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Institutional Study on Employability and Scope of Nursing Graduates with Master of Arts Degree in Philippines

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KEYWORDS Master of Arts in Nursing (MAN). Employability. ASEAN Community. Professional Profile. CSPC

ABSTRACT This study examined the employability of the Master of Arts in Nursing (MAN) graduates of Camarines Sur Polytechnic Colleges (CSPC) from 2004 to 2015. Descriptive research was by the study. Primary data was employed in the study through the use of graduate tracer study survey questionnaire. A total of 159 MAN graduates were the respondents of the study. Frequency count, percentage, weighted mean and rank were used to present the result of information gathered. MAN graduate program is dominated by female and married graduates residing in Camarines Sur. Majority of the respondents were gainfully employed in the country in jobs related to their graduate degree earned. There is a need to enhance the content and coverage of the program for future enrolees. It is recommended to institutionalize the conduct of tracer studies to include not only the graduates but their employers as well and review and upgrade the curricular offering of the graduate degree program to ensure the provision of the competency development programs of the graduates. CSPC may continuously benchmark with other universities and colleges to ensure the competitiveness of its curriculum.

INTRODUCTION

Education plays the most important part in the society. This is the key aspect that an individual needs to develop towards achieving a better future. The improvement of knowledge, skills and competencies are the main concerns that should be taken up in every educational institution for an improved outcome of every individual (Terano 2015, 2018). The outcomes of student learning can be determined by how well an educational institution designs and implements the entire curriculum for a specific program (Terano 2019). Thus, higher education institutions must be flexible enough to deliver the necessary learning so that the graduates will be knowledgeable and competent to face the challenging world of employment.

According to Philippines Statistics Authority (PSA), the unemployment rate in the country as of January 2016 is at 5.80 percent (5.35 million) of which 63.4 percent were males while the underemployment rate is at 19.7 percent (17.54 million). Of the total unemployed 48.2 percent comprised the age group of 15 to 24 years and 30.9 percent ages 25 to 34 years. In terms of educational attainment, 19.7 percent of the unemployed were college graduates, 14.5 percent were college undergraduate and 32.9 percent were high school graduates.

Confronted with the current trend and issues in education, formidable challenges are confronting the Philippines Higher Education System (Cruz 2009). Thus, the need to do radical transformation and if it has to effectively play its unprecedented role in the present day society and more so, to be vital component of economic, technological and political development in the national and international scenario.

Just as the country is preparing towards ASEAN (Association of Southeast Asian Nations) 2015 which envisions a single market and production base, the Philippine Qualifications Framework (PQF) should address the work force competencies recognized by the region. With PQF in place, it is assured that the qualification issued in the country will be recognized by other countries, which means that the country's professionals can freely practice their profession and get salaries equal to the nationals of the host countries (Riguer 2014).

In the language of the Roadmap for an ASEAN Community 2009 – 2015, in particular, free flow of skilled labor will happen through "managed mobility of facilitated entry," instead of full integration. The ASEAN community will pave the way for the free movement of professionals in the ten member – countries, including Philippines, Indonesia, Malaysia, Singapore, Brunei, Myanmar, Cambodia, Thailand, Vietnam

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and Laos. In the Philippines, at least P24 million has been allocated for the foregoing of an agreement that would allow doctors and other Filipino professionals to freely practice their profession in the ASEAN region (Jaymalin 2014).

Faced with these compelling challenges, it is imperative that Higher Education Institutions (HEI) find ways on how their graduate are able to cope with societal demands, hence the need to conduct tracer studies or use parallel parameters. The society needs responsible managers that can implement programs that shall address issues for its sustainability. This paradigm ask questions on the education system in terms of curriculum content, teaching and learning process, skills acquisition, expertise of teaching professionals, employment opportunities as well as impact that the education gave them.

Along this purview, the researcher gave impetus to the conduct of a tracer study among graduates in the Master of Arts in Nursing which shall provide bases along the college's quality of continuing process improvement of all its programs and on how said program provides impact to the world of work in the realm of the challenging times.

According to Millington (2008), tracer studies provide quantitative - structural data on employment and career, the character of work and reacted competencies and information on the professional orientation and experiences of their graduates.

De Guzman and de Costa (2008) advocated the use of a graduate tracer study as an appropriate tool in determining institutional capability in preparing graduates to meet the demands of the workplace. Further, the graduate tracer studies involves the determination of graduates in the job search mode, lead time and employment condition, where the knowledge acquired in schools are used to work, in promotions and job satisfaction.

