, and community participation programs (2017).

Related Studies

One study examined the impact of computer literacy on students' academic performance in Esan West Local Government Area of Edo State, Nigeria. Findings revealed that: computer literate students perform better than non-computer literate; computer literate female students perform better than male students who are computer literate; computer literate female students who are not addicted to the use of computer facilities perform better than those who are addicted; computer literate students in co-educational secondary schools perform slightly better than those in single sex schools (Aitokhuehi & Ojogho, 2014).

In another study, researchers discovered that a successful computer literacy program designed for rural communities would need to work in a diverse set of conditions such as the lack of electricity, diverse student educational backgrounds, motivation levels, different levels of community engagement, community politics, and beliefs (Kantamneni & Chintalapati, 2013).

Objectives

The study assessed the needs of participants from Village Looc, Mandaue City, Cebu, Philippines, on the computer literacy program (CLIP) offered by the UCLM College of Computer Studies. The findings of the study were the basis for a proposed annual extension program plan for June 2018 to May 2019.

Findings revealed that the top ten needs were: computer assembly, computer troubleshooting, Microsoft Word, Microsoft Powerpoint, Internet cable termination, game development, web design, mobile application, keyboarding, and hard disk installation.

Keywords: Computer assembly; computer troubleshooting; Microsoft Word; Microsoft Powerpoint; Internet cable termination

Methods

This descriptive, quantitative study was conducted among 40 participants to assess their needs in the Computer Literacy Program. The study was conducted at Village Looc, Mandaue City, Cebu, Philippines which is the partner community of UCLM. Data was collected from May 1, 2018 to May 30, 2018. A twenty item, cafeteria questionnaire was used to assess the needs. This will form part of the proposed annual plan.

Results and Discussion

Table 1 presents the needs of the participants in the CLIP Program. The table reveals that the respondents' top ten needs were: computer assembly, computer troubleshooting, Microsoft Word, Microsoft Powerpoint, Internet cable termination, game development, web design, mobile application, keyboarding, and hard disk installation.

Computer Assembly is a training course which teaches the respondents on how to disassemble a computer system, recognize computer components and accessories, assemble the computer system, and test the computer system.

Computer Troubleshooting will guide trainees to recognize common problems of the computer system, identify basic troubleshooting procedures and tools, describe safety hazards involved in working with electronic equipment, and demonstrate the ability to install and effectively use command-line functions and utilities to manage the operating system.

By successfully completing the training course on Microsoft Word, the trainees will be able to learn the newest features of Word; create, edit and save documents; format text and paragraphs; work with tables, columns and other formatting features; and work with graphics, WordArt, charts and text flow.

On the other hand, Microsoft PowerPoint will teach the participants on the newest features of PowerPoint; create presentations with PowerPoint; format and organize PowerPoint slides; work with graphics, tables and charts; add multimedia and SmartArt presentations; and integrate Microsoft office files.

Internet Cable Termination is designed to terminate and test straight-through, cross-over and roll-over UTP Category 5e/6e cables.

On the other hand, basic graphics as pre-cursor to game development will teach the trainees to understand and work with layers; enhance images with paint and filters; perform color adjustments; work with vector paths; and automate task. Adobe Photoshop is the software program used in the training.

Web Design Basics with HTML will help the trainees to define the basics in web design, visualize the basic concept of HTML, recognize the elements of HTML, and design a homepage of a website.

Mobile Application (Basic Mobile User Interface Design) teaches the participants to design graphic user interface for mobile applications.

Keyboarding teaches them the components of the computer and keyboard, seating, posture and hand positioning. Rapid Typing software program is used for graphical keyboard drills and keyboarding Self-Tests. The trainees are expected to keyboard at minimum of twenty (20) words per minute.

For hard disk installation, the trainees will be able to configure as a master or slave device (PATA only), mount the drive in the chassis, connect the data cable to the drive and to the PATA or SATA interface, connect a power cable to the driver, restart the system and run the BIOS.

Table 1. Needs Assessment of CLIP

Indicators	Frequency	Rank
Computer assembly	29	1.5
Computer troubleshooting	29	1.5
Microsoft Word	28	5
Microsoft Powerpoint	28	5
Internet cable termination	28	5
Game development	27	6
Web design	26	7.5
Mobile application	26	7.5
Keyboarding	25	9
Hard disk installation	24	10
2D Animation	23	11.5
Operating Windows 7	23	11.5
Operating Windows 10	22	13
Local area network set-up	20	14
Printer installation	18	15
C programming	16	16.5
HTML	16	16.5
Microsoft Access	15	18
Java programming	14	19
Microsoft Excel	12	20.5
Switch configuration	12	20.5
Router configuration	10	22
Python programming	7	23

Conclusion

Determining the needs of the participants prioritizes the topics that they will be interested to attend. This ensures that participants are motivated and interested in various topics presented in the computer literacy training program.

