

A Tracer Study of Bachelor of Science in Biology Graduates of the Isabela State University - Cabagan from 2004 to 2019

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Abstract: The BS Biology program was first offered in the year 2004 at the Isabela State University in Cabagan Isabela, and it has been adhering to its core objectives particularly the application of theoretical knowledge in the professional setting related to biology. The program has produced sixteen (16) batches with 173 graduates from 2004 to 2019. The information from these graduates could be used to assess the curriculum and other academic services provided by the program and the university. Furthermore, the results of this evaluation can be used to build strong partnerships between the academic institutions and the public and private industries for the betterment of the studentry and for the institutional improvements. Thus, survey questionnaires were disseminated to the graduates through online platforms, such as emails and social networking sites, to determine the employability of the BS Biology graduates of the Isabela State University - Cabagan Campus. A total of 52 responses were quantified and analyzed. From this, 1.92% finished doctorate degree while 9.62% finished master's degree. The results also revealed that eighty – eight percent (88.46%) were employed where 19% have regular positions and 51.92% have biology-related work. Almost 54% were hired because of their educational accomplishments, and below one year is the span of time landing in first job with 86.53%. In terms of competencies, communication skills (69.23%), human interpersonal skills (53.84%), research and extension skills (46.15%), laboratory skills (36.54%) and critical thinking skills (34.62%) were the primary skills they acquired in ISU. An excellent rate was given for the methods of instruction, curriculum or course content, and faculty and laboratories. Meanwhile, the respondents were very satisfied with the general administration, research and extension services, physical plant, library facilities and career guidance, and job placement and housing/dormitories were rated satisfactory. A descriptive rating of Very Satisfactory indicates that the respondents were generally satisfied with the university's services and facilities.

Keywords: *Tracer Study, Biology Graduates, Employment, Competencies, Services, Facilities.*

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I. INTRODUCTION

BS Biology is one of the program offerings of the Isabela State University at Cabagan Isabela and was first offered in the university in 2004. Its core objectives are bound to produce competent graduates with theoretical knowledge and possess qualifications for any biology-related careers such in science research, laboratory work, biotechnology development, molecular biology and bioinformatics analyses and other related professions like teaching. To determine the effectiveness of the program's objectives, it is imperative to periodically conduct graduate tracer studies.

The periodic conduct of graduate tracer study is an approach used in Job-Skills Matching program in assessing the alignment of the HEI programs with national development goals. The Commission on Higher Education

(CHED) can use the results of the assessment to establish an annual advisory programs for the stakeholders (e.g. students and parents). As such, information on the most in-demand jobs, highest hiring rates and the most desired schools by the employees, and the employers will be mainstreamed. This can also be used as the basis for deriving funds and budgetary priorities for universities and state colleges. Through this study, assistance programs would be formulated by the Commission to strengthen the higher education programs in order to achieve global competitiveness (Bacay and Mame, 2022). Furthermore, this research will be helpful in tracing the whereabouts of the tertiary graduates who can provide help to Higher Education Institutions like Isabela State University in developing curricula and program offerings as well as the faculty development. It can also be utilized to assess the effectiveness of courses and other academic services useful for the graduates in their work places.

The BS Biology program has produced fourteen (14) batches of graduates for the past nineteen (19) years. These graduates have experienced various work environments which could be processed into information necessary for evaluating the importance and applicability of existing curricula, course design, learning materials and school facilities, student skills and behavior, and graduate attributes with the academic inputs. Information from the alumni of the program can be used to highlight the gap and establish collaborations between the educational institution and the industries and labor market. Moreover, alumni studies serve as empirical evidence that can be utilized to keep track on the important improvements that need to be addressed by the program and the institution as a whole.

Employment opportunities nowadays become very competitive. People need to acquire skills and gain experience to earn a living and these can be attained through education. Education provides functional knowledge and marketable skills. And once the skills have acquired, they can be developed throughout one's life. Highly educated people have greater chances to be immediately employed and have better opportunities to become productive on their field. Hence, there is no doubt that the life-long learning capabilities of a student are enhanced through their university experience.