Various studies (Pontillas 2018; Loquias 2015; Balingbing 2014; Gines 2014) confirm that tracer studies are important activities which determine the employment rate of graduates and assess the satisfaction of graduates on services, learning environment and facilities, program's contribution to the skills' development on communication, human relations, leadership, problem solving and research, and assessment on

effectiveness, adequacy and relevance of the curricular programs.

Camarines Sur Polytechnic Colleges was established by virtue of Batas Pambansa BP 512 on June 10, 1983 with the mandate to offer degree and non-degree programs. The College currently offers eight (8) undergraduate and three (3) graduate degree programs. The offering of Master of Arts in Nursing was approved by the Board of Trustees thru Board Resolution, No. 21 series 1994.

At present, almost all programs are accredited by the Accrediting Agency of Chartered Colleges and Universities in the Philippines (AAC-CUP) with the Master of Arts in Nursing Level I accredited. As of 2013, the College has produced 314 Master of Arts in Nursing graduates and that is 4.84 percent of the degree graduates. A graduate tracer study determines the employability of graduates in accord to their respective disciplines. No graduate tracer studies have been made for the Master of Arts in Nursing of the College.

Objectives of the Study

The study examined the employability of Master of Arts in Nursing graduates of Camarines Sur Polytechnic Colleges from 2004 – 2015. Specifically determined the following: (1) personal and educational profile of the graduates; (2) employment status of the graduates before enrolment in CSPC; (3) employment status after graduation from CSPC; (4) feedbacks of the graduates along teaching, research, facilities, and services and; (5) proposed intervention activities to improve the curriculum.

METHODOLOGY

Descriptive—survey method of research was adopted for the study. Primary data was employed in the study through the use of the graduate tracer study survey questionnaire developed by the Commission on Higher Education (CHED), where some modifications have been made to suit the purpose of the study conducted. Convenience sampling was used in the study.

The Master of Arts in Nursing (MAN) graduates from year 2004 – 2015, covered the population of the study. A total of one hundred fifty nine (159) were the respondents of the study.

The instrument used in the study was a researcher-made survey questionnaire that was content-validated by five (5) experts. They rated the acceptability of each item using the scale: 1 - Not Acceptable; 2 – Acceptable but needs to be Revised; 3 – Acceptable; and 4 - Highly Acceptable. The experts were requested to give their comments, points for revisions, corrections, and recommendations on item content and language. The validated questionnaire was administered to 20 graduate students and 20 alumni of the graduate program to test its reliability. Thereafter, each item were analyzed and the computed reliability coefficient was of 0.904.

The researcher asked from the registrar's office for the master lists of all graduates of the Master of Arts in Nursing (MAN) at Camarines Sur Polytechnic Colleges (CSPC). From the master list, the graduates were tracked down through referral from faculty members, family, friends and colleagues of the respondents, and employed different strategies to reach the awareness of the respondents thru house to house, office visit, telephone, short message services, electronic mail, snail mail, Facebook and other social networking sites.

The data were classified, tabulated and coded for analysis. Data obtained were entered and cleaned as well as checked for consistency and accuracy in MS Excel data sheet. Data analysis in the study primarily employed frequency count, percentage technique and weighted mean for quantitative descriptive findings.

A scale of 1 to 5 was used with 1 as the lowest and 5 as the highest. The responses were given equivalent weights and corresponding verbal descriptions: 1.00-1.80 (very poor), 1.81-2.60 (poor), 2.61-3.40 (average), 3.41-4.20 (good), and 4.21-5.00 (very good).

Data collected was summarized and analyzed using descriptive statistics such as frequency count, percentage, weighted mean and rank.

RESULTS AND DISCUSSION

Personal Profile of the Respondents

Reflected in Table 1 is the personal profile of the graduates. Majority of the respondents, one hundred twenty five (125) or 78. 62 percent are female while thirty four (34) or 21.38 percent are male. Data revealed that Master of Arts in Nursing (MAN) degree are dominated and are more attractive to female than to their male counterpart.

Table 1: Personal profile of graduates

Personal profile	$Frequency \\ (n = 159)$	Percentage
Sex		
Male	34	21.4
Female	125	78.6
Civil Status		
Single	56	35.2
Married	96	60.4
Widow	4	2.5
No response	3	1.9
Address		
Camarines Norte	6	3.8
Camarines Sur	86	54.1
Albay	54	34.0
Sorsogon	1	0.6
Catanduanes	12	7.6

Data also showed that MAN program are dominated by married graduates. This indicates the need to earn sufficient amount of money to support their family needs. This implies their high sense of responsibility which they learned from being married. Data also revealed that majority of the graduates were from the province where the college is situated. It can also be noted that CSPC was the first institution to offer the program in the province of Camarines Sur and also the nearest college to most of the respondents.