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STATUS OF THE INTERNSHIP PROGRAM FOR S.Y. 2018-2019

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Abstract – The study assessed the internship program of the College of Computer Studies based on the interview conducted on the interns who have undergone the internship program. The internship program of the department is part of its curricular offerings to assure that the students are equipped with the computing skills that the industry are currently using. A total of 250 hours a semester is allotted to every intern. The study has found out that all respondents are in their 4th year standing. Forty-five (45) are taking up BSIT and 3 are taking up BSCS. A total of 48 respondents were interviewed. Majority of the respondents have said that the tasks given to them are aligned with the skills that they have acquired. Majority of them have enhanced their skills in programming and majority of them said that they would recommend the companies where they are deployed to incoming interns. The study utilized the descriptive method in the analysis of the data that are gathered. The simple frequency-percentage formula was used to present and interpret data.

Keywords – internship; interns; internship program; designation/task

INTRODUCTION

According to American Institute of Certified Public Accountants (2006), a recent definition for internship is "work experience in industrial, business, or government work situations that leverages the class guidelines experience through practical work experience. In order to assist students in entering their future careers, the curriculum design of hospitality education include industry internship credits in addition to hospitality relevant theory. Dilorenzo-Aiss and Mathisen (1996), identified typical internship program is featured by four criteria: (1) a specified number of work hours, (2) the work may be paid or unpaid, (3) credit is awarded, and (4) oversight is provided by a faculty coordinator or other university representative and a corporate counterpart. Barrows & Bosselman (1999) stated that the major principle of keeping hospitality internship in the curriculum is to assist students to gain valuable work experience within the hospitality industry and highlights the exercise of students taking an active responsibility in their learning process opposed to simply receiving information from their instructors. It is designed to provide an opportunity for the practical application of skills and concepts learned in the classroom. Coco (2000) highlighted that internship is a valuable component of 14 higher education program, Internship is supposed to build win-win situation for the students, organization

as well as the university. Warszyzak (1999) claimed that an internship is considered to provide opportunity to the students to examine career potential in a realistic and 'real world' environment and to explore a possible fit within a particular agency. In order to ensure that the internship experience meets the needs of both the practitioner and the student intern, it is important to understand how each views the internship as well as the expected outcomes. In order to assist students in entering their future careers, the curriculum design of hospitality education include industry internship credits in addition to hospitality relevant theory. Students combine the theory and practical experience, and make preparation for the job ahead of time. Busby (2002) identified aims for the students undertaking internship are: A) To experience employment and, where appropriate, accept responsibility for the completion of tasks and the supervision of others B) To obtain an insight into management and management methods C) To gain greater maturity and self-confidence D) To be involved in the diagnosis and solution of problems E) To develop attitudes and standards appropriate to career aspirations. Sharma, Satish., & Choudhary, Priyanka. (2011) in their research study conducted in the city of Rajasthan using survey questionnaire to collect the views of employees about their views of training and development program. Researchers identified that 75 percent of the respondents admits on the job training is beneficial and best method of identifying training needs through observation of employee work and training helps in overall development and concluded that Human resource section of the hotels should emphasize on the importance of training programs to its company success.

STATEMENT OF THE PROBLEM

The study assessed the internship program of the College of Computer Studies. A descriptive method is used in the analysis and presentation of data. Forty-eight respondents who took the internship program were interviewed using the interview guide. The study is conducted to help the management decide on the enhancement of the internship program of the college.

Specifically, the study aims to answer the following inquiries:

1. What is the profile of the respondents in term of course and year?
2. What is the status of the interns in terms of:
 - 2.1 the designation/task given to them;
 - 2.2 the computer language they utilized;
 - 2.3 the project they are working; and
 - 2.4 the skills they have learned while in the program?
3. What things that they do not like in the company where they are assigned?
4. Are they going to recommend the company on the incoming interns?

RESEARCH METHODOLOGY

The study used the descriptive design in the analysis and the presentation of data. A total of 48 respondents were interviewed. These respondents were students of the College of Computer Studies who have undergone the Internship Program. These respondents were assigned to different

industries in the cities of Lapulapu and Mandaue. The interview was conducted at the University of Cebu-Lapulapu and Mandaue. The simple frequency formula was used in the presentation and interpretation of data.

RESULTS AND DISCUSSION

For the School Year 2018-2019, the office has interviewed 48 interns assigned to different industries in Lapulapu City, Mandaue City and Cebu City. The interview was based on the following questions below:

1. What is the profile of the respondents in terms of course and year?
2. What is your designation/assignment in the company where you are deployed?
3. What is the technology/programming language used in the department where you are assigned?
4. What project/task did you do?
5. What have you learned during the internship program?
6. Are there things that you do not like in the company/department where you are assigned?
7. Are you going to recommend the company where you are currently deployed to incoming interns?

INTERVIEW RESULTS

What is the profile of the respondents in terms of course and year?

All respondents are in their 4th year standing. Forty-five (45) are taking up BSIT and 3 are taking up BSCS.

What is your designation/assignment in the company where you are deployed?

Majority of the interns are assigned as web developers and technical support while the others are in Desktop Programming, Excel Automation, Database Maintenance, Application Testing and others. The table below shows the breakdown of the intern assignments.