Employability has been defined in different contexts through time. Hillage and Poland (1998) defined employability as the ability of a person to gain initial employment, maintain employment, and obtain new employment. Meanwhile, Felicen and Mejia (2013) suggested that employability is the capability of individuals to be flexible within the labor market to gain self-sufficiency to exploit opportunities by way of sustainable employment. Moreover, different authors agree that employability lies on the way the individuals present their skills, knowledge, abilities, attitudes and values to their employers, and the way they utilize them in the workplace.

On the other hand, productivity refers to the mental and physical capacity of an individual, exhibiting attributes of the graduates that employers anticipated would be necessary for the effective functioning of the organization. In more practical terms, productivity may be construed as the readiness of the graduates on the preparation of the requirements for their jobs, including their capability to anticipate and respond to different challenges in their workplace (Cruz, 2009).

In line with the mission of the ISU, the researcher evaluates how the ISUan's graduates have paired in their employment scene after their graduation. The researcher would provide the necessary details on the experience of the graduates when they join the world of working professionals. It is also important to determine the level of sufficiency of the training programs provided by their institution in relation to their overall performance throughout their career life, and up to what extent the acquired attributes have been improved. This study is also recognized as an effective approach in providing significant

information for the assessment of the educational and training results of an academic institution and therefore serve as a guide for planning future activities. Hence, this study is undertaken.

A. Conceptual Framework

A tracer study is a powerful tool in maintaining the coherence of the curriculum and improving the quality of a certain course. Tracing the graduates of their whereabouts is a role of all educational institutions in order to evaluate the impact of a certain program to the institution, graduates and society. Apart from that, Hazaymeh and Dela Peña (nd) state that tracer study provides an avenue for higher education institutions to gather information which can be used as basis for curriculum development and improvement. Educational institutions must adhere to the call of change addressing the needs of their community. Thus, education must also adapt to the changes in the society and must take into consideration the national situations that can be addressed as factors in measuring the quality of the course (Schomburg, 2003).

This concept of tracer study was utilized to assess the BS Biology graduates from SY 2004 – 2019 in terms of their demographic profile and phenomenon of employment.

B. Theoretical Framework

This study was inclined with Morell's theory (1989), which emphasizes that some favorable effects of the treatment remains in the client for a certain length of time even after the treatment is completed, particularly in treatments on human service programs. In acquiring concise details on the value of a certain program, it is necessary to provide accurate estimation of the attenuation rate. And a program would be regarded valuable if the beneficial effects last for a long period of time.

Furthermore, Morell (1989) also mentioned the specific importance of evaluation in a study focusing on the changes of the effects of a particular program over time. There are various factors that constantly affect anyone's life and these factors will not leave a person exactly what he or she was when the program was ended.

Suarez (1994) pointed out that the significance of follow-up evaluation is dependent on its potential to assess the effects of a program in reference to a person's continuing life experiences. In addition, follow-up evaluators can provide support in assessing the existing complex connection between the person's life experiences and the treatments. Hence, it is strongly suggested that the responses of the graduates are deemed necessary for these would be of great help in properly evaluating the effectiveness of the program in an educational institution.

C. Objectives of the Study

The main objective of this study is to track down the whereabouts of the graduates of BS Biology from AY 2004 -2019. It specifically aimed to:

- Describe the socio-demographic profile of the BS Biology graduates;

- Determine the average period of time the graduates took to find a job for the first time
- Name which area of competence in Biology the graduates of year 2004 to 2019 found useful in finding their respective jobs;
- Determine the satisfaction of the graduates in the competencies they acquired in their BS Biology degree in ISU; and
- Identify areas of improvement in the BS Biology curriculum based on the feedback from graduates.