Professional Profile of the Respondents

Shown in Table 2 is the professional profile of the respondents. It can be gleaned from the table that majority of the respondents, one hundred fifty six (156) or 98. 11 percent are graduates of Bachelor of Science in Nursing which only shows that majority are pursuing the master's degree of their undergraduate course.

Majority of the respondents, seventy nine (79) or 49.69 percent earned their undergraduate within year 2003 to 2010. Data only shows that nowadays students, after earning their undergraduate degree will pursue higher degree of learning.

Majority, fifty eight (58) or 36.48 percent of the respondents did not pursue doctoral degree, because of financial problems such as lack of fund, lack of time or financial constraints or con46 DULCE FAJARDO-ATIAN

flict with work schedule and some do not have plan to pursue doctoral degree.

Table 2: Professional profile of graduates

Personal profile	$Frequency \\ (n = 159)$	Percentag
Undergraduate		
Degree Earned		
BS in Nursing	156	98.1
Others	3	1.9
Year Graduated		
2003-2010	79	49.7
1996-2002	15	9.4
1989-1995	30	18.9
1974-1981	25	15.7
Status of Post-graduate		
Studies of the Responde	ents	
Did not pursue	58	36.5
doctoral degree		
Planning to pursue	44	27.7
doctoral degree		
Earned doctoral units	33	20.8
Earned doctoral degree	e 6	3.8
Pursuing	2	1.3
Others	2	1.3
No response	14	8.8

Majority, sixty (60) of the respondents before enrolling in the graduate program earn a gross monthly salary ranging from Php 10,001.00to Php 20,000.00. Most of the respondents said that their work/ job was related to their undergraduate degree.

It can also be noted that majority (72 or 45.28%) of the respondents were nurses which is definitely related to their undergraduate degree earned. They were company nurse, clinical nurse, school nurse, Nurse I – IV and senior nurse in various medical and academic institutions.

Employment Status of the Respondents When Enrolled in the Graduate Program

Shown in Table 3 shows the employment status of the respondents when enrolled in the graduate program. Interestingly it can be noted that majority, one hundred forty five (145) or 91.19 percent of the respondents were employed and only twelve (12) or 7.55 percent of the respondents were not employed when they enrolled in the graduate program. However there were two (2) or 1.26 percent respondents who chose not

to answer the question. Majority of the unemployed respondents said that there is no job opportunity for them, they have a plan to seek job out of the country and they are waiting for the results of their application.

Table 3: Employment status of respondents when enrolled in the MAN program

Item	Frequency (n = 159)	Percentage
Employed While Enrolled		
in CSPC		
Yes	145	91.2
No	12	7.5
No response	2	1.3
Location		
Philippines	144	90.6
Abroad	4	2.5
No response	11	6.9
Employment Status		
Gainfully employed	114	71.7
Self-employed	4	2.5
Underemployed	23	2.5
No response	14	8.8
Length of Working Experier		0.0
Before Enrollment in the		
Degree Program		
36-40	1	0.6
31-35	1	0.6
26-30	5	3.1
21-25	9	5.7
16-20	15	9.4
11-15	18	11.3
6-10	15	9.4
1-5	55	34.6
No response	40	25.2
Gross Monthly Salary (Php		23.2
40,001-50,000	2	1.3
30,001-40,000	1	0.6
20,001-30,000	11	6.9
10,001-20,000	60	37.7
1-10,000	57	35.8
No response	28	17.6
Work/Employment Status		
Before Enrollment Relative		
To Their Undergraduate		
Degree Earned		
Yes	131	82.4
No	8	5.0
No response	20	12.6
Job Position		
Supervisor	9	5.7
Nurse	72	45.3
Faculty	49	30.8
Clerk	2	1.3
Others	8	5.0
No response	19	12

Thus it can be concluded that CSPC MAN graduates from 2004 – 2015 were employed at

that time of study. Data indicates that being employed is one factor that leads the respondents to enroll in a graduate program. Further it implies that the respondents enroll in the graduate degree program for professional growth, better employment and promotion.