ASSIGNMENT	FREQUENCY	PERCENTAGE
WEB DEVELOPMENT	16	34%
TECHNICAL SUPPORT	16	34%
DESKTOP PROGRAMMING	3	6%
DATABASE MAINTENANCE	4	8%
APPLICATION TESTER	1	2%
EXCEL AUTOMATION	3	6%
WORDPRESS	1	2%
WEB MANAGEMENT	2	4%
LOTUS NOTES USAGE	1	2%
NETWORK MAINTENANCE	1	2%
	48	100%

What is the technology/programming language used in the department where you are assigned?

Majority of the interns are exposed to web programming using PHP. The others are in C#, ASP.Net and others. There are also some that are not exposed to any programming activity. The table below shows the breakdown of the language usage.

LANGUAGE USED	FREQUENCY	PERCENTAGE
PHP	13	27%
VB in EXCEL	2	4%
C#/ASP.Net	8	17%
WORDPRESS	1	2%
LOTUS NOTES	1	2%
ECLIPSE AND JAVA	2	4%
DATABASE (MySql, Oracle)	7	15%
ANDROID	2	4%
NONE (Tech Support)	12	25%
	48	100%

What project/task did you do?

Majority of the interns are doing projects related to Systems Development. The rest are in HR, Network, and Desktop/Development Support related projects. The table below shows the breakdown of the project distribution.

PROJECT	FREQUENCY	PERCENTAGE
HR Related	2	4%
Network Related	5	10%
Desktop/Development Support	18	38%
System Development Related	19	40%
Database Maintenance	4	8%
	48	100%

What have you learned during the internship program?

The interns have learned the following skills during the duration of the internship program.

1. Systems Development Skills
2. Technical Support
3. Web Development Skills
4. Coding Skills
5. Excel Skills
6. Installation of Software
7. Hardware Cloning
8. RDMS
9. Animation
10. CISCO
11. Android

Are there things that you do not like in the company/department where you are assigned?

Majority of the interns had no problems with the tasks that are assigned to them or with the company where they are deployed however there are three (3) deployed in ABACARE who said that their heads do not entertain or accept ideas coming from them. Two (2) said that the computers used are old. One (1) said that there was no clear supervision and another two (2) said that the environment was not good.

Are you going to recommend the company where you are currently deployed to incoming interns?

Majority of the respondents answered YES to this question however there are two (2) who said NO. Majority have said that incoming interns will really learn from the companies where they are deployed.

CONCLUSIONS

As to the assignment of the interns in the industries where they are deployed, majority of them are assigned as web developers and technical support technicians while the others are in Desktop Programming, Excel Automation, Database Maintenance, Application Testing and

others. Majority of the them are exposed to web programming using PHP. The others are in C#, ASP.Net and others. There are also some that are not exposed to any programming activity. Majority of the them are doing projects related to Systems Development. The rest are in HR, Network, and Desktop/Development Support related projects.

The interns have learned the following skills during the duration of the internship program: Systems Development Skills, Technical Support, Web Development Skills, Coding Skills, Excel Skills, Installation of Software, Hardware Cloning, RDMS, Animation, CISCO, Android. Majority of the them had no problems with the tasks that are assigned to them or with the company where they are deployed however there are three (3) deployed in ABACARE who said that their heads do not entertain or accept ideas coming from them. Two (2) said that the computers used are old. One (1) said that there was no clear supervision and another two (2) said that the environment was not good and majority of them answered YES to this question however there are two (2) who said NO. Majority have said that incoming interns will really learn from the companies where they are deployed.

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AWARENESS OF THE VISION-MISSION, GOALS OF THE UNIVERSITY OF CEBU LAPU-LAPU AND MANDAUE

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Abstract – The study assessed the level of awareness of the students and parents of the University of Cebu Lapu-Lapu and Mandaue’s vision, mission, goals and core values as well as the vision, mission and core values of the College of Computer Studies. The vision, mission, goals and core values of the university and the college serve as the controller of the university’s and college’s operations. It is necessary therefore, that the activities and educational development of the university and the college should reflect the university’s vision, mission, goals and core values. It utilized the descriptive method of analyzing the data taken from randomly selected students and parents using survey questionnaire that determined the awareness of the respondents of the university’s and College of Computer Studies’ vision, mission, goals and core values. Data were collected using a researcher-made questionnaire which was designed and derived from the vision, mission, goals and core values of the university and the college. The data gathered were organized, tabulated as well as analyzed using simple descriptive statistics such as frequency-percentage distribution and mean to determine their awareness of the VMG and Core Values. The study revealed that majority of the students and parents are aware of the university’s vision, mission, goals and core values as well as that of the college’s vision, mission and core values. This finding is an indication that the orientation, inclusion of the VMG and Core Values in the syllabus and the proper dissemination of the same made the students and parents of the university aware of its VMG and Core Values.