D. Significance of the Study

The graduate tracer study will help in tracking down graduates who in one way or the other can help Higher Education Institutions like Isabela State University specifically the Department of Natural and Applied Sciences to be more critical in improving and developing their curricula as well as in determining appropriate faculty development programs. It can also be utilized in measuring the effectiveness of the program and in identifying core subjects useful for the graduates in their work performances. The graduates' feedback on relative issues about learning and teaching will be very essential for the university in planning academic services and in determining factors that would greatly affect the student performance, curriculum designing and improving services provided by Isabela State University.

The results of this study are beneficial to the following recipients:

- *Administrators* – The results may serve as evidence-based recommendations for the school administrators to increase the rate of graduates' employability, improve the quality of the program and increase marketability;
- *Program Head* – This study will serve as a guide for curriculum review and possible improvement of the course contents so that graduates will be globally competitive;
- *Faculty* – The findings of the study will serve as a basis in planning interactive and practical activities and to be informed and reform their shortcomings and thereupon aids in the college long-term sustainability;
- *Alumni and Alumni Officers* – This will help in fostering strong relationship and possible partnership between the office and the graduates;
- *Students* – The result of this study can influence students to strive more and put forth significant effort in their studies for their future employment and to be qualified to practice their profession;
- *Future Researchers* – This may serve as baseline information on the trend of the employment of the graduates specifically in Biology. They may be guided on what to consider for future their studies.

E. Scope and Delimitation

This study extends to the BS Biology graduates of the Isabela State University from AY 2004 -2019. Academic and employment qualifications, and personal qualities of every graduate were considered as important factors for this study. The investigation was concentrated on tracing the employment of the graduates and on the significance and relevance of their acquired skills and competencies, during their college, on their occupations or employment.

F. Definition of Terms

The following terminologies were defined for easy understanding of the study.

- *Current Position/Academic Rank* – This refers to the present position/academic position attained by the respondents in the company/institution where he/she is working.
- *Curriculum* – This refers to the planned activities of studies where students follow in school to achieve a certain academic objective or goal (Revelen, 1983). It includes the entire components of a course required for a degree.
- *Demographic Characteristics* – This refers to the personal information or characteristics of the respondents which includes gender, sex, age, civil status, highest educational attainment, income source, and number of dependents.
- *Evaluation* – This is a systematic way of assessing and determining the merit and worth as it is a result of academic endeavour, the programs used in educational goals to address educational efforts (Popham, 1989). In this study, it pertains to the researcher's efforts in collecting significant information through a questionnaire disseminated to the Bachelor of Science in Biology graduates of Isabela State University from 2004 to 2019.
- *Monthly Income* – This pertains to the income of employed respondents (BS Biology graduates) in supporting the needs of their family.
- *Permanent status* – This is a type of respondents' level of employment in which their work continues and lasts for about five to ten years until they retire with comparable privileges and and benefits.
- *Services* – These pertain to systems that supply the needs of the community or something that offered help and benefits (Webster's, 1985). In this study, it refers to the help provided by the Department of Natural and Applied Sciences to the respondents while taking their bachelor's degree.
- *Temporary status* – This refers to the type of employment of the respondents at the time of the study, wherein it is just for a short period of time only such as for a year, or two years.

II. REVIEW OF RELATED LITERATURE

A. Foreign

On the manual tracer study of Lange (2001), there are key questions that should be answered in a tracer study. These are the following:

- What is the primary effect of the offered course to the graduates? Do they immediately find jobs after graduation and do they have an adequate income? Why do they fail in the labor market?
- What extent do the skills and knowledge imparted are applied? Do the educators train the graduates with right skills and knowledge? What are the lacking competencies that must be imparted to them?
- Is it necessary to have further training to upgrade skill courses and other post training programs that can help and support the graduates for their employment? Or, how effective are the available post support services intended for them?
- Do the programs or institutions need to improve their curricula, to improve the training delivery and develop timely training? As stated, graduate tracer studies, which are considered as appropriate instruments for monitoring, assessment and evaluation, should provide answers on the following issues:
 - Are the offered support training mechanisms appropriate to the needs of the market? Do these trainings meet the standard employment criteria of potential employers?
 - What are the trends in the labor market? What areas of the program/course offer growth potential, what areas face stagnation?
 - Are there positive social and economic impacts of the training offered on the ex-trainees' social and living income status?