Majority, one hundred forty four (144) or 90.57 percent of the respondents are employed in the Philippines specifically here in the Bicol region. Data also showed that majority of the respondents, were gainfully employed on a regular or full time basis where work is related to field of specialization. It can be noted from the Table that majority or fifty five (55) or 34.59 percent of the respondents obtained working experience of 1-5 years before enrolling in the graduate degree program.

Level of Competencies of the Graduates along the Different Skills Before Enrolment in the Graduate Degree Program

Reflected in Table 4 are the level of competencies of the graduates before enrollment in the graduate degree program. The data reveals that only one (1) which is human relation was interpreted as very good with the highest mean of 4.27 and the remaining seven (7) skills competencies were interpreted as good with entrepreneurial skill with the lowest mean of 3.53. Overall the skills competencies were interpreted as good (AWM 3.96).

Table 4: Level of competencies of Master of Arts in nursing graduates before enrolling in Master's Program

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WM	Verbal interpretation	
4.05	Good	
4.27	Very good	
3.83	Good	
3.53	Good	
4.06	Good	
4.06	Good	
4.17	Good	
3.68	Good	
3.96	Good	
	4.05 4.27 3.83 3.53 4.06 4.06 4.17 3.68	

The results revealed that respondents were good in almost all the competencies when they enroll in the graduate degree program. It can be noted human relation ranks first since it is required in qualifying graduates to enter in the competitive way of service.

Employability after Graduation in Master's Program

Shown in Table 5 was the employment status of the respondents after graduation in the Master's program

Table 5: Status of employment after graduation in Master's Program

Item	Frequency (n = 159)	Percentage
Employed While		
Enrolled in CSPC		
Yes	156	98.1
No	3	1.9
Location		
Philippines	123	77.4
Abroad	27	16.9
No response	9	5.7
Status of Current Employ	yment	
Gainfully employed	128	80.5
Self-employed	5	3.1
Underemployed	6	3.8
No response	8	5.0
Length of Working		
Experience in the Curren	t	
Employment		
31-35	2	1.3
26-30	7	4.4
21-25	5	3.1
16-20	2 7 5 6	3.8
11-15	13	8.2
6-10	38	23.9
1-5	58	36.5
No response	30	18.9
Gross Monthly Salary (P		
90,001-100,000	17	
80,001-90,000	0	0.0
70,001-80,000	Ĭ	0.6
60,001-70,000	3	1.9
50,001-60,000	4	2.5
40,001-50,000	6	3.8
30,001-40,000	11	6.9
20,001-30,000	30	18.9
10,001-20,000	71	44.6
1-10,000	11	6.9
No response	18	11.3
Current Work/Employmen		11.0
Related to Graduate Deg		
Earned	,	
Yes	131	82.4
No	13	8.2
No response	15	9.4
Job Position	1.5	<i>7.</i> 1
Supervisor	11	6.9
Nurse	61	38.4
Faculty	57	35.8
Others	14	8.8
No response	16	10.1

It can be gleaned that majority, one hundred fifty six (156) or 98.11 percent are employed after graduation in the Master's Program. Still majority are working in the Philippines. It can be noted that nursing opportunities are quite in demand in the country as well and most international nursing opportunities require ample work experience that they have to settle for local employment.

Also, majority of the respondents (128 or 80.50%) were gainfully employed on a regular or full time basis where work is related to field of specialization. Mostly of the respondents, fifty eight (58) or 36.48 percent are in 1 to 5 years in their current employment.

Majority, seventy one (71) or 44.65 percent of the respondents earn a gross monthly salary of Php 10,001.00 to Php 20,000.00. It can be observed that thirteen of the respondents indicated that they earn a gross monthly salary of more than Php 50,000.00.

Mostly (131 or 82.39%) are employed in jobs which are related to their master's degree earned. Data reveals that they are employed in the agency or institutions that are related to their field of expertise.

It can be noted that majority (61 or 38.36%) of the respondents were nurses which is definitely related to their undergraduate degree earned. They were Nurse I – VII and senior nurse in various medical institutions. Fifty seven (57) or 35.85 percent were faculty of academic institutions holding a position of Instructor I, Instructor III, Assistant Professor I-IV, Associate Professors and Dean of the college. Thus it can be concluded that positions of the respondents improved after earning a graduate degree.

Level of Competencies of the Respondents along the Different Skills after Graduation in Master's Program

Reflected in the Table 6 are the level of competencies of the respondents after graduation in the master's program in terms of communication skills, human relation, technical, entrepreneurial, problem solving, critical thinking, decision making and information technology skills. Based from the table presented below, majority or seven of the skills competencies were interpreted as very good and only one is interpreted

as good. Human Relation is found to be the number since it is the most useful skill they should poses in dealing with competitive world of service.