Keywords: VISION, MISSION, GOALS, CORE VALUES, AWARENESS

INTRODUCTION

We all know that the vision, mission, goals of an organization will serve as the foundation of all activities and endeavors that same organization will design and implement. A vision is a statement of what the organization wants and where it wants to go. Accrediting Agency for Chartered Colleges and Universities in the Philippines (AACCUP) possessed certain standard of quality excellence based on the institutional operations in relations to VMGO. A university is judged by the degree to which its VMGO are attained and not in comparison with others (AACCUP, 2010). The effectiveness of the VMGO lies in its structure and dissemination. In order to attain this, the constituents of an educational institution have to be aware of its VMGO

and fully comprehend the implication of such. The vision and mission are statements on the long-term view of the institution of itself and of the world within which it operates its long-term role and stature, and what it does to achieve this purpose and how it would like to play its role. The program objectives are broad statement that describe the career and professional accomplishment that the program is preparing graduates to achieve within a prescribe number of years of graduation. These objectives are based on the needs of the program constituencies (CHED, 2012). VMGO statements define collective efforts and align the whole organization towards the accomplishment of programs/projects/activities (Coulter,et al., 2003). Vision and mission are components of strategic management. It is the basis of the plans the management will develop. Further, a mission statement provides the necessary guidance for developing strategy, defining critical success factors, searching out key opportunities, making resource allocation choices and pleasing stakeholders. The mission represents the synthesis of what the customers and the employees see as being the core business, what products and services should be realized, who customers are and what values should be delivered to them. (Bratianu, 2005). Numerous studies regarding the VMGO have been conducted in recent years. A study has shown that the students of a university are aware of its vision, mission, goals, and objectives and that these students understand and accept these statements, along with the responsibility of realizing such objectives in their own capacities (Castillo, 2014). Another study has similarly concluded that the constituents of a university are aware and keen in knowing the importance of the core principles contained in their VMGOs (Salom & Florendo, 2013).

METHODOLOGY

A descriptive-survey research was employed in this study to determine the awareness of students and parents on the vision, mission, goals and core values of the University of Cebu Lapu-Lapu and Mandaue and the College of Computer Studies. A total of 185 students and 50 parents were randomly selected to answer the survey questionnaire. A researcher made questionnaire was designed based from the existing VMGO of the university and the college. The data were summarized using the simple frequency percentage method as the primary tool for analysis.

RESULTS AND DISCUSSION

Table 1
Awareness of the Students in the University’s Vision, Mission, Goals and Core Values

	YES	YES/AGREE	NO		CAN'T TELL		TOTAL	
VISION		%		%		%		%
1. I am aware that the vision of the university is to democratize quality education, become the visionary leader and give hope and transform lives.	182	98%	-	-	3	2%	185	100%
MISSION								
2. I am aware that the university serves as an active catalyst in providing efficient and effective delivery of educational services.	179	97%	-	-	6	3%	185	100%
3. I am aware that the university pursues excellence in instruction, research and community service towards social and economic development as well as environmental sustainability.	180	97%	1	-	4	3%	185	100%
4. I am aware that the university acquires, disseminates and utilizes appropriate technology to enhance the university’s educational service.	177	96%	4	2%	4	2%	185	100%
5. I am aware that the university fosters an organizational culture that nurtures employee productivity and engagement.	172	93%	5	3%	8	4%	185	100%
GOALS								
6. I am aware that the university offers programs that are relevant, holistic, and compliant with institutional regulatory, industry and accreditation standards that will develop life-long learners.	179	97%	-	-	6	3%	185	100%
7. I am aware that the university develops social awareness, responsibility and accountability among stakeholders anchored on instruction, research and production.	173	94%	3	2%	9	4%	185	100%
8. I am aware that the university complements the academic programs with holistic and integrated student personnel services.	176	95%	3	2%	6	3%	185	100%
9. I am aware that the university develops a pool of qualified, professional and motivated faculty in the areas of instruction, research and community extension.	174	94%	3	2%	8	4%	185	100%
10. I am aware that the university ensures effective administration and supervision of instructional and learning resources in support of the academic programs.	181	98%	1	-	3	2%	185	100%
11. I am aware that the university provides an environment that is safe, functional and conducive to teaching, learning and working.	179	97%	1	-	5	3%	185	100%
12. I am aware that the university ensures operations which are collaborative, sustainable, efficient and effective in meeting the needs of the institution and its stakeholders.	178	96%	2	1%	5	3%	185	100%
CORE VALUES								
13. I am aware that the core values of the university are the following: INNOVATION, CAMARADERIE, ALIGNMENT, RESPECT and EXCELLENCE.	176	95%	3	2%	6	3%	185	100%

Table 1 showed that 98% of the students answered “YES” on the question about the awareness of the university’s vision. The table also showed that an average of 96% of the students answered “YES” on the questions about the awareness of the university’s mission and goals and 95% of them answered “YES” on the question about the awareness of the university’s core values. The data in the table indicated that majority of the students or above 90% of them are aware of the University’s vision, mission, goals and core values.