He further suggested the following points in the selection of research questions:

- How do graduate evaluate the appropriateness, usefulness and quality of academic services and training? What is the rate of employment, self-employment, further education, underemployment and unemployment among graduates?
- What are the social and economic profit of return on the education services and training they received?
- Are the trainings the graduates received relevant to their present occupations?
- Are there considerable differences in the product services of the labor market in reference to social and economic background, sex and gender?
- What is the rate of external migration?

In a speech of Y.B. Dato' Seri Mohamed Khaled Nordin (2009) in a seminar entitled "Enhancing Graduate Employability: Issues, Concerns and the Way Forward", he emphasized that having the knowledge of an academic subject acquired by the new graduates is no longer adequate especially in today's economic and social situation; progressively it is appropriate for the students to acquire practical skills and gain experience which will increase their chance of employment. Thus, educational institutions must

be receptive and prompt in responding to these changes. In the past years, moral and intellectual development is the primary function of the academic institutions which also serve as the centers of civilization. Due to rapid economic development, they tend to be more responsive and become more utilitarian with emphasis on the professional training for career development and personal growth. Primarily, they make sure that educational services and training they provide are market driven and responsive to the various changing needs of the different sectors of our economy.

Less (2002) in his book stated that one of the purposes of higher education institutions (HEIs) is to give assistance to students to improve and develop their skills and competencies beneficial for their long-term employment. According to Knight and Yorke (2001), notion of employability can be embedded in any academic subject in higher education without compromising core academic freedoms. The methods which are chosen for teaching a subject will, to varying extents, assist students to develop key skills. This skill development will promote learning of the course through the use of information technology for information retrieval, for instance.

Meanwhile, Harvey (2001) provides an argument as to the use of employment rates in measuring the effectiveness of an institution's employment provision, asserting that the rates of employment in relation to preoccupation applies a "magic bullet" model of the higher education impact on employment.

Graduate tracer study is a form of an empirical research that provides necessary information for the evaluation of the academic services and training results of a specific higher education institution. This valuable information may be helpful for identifying educational priorities and used for further development of the academic sectors in accordance to quality assurance (Schomburg, 1995). The tracer study connotes a more longitudinal approach and extensive time frame, and can focus on acquiring evidence generated from the work experience of the graduates including professional advancement. In line with the career progression, the identified specific content of the course can be expressed into usable attributes, and can be utilized to determine if these are beneficial for professional and personal advancement (Millington, undated)

According to Woodward (2001), tracer study help you find out what happens to students after graduating from their courses. It gives information about which parts of the courses were the most or least helpful, whether students are using what the learned, in what contexts, and generally monitor their directions. Tracer studies can help institutions to see whether the lessons learned fit into the students' overall career and can contribute to the retuning of the course in the future. According to Millington, it is common for tertiary level institutions to encourage their graduates to evaluate the learning experience they acquired and the quality of instruction they received. The overall evaluation

process often takes the form of graduate or alumni surveys, which are sometimes referred to as tracer studies.

These findings were the basis for conducting this study on the assessment of graduates of biology program.

B. Local

Mercado (2004) recognized the Commission on Higher Education in the Philippines of its initiative to lead the conduct of graduate tracer study in selected HEIs to gain information about whether or not these educational institutions are providing programs or courses that prepare graduates to cater the demands of the society and industry. Also, through this study, the industry's needs for manpower can be addressed through the coordinated efforts of the HEIs (CHED CMO #s 38, s. 2006, 11, s. 1999).