Overall the competencies were interpreted as very good. This clearly shows that after earning a master's degree, graduates' level of competencies increased. Data revealed that the graduates only have good entrepreneurial skill which is clearly supported by graduates being employed in various institutions and graduates are not interested in engaging in business.

Table 6: Level of competencies of Master of Arts in nursing graduates after graduation in Master's Program

Indicator	WM	Verbal interpretation	
Communication skills	4.62	Very good	
Human relation skills	4.75	Very good	
Technical skills	4.40	Very good	
Entreprenurial skills	4.08	Good	
Problem solving skills	4.65	Very good	
Critical thinking skills	4.64	Very good	
Decision making skills	4.69	Very good	
Information Technology	4.22	Very good	
Average	4.51	Very Good	

Feedbacks of the Respondents

Problem is all about the feedback of the respondents along instruction, research, facilities and services. Feedbacks of the graduates to the different categories:

Teaching – Reflected in Table 7 are the feedback of respondents along instruction. In general, the data on the feedback of the respondents along instruction provided at CSPC is interpreted with "Very Good" with knowledge of subject yielding the highest mean of 4.49 and

Table 7: Feedback of respondents along instructions

Indicator	WM	Verbal interpretation
Quality of instruction	4.34	Very good
Commitment of professors to teaching	4.34	Very good
Knowledge of subject	4.49	Very good
Teaching for independent learning	4.35	Very good
Management of learning Average	4.29 4.36	Very good Very good

teaching for independent learning as second highest. Conversely, management of learning is the lowest but still interpreted with "Very Good". Hence, it shows that CSPC alumni are highly satisfied with the overall instructional climate of CSPC. This implies that having a very good feedback along instructions, indicates a higher enrolment for the graduate program of CSPC.

Research – Table 8 shows the feedback of graduates along research. It can be noted that five (5) indicators were interpreted as "Very Good", with contribution of thesis committee being rated as the highest with a mean of 4.53. Overall feedback of the respondents along research was interpreted as very good. This implies that research provided by CSPC is highly satisfactory for the graduates.

Table 8: Feedback of the respondents along research

Indicator	WM	Verbal interpretation
Contribution of thesis adviser	4.43	Very good
Contribution of thesis committee	4.53	Very good
Contribution of graduate program professors	4.37	Very good
Flexibility of topic choice	4.47	Very good
Assistance of classmates	4.08	Good
Fund availability to students	3.83	Good
Relevance of research to degree program	4.50	Very good
Average	4.32	Very good

Facilities – In general the data on feedback of the respondents along facilities is interpreted with "Good" as shown in Table 9, with physical plant and canteen yielding the highest mean of 3.84 and classroom as 3.75 as the next highest. Conversely, computer laboratory garnered the lowest of 3.52. Apparently, the study revealed that the respondents are satisfied with the facilities of CSPC.

Table 9: Feedback of the respondents along facilities

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WM	Verbal interpretation
3.52	Good
3.75	Good
3.84	Good
3.84	Good
3.74	Good
	3.52 3.75 3.84 3.84

Services – As to the feedback of the respondents to the services provided at CSPC, Table 10 shows that overall feedback of respondents along services was good. Although the overall feedback is interpreted as good, there were four (4) factors that were interpreted as "Very Good", with department office garnered the highest mean of 4.46 and school administration and management as 4.37 as the next highest. Also the remaining four (4) factors were interpreted as "Good" with medical and dental clinic appeared to have been rated the lowest but still interpreted with "Good".

Table 10: Feedback of the respondents along services

Indicator	WM	Verbal interpretation
Registrar's office	4.35	Very good
Accounting office	4.19	Good
College Library	4.24	Very good
Students Affairs Office	3.91	Good
Medical and Dental Clinic	3.65	Good
Guidance Office	3.89	Good
Your Department's Office	4.46	Very good
School Administration and Management	4.37	Very good
Average	4.13	Good

Intervention Activities that can be Proposed to Improve the Curriculum

Table 11 provides the intervention to strengthen the graduate education program for future enrollees. Majority, ninety four (94) said that there is a need to enhance the content and coverage of the MAN program. Eighty (80) said that more research oriented activities must be provided to the students. There is also a need to

Table 11: Proposed intervention activities to strengthen the graduate education program for future enrollees

Indicator	WM	Rank
Enhance content and coverage of the program	94	1
Improve teaching quality	67	4
Enhance quality of research	71	3
More practical application for problem solving skills	64	5
Improve library holdingd	53	6
More research oriented activities	80	2

enhance the quality of research of the college. A high need to improve the teaching quality, more practical application for problem solving skills and improve library holdings with 67, 64 and 55 who answered respectively.

