Design, Content and Output of Undergraduate Researches in Pangasinan State University

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Abstract - *One of the requirements of undergraduate students of Pangasinan State University-Lingayen Campus is to produce researches. This study assessed these researches as to content, process and output. The study found out the researches of Bachelor of Arts in Economics, Bachelor of Science in Information and Communication Technology and Bachelor of Science in Hotel and Restaurant Management used the descriptive research design while Bachelor of Science in Nutrition and Dietetics used the experimental design and rating scale as instrumentation. Most researches utilize simple random sampling and do not have validity and reliability testing. Most of the data is described using frequency and chi-square for Bachelor of Arts in Economics and Bachelor of Arts in Hotel and Restaurant Management while mean for Bachelor of Arts in Nutrition and Dietetics. Bachelor of Science in Information and Communication Technology researches are improving especially in presenting their related literature and studies. There is an increase in the use of survey as research method for Bachelor of Science in Nutrition and Dietetics and trends for Bachelor of Science in Hotel and Restaurant Management is apparent. Bachelor of Arts in Economics researchers tested the validity and reliability of research instrument. This study recommends validity and reliability testing of research instrument, use of tools other than descriptive statistics, additional implications and justifications to research results, and a follow-up study in order to identify factors that contribute to development or weakening of undergraduate researches in Pangasinan State University - Lingayen Campus.*

Keywords – design, content, output, undergraduate, researches

INTRODUCTION

Pangasinan State University-Lingayen campus is mandated to deliver the quality instruction for its student-clientele. Various curricular programs are requiring the students to write undergraduate theses. Undergraduate researches are made by the students not only to comply with the requirements of the course but also to make changes in the community where problems are identified and gathered. It is not only the aim of the Research Office to collect and display these outputs but also to serve as input to policy and extension project development, or values improvement.

This study attempted to determine the status of undergraduate researches as to their content, process and output. The assessment leads to better understanding of the movement or changes in the content of undergraduate researches. This is needed to identify areas and topics where the research instructors/professors and thesis advisers could focus more. Also, the study determines whether undergraduate researches contribute to project development, training program, or module construction.

OBJECTIVES OF THE STUDY

This study looked into the design, content and output of undergraduate researches in Pangasinan State University – Lingayen Campus. The academic programs included in this study were Bachelor of Science in Nutrition and Dietetics (BSND), Bachelor of Science in Hotel and Restaurant Management (BSHRM), Bachelor of Arts in Economics (BA Econ), and Bachelor of Science in Information and Communication Technology (BSICT).

MATERIALS AND METHOD

This study used the descriptive type of research. In order to gather data from respondents, a researcher-made questionnaire was utilized. The questionnaire was checked by research instructors. Their suggestions were incorporated. The improved questionnaire was used by six program advisers and subject teachers who are handling research subjects during the Second Semester of School Year 2013-2014. After few weeks of evaluating the undergraduate researches, the researcher retrieved the questionnaire from the respondents for tallying or recording. Simple tools like frequency and percentages were used to present the data.

RESULTS AND DISCUSSION

Table 1. Content and output of BSICT researches

Content	2012 N=6		2011 N=6		2010 N=10	
SUBJECT MATTER	F	%	f	%	f	%
-Records system for PSU	6	100	2	33	2	20
- Website development	0	0	2	33	1	10
- Information system for other institutions	0	0	2	33	7	70
SIGNIFICANCE OF THE STUDY						
-Practical	6	100	6	100	10	100
Review Of Literature And Studies						
Presentation						
-By source	0	0	4	67	3	30
-By topic/concept	6	100	2	33	7	70
Content						
-Well organized and extensive	6	100	6	100	10	100
ANALYSIS						
-With synthesis	1	17	0	0	10	100
-Without synthesis	5	83	6	100	0	0
Output						
-Website development	0	0	3	50	1	10
-Information system development	6	100	3	50	9	90

Majority of BSICT researches were concentrated on records system or information system development. The review of literature and studies were presented by topic or concept in an organized manner. Data were presented and cross-checked with related literature and studies.