In addition, Lalican (2007) emphasized that gaining knowledge, skills and competencies during the undergraduate level will also help the graduates to be more efficient, productive and knowledgeable in their current job.

On employment status according to Miranda (2000), an employment shall be considered regular provided that the employee has been involved to perform certain activities that are typically necessary in the employee's business, regardless of the written or oral agreement of the parties. However, this is not the case if the employment has been settled for a specific undertaking, the completion can be determined depending on the time of the employee's engagement, or if there is a seasonality of the service to be rendered and the duration is in accordance to the seasonal employment.

In the study of Yangco (2007), she showed that the graduate-respondents are employed and mostly with permanent positions. The small portion of the respondents were unemployed and planning to apply for work abroad. The study also emphasized the need to develop more related skill training and improve facilities to develop and further enhance the curriculum.

In terms of the number of employed and unemployed, according to Diestro (2013), the employment of the majority of graduates is related to the degree course they obtained while those who were unable to find a suitable job cited being housewives and some pursuing higher degree (masteral and doctorate).

In a related study from a college in Tanzania, there is a high percentage of unemployed graduates from their institution while low percentage of the employed graduate-respondents claimed that their education are well-suited for their job. Furthermore, Hazaymeh and Dela Peña (nd) discovered that their graduates from the college were employable but they secured their first job after graduation within the first six months. Additionally, they suggested that the curricula of the course offerings need to be reviewed and updated.

Another related work is the study conducted by Palomeno et al. (2014), where they discovered that there are more hired graduates with their work related to their courses than those who are unemployed ones. Moreover, majority of their graduates' recommendations are to provide students with extended training hours and more qualified and competent trainers and instructors.

Therefore, all institutions engaged in long- and short-term human resource development programs have the primary responsibility to monitor the performance of their graduates in order to assess accountability and determine impacts on the institution and the country as well (http://www.searca.org/web/scholarship/projects/tracer_study.html).

With all these in mind this study is aimed to examine the changes in the career status of the graduates, further, this is a pioneer study in the department that is hoped to be one of the basis of evaluation of the biology program of the Department of Natural and Applied Sciences of the College of Development Communication and Arts & Sciences to deliver quality education in Isabela State University Cabagan Campus.

C. Synthesis

From the foreign and local literature utilized in this study, the researchers had various perceptions regarding the conduct of tracer studies. It enlightened the group on the relevance and importance of conducting tracer studies on different programs especially to the biology program.

This different literature cited by the various and previous researchers stirred up the mind and heart of the researchers of this study to dig more and find out more helpful facts in carrying a tracer study.

However, these cited studies did not attempt to help the researchers in developing an instrument in carrying the study but instead it helps them to adopt an instrument from Commission on Higher Education (CHED). This adopted instrument was very helpful to the researchers in conducting this study because it is first time in the biology program to have this kind of study.

III. METHODOLOGY

The tracer study used the descriptive survey in evaluating the employability of the respondents. Essentially, the primary tool that was used in this study to gather data was adopted from the prescribed questionnaire format of University Quality Assurance Office to ensure high percentage of participation among graduates. The data gathered was analyzed using both qualitative and quantitative approaches. The data gathered was analyzed using the frequency and percentage distribution.

➤ *Respondents of the Study*

This study utilized the quantitative and qualitative methods of research. In this study, graduates of bachelors’ degree under Department of Natural and Applied Sciences from April 2004 to July 2019 will be chosen as respondents of the study.

➤ *Sampling Procedure*

There were one hundred seventy three total populations of biology graduates from 2004 to 2019 at the Isabela State University Cabagan Campus. The identification of the graduates (e.g. names and addresses) was drawn from the graduate directory of the Registrar’s office of Cabagan campus. A follow-up was made through the contact addresses of all the graduates to update address details and contacts. From the described approaches, the stratified simple random sampling was utilized considering the percentage of the retrieved questionnaires and the number of identified graduate representatives in the fourteen batches. From the overall population of graduates in all batches, at least 94 questionnaires were distributed with 54.33 % from the total population. The rate of the retrieved questionnaires from the 94 distributed questionnaires was 52 or 55.32 % emanated from the fourteen batches of graduates.