Table 2

Awareness of the Students on the College of Computer Studies’ Vision, Mission and Core Values

	YES	YES/AGREE %	NO	%	CAN'T TELL	%	TOTAL	%
COLLEGE OF COMPUTER STUDIES VISION								
14. I am aware that the vision of the college of computer studies is to envision of becoming the hub of quality and globally-competitive information technology education.	179	97%	2	1%	4	2%	185	100%
COLLEGE OF COMPUTER STUDIES MISSION								
15. I am aware that the CCS department offers relevant programs that mould well-rounded computing professionals.	180	97%	2	1%	3	2%	185	100%
16. I am aware that the CCS department engages in accreditation and quality standards.	178	96%	3	2%	4	2%	185	100%
17. I am aware that the CCS department facilitates in building an IT enabled nation.	178	96%	3	2%	4	2%	185	100%
18. I am aware that the CCS department promotes scholarly endeavors for the promotion of moral, social, cultural and environmental interests.	176	95%	3	2%	6	3%	185	100%
19. I am aware that the CCS department meets the demands of the industry in terms of technical, personal, and interpersonal skills.	177	96%	2	1%	6	3%	185	100%
20. I am aware that the CCS department conducts intellectual, technological and significant researches in computing.	179	97%	0	-	6	3%	185	100%
21. I am aware that the CCS department optimizes the use of appropriate and advanced resources and services.	174	94%	5	3%	6	3%	185	100%
COLLEGE OF COMPUTER STUDIES CORE VALUES								
22. I am aware that the CORE values of the CCS department are the following: Initiative (Inceptum), Innovation (Innovato), and Service (muneris).	181	98%	1	-	3	2%	185	100%

Table 2 showed that on the questions about the awareness of the College of Computer Studies’ vision, 97% of the students answered “YES”. It further showed that an average of 96% answered “YES” on the questions about the awareness of the college’s mission as well as that of the core values. The data in the table showed that majority of the students of the College of Computer Studies are aware of its vision, mission and core values.

Table 3

Awareness of the Parents in the University’s Vision, Mission, Goals and Core Values

	YES	%	NO	%	CAN'T TELL	%	TOTAL	%
VISION								
1. I am aware that the vision of the university is to democratize quality education, become the visionary leader and give hope and transform lives.	45	90%	5	10%	-	-	50	100%
MISSION								
2. I am aware that the university serves as an active catalyst in providing efficient and effective delivery of educational services.	46	92%	2	4%	2	4%	50	100%
3. I am aware that the university pursues excellence in instruction, research and community service towards social and economic development as well as environmental sustainability.	46	92%	4	8%	-	-	50	100%
4. I am aware that the university acquires, disseminates and utilizes appropriate technology to enhance the university’s educational service.	44	88%	5	10%	1	2%	50	100%
5. I am aware that the university fosters an organizational culture that nurtures employee productivity and engagement.	46	92%	2	4%	2	4%	50	100%
GOALS								
6. I am aware that the university offers programs that are relevant, holistic, and compliant with institutional regulatory, industry and accreditation standards that will develop life-long learners.	45	90%	3	6%	2	4%	50	100%
7. I am aware that the university develops social awareness, responsibility and accountability among stakeholders anchored on instruction, research and production.	49	98%	-	-	1	2%	50	100%
8. I am aware that the university complements the academic programs with holistic and integrated student personnel services.	49	98%	-	-	1	2%	50	100%
9. I am aware that the university develops a pool of qualified, professional and motivated faculty in the areas of instruction, research and community extension.	43	86%	5	10%	2	4%	50	100%
10. I am aware that the university ensures effective administration and supervision of instructional and learning resources in support of the academic programs.	46	92%	2	4%	2	4%	50	100%
11. I am aware that the university provides an environment that is safe, functional and conducive to teaching, learning and working.	45	90%	3	6%	2	4%	50	100%
12. I am aware that the university ensures operations which are collaborative, sustainable, efficient and effective in meeting the needs of the institution and its stakeholders.	48	96%	2	4%	-	-	50	100%
CORE VALUES								
13. I am aware that the core values of the university are the following: INNOVATION, CAMARADERIE, ALIGNMENT, RESPECT and EXCELLENCE.	48	96%	2	4%	-	-	50	100%

Table 3 showed an average of 90% of the parents have answered “YES” when asked about their awareness of the UCLM’s vision. It also showed that an average 91% answered “YES” on the question about the awareness of the university’s mission. It further showed that an average of 93% of the parents answered “YES” on the question about the awareness of the university’s goals and 96% answered “YES” on the university’s core values. As a summary, the data in the table showed that majority or more than 90% of the parents are aware of the vision, mission, goals and core values of the university.