CONCLUSION

The Camarines Sur Polytechnic Colleges (CSPC) Master of Arts in Nursing (MAN) graduates is dominated by females and married graduates who were residing in Camarines Sur. Mostly were graduates of BS in Nursing in colleges within the Bicol region, but they did not pursue graduate studies. Mostly of the graduates were gainfully employed in the Philippines before enrollment in the graduate program. Majority were in their first to fifth year in service and working in government offices. They received a gross monthly salary of Php 10,001.00 - Php 20,000.00, working in a job related to their undergraduate degree earned and mostly were nurses. Level of competencies of the respondents was good. Greater part of the respondents were gainfully employed in the country who were still engaged in government sector with a gross monthly salary of Php 10,001.00 – 20,000.00 and were working in jobs related to their graduate degree earned. Their level of competencies was very good. The feedbacks on instruction, research, facilities and services offered by CSPC were very good and good respectively. Best part of being enrolled in the CSPC is because of its Saturday schedule and low and affordable tuition fees. There is a need to enhance the content and coverage of the program and organize more research oriented activities to strengthen the graduate education program for future enrolees.

RECOMMENDATIONS

Based on the findings and conclusions of this study, it is recommended to institutionalize the conduct of the tracer studies to include not only the graduates but their employers as well. Review and upgrade the curricular offering of the graduate degree program to ensure the provision of the competency development programs of the graduates. CSPC may regularly update once a year the status of their graduates and ask for possible curriculum enhancement programs

they could offer at the college. CSPC may continuously benchmark with other universities and colleges to ensure the competitiveness of its curriculum.

REFERENCES

- Cruz IR 2009. Education Reform in the Philippines. From https://isaganicruz.wordpress.com/2009/04/12/education-reform-in-the-philippines/ (Retrieved on 23 September 2019).
- on 23 September 2019).

 Balingbing AB 2014. Tracer study of BS in Information Technology (BSIT) graduates of Camarines Sur Polytechnic Colleges, Nabua, Camarines Sur from 2004 to 2010. Asia Pacific Journal of Multidisciplinary Research 2(4): 26-30
- plinary Research, 2(4): 26-30.

 De Guzman AB, de Costa BV 2008. Employment and employability profile of a select group of Filipino college graduates. KIEP, 5(1): 63-81
- college graduates, KJEP, 5(1): 63-81.
 Gines AC 2014. Tracer study of PNU graduates. American International Journal of Contemporary Research, 4(3): 81-98.
- Jaymalin M 2014. P24 M allotted for entry of Pinoy professionals in ASEAN. The Philippine Star, 22 January.
- Loquias ŘT 2015. Employability of the Bachelor of Science in Electronics Engineering graduates of Camarines Sur Polytechnic Colleges. *Asia Pacific Journal of Multidisciplinary Research*, 3(4): 33-40.
- Pontillas VV 2018. Tracer study on Bachelor of Science in Electrical Engineering graduates of a polytechnic college in the Philippines from 2007 to 2010. Asia Pacific Journal of Multidisciplinary Research, 6(2): 36-46.
- Ricafort NS 2010. Virtual University-When Higher Education Goes to Cyberspace, 21st Century Trends, Issues and Challenges in Philippine Education. Manila: National Bookstore.
- Riguer MGL 2012. ASEAN 2015: Implications of People Mobility and Services. ILS Discussion Paper Series. From < https://www.termpaperwarehouse.com/essay-on/Asean-2015/293176> (Retrieved on 5 July 2019).
- Schomburg H 2010. Handbook for Graduate Tracer Studies. Germany: Center for Research on Higher Education and Work, University of Kassel.
- Terano HJ 2015. Development and acceptability of the simplified text with workbook in differential equations as an instructional material for engineering. Asia Pacific Journal of Multidisciplinary Research, 3(4): 89-94.
- Terano HJR 2018. Development and effectiveness of a textbook on advanced mathematics for engineering programs. *International Journal of Educational Sciences*, 23(1-3): 7-13.
- Terano HJR 2019. Development of integrated curricula for the master of engineering programs using the CDIO framework. *International Journal of Engineering Pedagogy*, 9(3): 44-55.

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