➤ *Instruments*

A self-administered questionnaire was used as the survey instrument. The questionnaire was adopted from the prescribed questionnaire format of University Quality

Assurance Office to ensure high percentage of participation among graduates.

➤ *Data Gathering*

Survey questionnaire was conducted through e-mails and social networking sites.

➤ *Treatment of Data*

This study used the percentage and frequency distribution in analyzing the demographic characteristics and employment phenomenon of the respondents. The following statistical tools were employed:

- *Frequency counts (Frequency)*. To describe the distribution of respondents among the concepts that are under examination.
- *Percentage*. To compare two magnitudes to determine their relationship using the formula
- $\% = (N/S) \times 100$

where N = number of responses every particular category
 S = total number of identified respondents
 % = the percentage

IV. RESULTS AND DISCUSSION

➤ *Demographic Profile*

The succeeding tables present the demographic characteristics of biology graduates of Isabela State University -Cabagan campus, which were indicated by their gender and educational background.

Table 1. Gender of Biology Graduates of ISUC campus from AY 2004 – 2019

Gender	Frequency	Percentage
Male	16	30.77%
Female	36	69.23%
Total	52	100.00

As reflected in table 1, of the 52 respondents, 36 or 69.23 percent were females and 16 or 30.77 percent were males. This means that those biology graduates were dominated by females.

Table 2. Educational Attainment of Biology Graduates of ISUC campus from AY 2004 – 2019

Educational Attainment	Frequency	Percentage
Baccalaureate	46	88.46
Master’s Degree	5	9.62
Doctoral Degree	1	1.92
Total	52	100.00

Table 2 presents the data on the educational attainment of BS Biology graduates. Findings shows that among 52 respondents’ majority are still in baccalaureate level with 46 or 88.46 %, followed by Master’s degree holder with 5 or 9.62 % and doctorate degree holder with 1 or 1.92 %.

➤ *Phenomenon of Employment*

This study also looked into the phenomenon of employment of the biology graduates of ISU-Cabagan campus from academic years 2004 to 2019. Phenomenon of employment was indicated by the nature of employment, job-related information, job hunting and competencies learned in the college that find useful in their job.

Table 3. Nature of Employment of Biology Graduates of ISUC campus from AY 2004 – 2019

Nature of Employment	Frequency	Percentage
Employed	40	76.92%
Self-employed	6	11.54%
OFW	6	11.54%
Total	52	100%

Table 3 reflects the nature of employment of the respondents. Result revealed that 40 or 76.92 percent were gainfully employed, 6 or 11.54 percent were self – employed, and 6 or 11.54 percent were OFW's.

Table 4. Type of Company as to where the BS Biology Graduates of ISU-Cabagan campus from SY 2004 – 2019 were employed

Type of Company	Frequency	Percentage
Private	15	37.5%
Government	25	62.5%
Total	40	100.00

Table 5. Nature of Business of the BS Biology Graduates of ISU-Cabagan campus from SY 2004 – 2019 who were self - employed

Nature of Business	Frequency	Percentage
Entrepreneur	2	33.33%
Online Seller	2	33.33%
Farmer	1	16.67%
Retailer	1	16.67%
Total	6	100.00

Table 5 shows the nature of business of self – employed respondents. Of the 6 respondents, entrepreneur and online seller obtained the same with 2 or 33.33 percent and farmer and retailer obtained a 1 or 16.67 percent.