Table 4

Awareness of the Parents on the College of Computer Studies’ Vision, Mission and Core Values

	YES		NO		CANT TELL		TOTAL	TOTAL
COLLEGE OF COMPUTER STUDIES VISION								
14. I am aware that the vision of the college of computer studies is to envision of becoming the hub of quality and globally-competitive information technology education.	48	96%	2	4%	-	-	50	100%
COLLEGE OF COMPUTER STUDIES MISSION								
15. I am aware that the CCS department offers relevant programs that mould well-rounded computing professionals.	48	96%	2	4%	-	-	50	100%
16. I am aware that the CCS department engages in accreditation and quality standards.	48	96%	2	4%	-	-	50	100%
17. I am aware that the CCS department facilitates in building an IT enabled nation.	48	96%	2	4%	-	-	50	100%
18. I am aware that the CCS department promotes scholarly endeavors for the promotion of moral, social, cultural and environmental interests.	48	96%	2	4%	-	-	50	100%
19. I am aware that the CCS department meets the demands of the industry in terms of technical, personal, and interpersonal skills.	45	90%	5	10%	-	-	50	100%
20. I am aware that the CCS department conducts intellectual, technological and significant researches in computing.	48	96%	2	4%	-	-	50	100%
21. I am aware that the CCS department optimizes the use of appropriate and advanced resources and services.	47	94%	3	6%	-	-	50	100%
COLLEGE OF COMPUTER STUDIES CORE VALUES								
22. I am aware that the CORE values of the CCS department are the following: Initiative (Inceptum), Innovation (Innovato), and Service (muneris).	49	98%	-	-	1	2%	50	100%

Table 4 showed that 96% of the parents of the College of Computer Studies answered “YES” on the question about their awareness on the college’s vision. An average of 95% of the parents answered “YES” on the question about the awareness of the college’s goals and 98% answered “YES” on the college’s core values. As a summary, the data in the table showed that majority of the parents or above 90% of them are aware of the College of Computer Studies’ vision, mission and core values.

FINDINGS AND CONCLUSIONS

The researchers have found out that both the students and the parents are aware of the vision, mission, goals and core values of the University of Cebu Lapu-Lapu and Mandaue. It has been found out also that both the students and parents are aware of the College of Computer Studies’ vision, mission and core values.

It is concluded that orientation given to students and parents on the vision, mission, goals and core values of the University of Cebu Lapu-Lapu and Mandaue and the College of Computer Studies and the integration of the same in the syllabi made both the students and parents very much aware of the university’s and college’s vision, mission, goals, and core values.

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EVALUATION OF THE COLLEGE OF COMPUTER STUDIES PROGRAM

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Abstract – The study aimed to evaluate the program of the college of computer studies of the University of Cebu Lapu-Lapu and Mandaue through the realization of its program outcomes as seen in the tracer study and other related studies conducted. The study used the descriptive method of research by gathering existing data from documents that are relevant and appropriate to the evaluation of the program of the college. It has presented that vision, mission, goals and core values of the university and the college. The study has revealed that majority of the students and parents of the university are aware of the university's and college's vision, mission, goals and core values. The study has also revealed that majority or 96% of the respondents are employed. Most of them are working permanently in private organizations and working as software engineers in IT companies. Most of them perceived that their job matches with their program of study. It was revealed that on the relevance of their program of study to employability, most of them perceive that it is relevant specially on the skills and competencies. Some measures to boost the BSIT program for employability of the graduates are: to offer subjects to focus on real industry work, to be exposed with updated and latest tools and technologies in web development, to be abreast with AI and Data Analysis. The study has also revealed that majority of the respondents have perceived that the program of the college is relevant with the industry standards.

Keywords: PROGRAM EVALUATION, VISION, MISSION, CORE VALUES, PROGRAM OUTCOMES

INTRODUCTION

Evaluation is a key element in any educational endeavor especially within the curriculum development. Most of us either as language teachers or students are familiar with program evaluation and have been involved in it in one way or another. Unfortunately, in the field of language teaching very few books or journals have appeared on evaluation. But in the fields of social and educational sciences many scholarly published materials proliferate. Program and/or course evaluation is, in fact, one of the essential aspects of any curriculum. It is a kind of quality control in which various aspects of an instructional program are explored. Program evaluation is an attempt in which different elements of a given curriculum are scrutinized in depth. Evidently, interest in the evaluation process mainly came into prominence in the 1960s.

Language teacher employs different evaluation techniques in order to assess the students' progress or the course's success (Fraenkel & Wallen 2003). In the early days, evaluation was thought of as the testing of students through the end-of-semester tests. The emphasis was on the final product, that is the students' test results. It is safe to say that program and/or course evaluation is a kind of glue which joins all the elements of a curriculum together. Without program evaluation we cannot make sure whether the students true needs are met, whether they are satisfied with the course under study, whether the materials are effective and whether testing motivates more learning or hinders it. Therefore, program evaluation attempts to investigate a course from different perspectives. Program evaluation, in fact, is a vast and broad endeavor. It requires a great amount of time, energy, expertise, experienced personnel, resources and so on. It cannot be performed at a given point in time. It is an ongoing process which begins at the start of the course, continues till its end and even after it. Performing an evaluation may disturb and interfere with the normal or regular schedule of a teaching program. Therefore, the evaluator might not receive complete cooperation of the whole parties involved in it. These partial co-operations stem from the lack of time, interest etc. (Mason, 2007). However, there is rarely any need to be disappointed because "evaluations receive cooperation from all parties and provide useful information to insiders on how their work can be improved, while offering accountability to outside stakeholders. It is clear that generalizations are difficult to make and the amount of cooperation which the evaluator might receive depends on the single individuals who are being evaluated and the particular institution's rules and regularities.