Table 6a. Job-related information of the BS Biology Graduates of ISU-Cabagan campus from SY 2004 – 2019

	Frequency	Percentage
Job related to biology	31	59.62%
Job not related to biology	21	40.38%
Total	52	100%

Table 6 reflects the number of respondents who landed job related to biology and who landed job not related to biology. Thirty-one (31) or 59.62 % were gainfully employed related to biology while 21 or 40.38 percent were gainfully employed not related to biology. This means that majority of the biology graduate respondents were employed related to their field of study.

Table 6b. Job-related information of the BS Biology Graduates of ISU-Cabagan campus from SY 2004 – 2019

Type of Job	Frequency	Percentage
Pharmacy Assistant	4	7.69%
Clerk	2	3.85%
Administrative Assistant	2	3.85%
Laboratory Technician/Aide	2	3.85%
Project manager/Consultant	1	1.92%
OFW	3	5.77%
Teacher/Instructor	9	17.31%
Private entrepreneur	2	3.85%
Police officer	4	7.69%
Research Assistant/Aide/Science Research Specialist	4	7.69%
Call center agent	3	5.77%
Others	16	30.77%
Total	52	100 %

Table 6.b presents the type of job of the respondents. It shows that of the 52 respondents, 16 or 30.77 percent were employed as others (QA Supervisor, document controller, farmer, retailer, etc), 9 or 17.31 percent were in teaching profession, 4 or 7.69 percent each were connected in pharmacy, police officer & research assistant/aide, 3 or 5.77 percent each were employed as OFW & Call center agent, 2 or 3.85 percent each became laboratory technician, clerk, administrative assistant and private entrepreneurs, and 1 were employed as project manager/consultant.

Table 6.b Factors that facilitated in getting first or present job of the BS Biology Graduates of ISU-Cabagan campus from SY 2004 – 2019

Type of Job	Frequency	Percentage
Pharmacy Assistant	4	7.69%
Clerk	2	3.85%
Administrative Assistant	2	3.85%
Laboratory Technician/Aide	2	3.85%
Project manager/Consultant	1	1.92%
OFW	3	5.77%
Teacher/Instructor	9	17.31%
Private entrepreneur	2	3.85%
Police officer	4	7.69%
Research Assistant/Aide/Science Research Specialist	4	7.69%
Call center agent	3	5.77%
Others	16	30.77%
Total	52	100 %

V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

A. Summary of Findings

Hereunder is a summary of the salient findings of the study:

➤ Demographic Profile

- *Gender.* Seventy three or 68.87 percent of the respondents were females.
- *Age.* Fifty nine or 55.66 percent of the respondents fell on the age range of 21 – 30 years old
- *Marital Status.* Eighty nine or 83.96 percent of the respondents were married.

➤ Phenomenon of Employment

- *Employment Rate.* Ninety nine or 93.40 percent of the respondents were gainfully employed.
- *Employment Status.* Eighty six or 81.13 percent of the respondents were contractual.
- *Nature of Employment.* Twenty or 18.87 percent of the respondents were employed as OFW and sixty eight or 64.15 percent were gainfully employed related to their field of study.

B. Conclusions

Based on the findings of the study, the following conclusions were drawn: (1) a greater number of the biology graduates were literally at their fairly young adulthood stage, dominated by females, and majority are not married; (2) majority of the biology graduates were employed, most are under contractual status in their employment but few of

them also are occupying permanent status, they were working as OFW and majority of them landed in a job related to their field of study. This implies that graduates of the biology program are applying what they learned in their college education.

C. Recommendations

Based on the findings and conclusions, below are the recommendations for the following:

- The future researchers may include graduates' perceived readiness on the requirements of their jobs and their job performance to further enhanced the parameters on graduates' productivity.
- The future researchers may also include how the graduates perceived the institution's strengths and weaknesses in terms of program studies, teaching competence of the faculty, adequacy of classroom facilities, adequacy of laboratory facilities and adequacy of library facilities. This would help the administrators in preparing future graduates in upgrading their skills and competencies to cope with the demands of their field of study and for future accreditation of the biology program.

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