Statement of the Problem

The study evaluated the program outcomes of the College of Computer Studies of the University of Cebu Lapu-Lapu and Mandaue through its program outcomes realization using the tracer study made and other related studies. The study is conducted to aid the administration in the process of making administrative decisions.

The study specifically answered the following inquiries:

1. What is the vision, mission, goals and core values of the University of Cebu Lapu-Lapu and Mandaue?
2. What is the vision, mission, and core values of the College of Computer Studies?
3. What are the program outcomes of the College of Computer Studies?
4. Are the program outcomes align with the vision, mission, goals and core values of the University of Cebu Lapu-Lapu and Mandaue and the College of Computer Studies?
5. What is the status of the awareness of the students and parents of the UCLM and the College of Computer Studies vision, mission, goals and core values?
6. What is the evaluation of the program of the College of Computer Studies using the Program Outcomes realization through the tracer study conducted in the following areas:
 - 6.1 Demonstrate skills and competencies in one's educational level and field of discipline for lifelong learning;
 - 6.2 Express proficiency in both oral and written communication;

- 6.3 Demonstrate social accountability and ethical responsibility towards the community and the environment;
- 6.4 Exhibit proactive and collaborative attributes in diverse society;
- 6.5 Utilize appropriate technology; and
- 6.6 Manifest ethical behavior in diverse situations.

METHODOLOGY

The study utilized the descriptive method of research through document scanning and analysis. The awareness on the vision, mission, goals and core values of the university and the college and the tracer study are used to supplement the data analysis. Documents like the vision-mission of the university and the college were retrieved.

RESULTS AND DISCUSSION

The Vision, Mission, Goals and Core Values of the University of Cebu Lapu-Lapu and Mandaue

VISION

Democratize quality education.
Be the visionary and industry leader.
Give hope and transform lives.

MISSION

- Serve as an active catalyst in providing efficient and effective delivery of educational services;
- Pursue excellence in instruction, research and community service towards social and economic development as well as environmental sustainability; and
- Foster an organizational culture that nurtures employee productivity and engagement.

GOALS

- To offer programs that are relevant, holistic and compliant with institutional, regulatory, industry and accreditation standards that will develop life-long learners.
- To develop social awareness, responsibility and accountability among stakeholders anchored on instruction, research and production.
- To complement the academic programs with holistic and integrated student personnel services.
- To develop a pool of qualified, professional and motivated faculty in the areas of instruction, research and community extension.
- To ensure effective administration and supervision of instructional and learning resources in support of the academic programs.

- To provide an environment that is safe, functional and conducive to teaching, learning and working.
- To ensure operations which are collaborative, sustainable, efficient and effective in meeting the needs of the institution and its stakeholders.

CORE VALUES

These are the core values that UC believes in:

- Innovation - "Be the visionary and the industry leader."
- Camaraderie - "Living in the spirit of harmony and approachability."
- Alignment - "All activities are geared towards core values and priorities."
- Respect - "Always a professional, mindful of God, university, the community and self."
- Excellence - "To be great at whatever it is we do and go for the best."

Vision, Mission and Core Values of the College of Computer Studies

VISION

We envision being the hub of quality, globally-competitive and socially-responsive information technology education.

MISSION

- offer relevant programs that mold well-rounded computing professionals;
- engage in accreditation and quality standards; and
- facilitate in building an IT-enabled nation.

CORE VALUES

These are the core values that CCS believes in:

- Initiative (inceptum) - wit, practicality, ingenuity
- Innovation (innovatio) - technology, creativity, novelty
- Service (muneris) - industry, loyalty, courtesy

PROGRAM OUTCOMES OF THE COLLEGE OF COMPUTER STUDIES

UC Graduates will be able to:

- Demonstrate skills and competencies in one's educational level and field of discipline for lifelong learning;

- Express proficiency in both oral and written communication;
- Demonstrate social accountability and ethical responsibility towards the community and the environment;
- Exhibit proactive and collaborative attributes in diverse society;
- Utilize appropriate technology; and
- Manifest ethical behavior in diverse situations.

ALIGNMENT OF THE PROGRAM OUTCOMES OF THE VISION, MISSION, GOALS AND CORE VALUES OF THE UNIVERSITY OF CEBU LAPU-LAPU AND MANDAUE AND COLLEGE OF COMPUTER STUDIES

Efforts have been made by the heads, faculty and staff of the College of Computer Studies of the three campuses of University of Cebu to align the program outcomes of the college with that of the vision, mission, goals and core values of the university. Such efforts have led to the mapping of the program outcomes to UCLM’s vision, mission, goals and core values. The figure 1 below shows the mapping of the program outcomes of the college with the vision, mission, goals and core values of the university.

Figure 1 – Mapping of the Graduate Attributes with the Vision, Mission, Goals and Core Values of the University of Cebu Lapu-Lapu and Mandaue and the College of Computer Studies

Graduate Attributes (GAs)	UCV			UCM			UCCV			UCCO			CCSM			CCSCV			CCSG					
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
G4a. Lifelong Learner																								
G4b. Effective Communicator																								
G4c. Ethically-Responsible																								
G4d. Socially-Collaborative																								
G4e. Team Player																								
G4f. Technically-Competent																								
G4g. Solution-Oriented																								

Program Educational Objectives (PEOs)	Program Intended Learning Outcomes (PILOs) (SSOU-ACCORD, 2014)						
	1	2	3	4	5	6	7
Upon completion of the program, the graduates will have the following knowledge and skills:							
PEO1: A few years after, our BSIT graduates:							
PEO1a. become successful information technology practitioners and/or specialists;							
PEO1b. develop into champions in the pursuit of lifelong learning and uphold the standards of professionalism, corporate conduct and the UC and CCS core values.							
PEO2: develop into champions in the pursuit of lifelong learning and uphold the standards of professionalism, corporate conduct and the UC and CCS core values.							
PEO3: uphold the standards of professionalism, corporate conduct and the UC and CCS core values.							
PEO4: become successful information technology practitioners and/or specialists;							
PEO5: develop into champions in the pursuit of lifelong learning and uphold the standards of professionalism, corporate conduct and the UC and CCS core values.							
PEO6: become successful information technology practitioners and/or specialists;							
PEO7: develop into champions in the pursuit of lifelong learning and uphold the standards of professionalism, corporate conduct and the UC and CCS core values.							
PEO8: become successful information technology practitioners and/or specialists;							
PEO9: develop into champions in the pursuit of lifelong learning and uphold the standards of professionalism, corporate conduct and the UC and CCS core values.							
PEO10: become successful information technology practitioners and/or specialists;							
PEO11: develop into champions in the pursuit of lifelong learning and uphold the standards of professionalism, corporate conduct and the UC and CCS core values.							
PEO12: become successful information technology practitioners and/or specialists;							
PEO13: develop into champions in the pursuit of lifelong learning and uphold the standards of professionalism, corporate conduct and the UC and CCS core values.							
PEO14: become successful information technology practitioners and/or specialists;							
PEO15: develop into champions in the pursuit of lifelong learning and uphold the standards of professionalism, corporate conduct and the UC and CCS core values.							

V. PEQ-PILO-GA Mapping

STATUS OF THE AWARENESS OF THE STUDENTS AND PARENTS OF THE UCLM AND THE COLLEGE OF COMPUTER STUDIES VISION, MISSION, GOALS AND CORE VALUES

A study was made in order to determine the awareness of the students and parents on the vision, mission, goals and core values of the university and the college. The findings showed that the students and parents are very much aware of the vision, mission, goals and core values of the University of Cebu Lapu-Lapu and Mandaue and the College of Computer Studies. These findings served as evidences that the orientation conducted by the college with the students and parents and the integration of the VMGO and Core Values in the syllabi have contributed to the awareness of the same students and parents on the vision, mission, goals and core values of the university and the college (Bucol & Demecillo, 2019).

EVALUATION OF THE PROGRAM OF THE COLLEGE OF COMPUTER STUDIES USING THE REALIZATION OF THE PROGRAM OUTCOMES THROUGH THE TRACER STUDY CONDUCTED

The tracer study has revealed that majority or 96% of the respondents are employed. Most of them are working permanently in private organizations and working as software engineers in IT companies. Most of them perceived that their job matches with their program of study. It was revealed that on the relevance of their program of study to employability, most of them perceive that it is relevant specially on the skills and competencies. Some measures to boost the BSIT program for employability of the graduates are: to offer subjects to focus on real industry work, to be exposed with updated and latest tools and technologies in web development, to be abreast with AI and Data Analysis. (Miro, 2019).

Demonstrate skills and competencies in one's educational level and field of discipline for lifelong learning.

The tracer study showed the employment history of the alumni respondents as to employment type. It can be observed that almost all employed are regular or permanent. Only a few are temporary and casual. It is an indicator that the graduates have the competencies in the field of discipline for lifelong learning. The study has also revealed that majority of the respondents have perceived that the program of the college is relevant with the industry standards.

FINDINGS AND CONCLUSION

It has been revealed in the study that majority of the students and the parents are aware of the vision, mission, goals and core values of the University of Cebu Lapu-Lapu and Mandaue and the College of Computer Studies. It is also revealed that the college program outcomes are aligned with the vision, mission, goals and core values of the university. It is revealed that the program of the college has contributed to the employment of majority of the graduates in their fields of specialty. It was found out that 96% of the respondents are employed. Most of them are working permanently in private organizations and working as software engineers in IT companies. Most

of the graduates have perceived that their job matches with their program of study. It was revealed that on the relevance of their program of study to employability, most of them perceived that it is relevant specially on the skills and competencies.

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