Table 2. Subject matter and content of BA Economics researches

Content	2011 N=7		2010 N=7		2009 N=7		2008 N=8		2007 N=9		2005 N=4		2004 N=10		2003 N=9	
	F	%	f	%	F	%	f	%	f	%	f	%	F	%	f	%
Subject matter																
-Business operations	5	71	3	43	3	43	6	76	6	67	2	50	7	70	5	56
-Farming	1	14	1	14	1	14	0	0	0	0	0	0	0	0	0	0
-Economic condition	1	14	2	29	3	43	1	12	1	11	2	50	3	30	4	44
-Welfare of students	0	0	1	14	0	0	1	12	2	22	0	0	0	0	0	0
Significance of study																
-Practical	2	29	6	86	5	71	3	37	0	0	2	50	5	50	2	22
-Theoretical	4	57	1	14	2	29	3	37	8	89	2	50	2	20	3	33
-Practical/theoretical	1	14	0	0	0	0	2	26	1	11	0	0	3	30	4	44
Literature and studies																
Presentation																
-By source	1	14	1	14	2	29	3	38	0	0	2	50	0	0	4	44
-By topic/concept	6	86	6	86	5	71	5	62	9	100	2	50	10	100	5	56
Content																
-Stereo-typed and insufficient	3	43	3	43	2	29	8	100	0	0	1	25	4	40	4	44
- Well organized	4	57	4	57	5	71	0	0	9	100	3	75	6	60	5	56
Analysis																
- With synthesis	5	71	6	86	6	86	8	100	1	11	1	25	0	0	0	0
- Without synthesis	2	29	1	14	1	14	0	0	8	89	3	75	10	100	9	100

Results of this study found out that majority of BA Economics researches were survey method and related to business operations. Literature and studies were organized, without synthesis and presented by topic/content.

Table 3. Design of BA Economics researches

Design	2013 N=7		2012 N=7		2011 N=7		2010 N=8		2009 N=9		2007 N=4		2006 N=10		2005 N=9	
	F	%	f	%	F	%	f	%	f	%	f	%	F	%	f	%
Research design																
-Survey	4	57	0	0	7	100	4	50	6	67	4	100	3	30	8	89
-Case study	3	43	4	57	0	0	3	37	2	22	0	0	6	60	0	0
-Correlational	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11
-Follow up	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-Trends	0	0	1	14	0	0	1	13	1	11	0	0	1	10	0	0
-Evaluation	0	0	1	14	0	0	0	0	0	0	0	0	0	0	0	0
-Comparative	0	0	1	14	0	0	0	0	0	0	0	0	0	0	0	0
Sampling technique																
-Complete enumeration	1	14	5	71	1	14	4	50	1	11	1	25	3	30	2	22
-Simple random	4	57	0	0	5	71	0	0	6	67	3	75	6	60	3	33
-Systematic	0	0	0	0	0	0	0	0	1	11	0	0	0	0	2	22
-Proportional	1	14	0	0	1	14	1	12	0	0	0	0	0	0	1	11
-Equal allocation	0	0	1	14	0	0	0	0	0	0	0	0	0	0	0	0
-Purposive	1	14	1	14	0	0	3	37	0	0	0	0	1	10	0	0
-Quota	0	0	0	0	0	0	0	0	1	11	0	0	0	0	1	11
Instrumentation																
-Researcher made	7	100	7	100	7	100	8	100	9	100	4	100	10	100	9	100
Validity/Reliability																
-With validity test	1	14	3	43	1	14	1	12	2	22	4	100	6	60	4	44
-Without test	6	86	4	57	6	86	7	88	7	78	0	0	4	40	5	56
-With pre-test	6	86	5	71	6	86	1	12	1	11	4	100	6	60	2	22
-Without pre-test	1	14	2	29	1	14	7	88	8	89	0	0	4	40	7	78
Data analysis																
-Table reading and superficial	3	43	3	43	5	71	3	37	4	44	1	25	10	100	9	100
Exhaustive, in-depth	4	57	4	57	2	29	5	63	5	56	3	75	0	0	0	0
Conclusions, recommendations																
-Faulty and spurious	0	0	0	0	0	0	2	25	2	22	0	0	2	20	0	0
-Logical, consequential	7	100	7	100	7	100	6	75	7	78	4	100	8	80	9	100

Simple random sampling was used in BA Economics researches. The researcher made instrument were validity tested and pre-tested. Findings, conclusions and recommendations were logical and consequential. The present study is related with the study of [1]. A study found out that most of students conducted surveys and case studies with supervisors as respondents of study. Most of the perceptions have considered student difficulties when writing the thesis as whole, rather than particular section. The study used in-depth interviews with four supervisor-student pairs and focused on student difficulties in writing the discussion of

results section of the thesis. It also investigated the extent to which the perceptions of the students matched those of their supervisors. Another study found out that most economics students at Uppsala and Umea do not complete their undergraduate thesis within the intended time. And that coauthoring, compared to writing alone, increases the probability of completing at thesis. Their study also revealed that a second thesis is less likely to be completed than a first [2].

Table 3. Respondents, instrumentation and output of BA Economics researches

Respondents	2013	2012	2011	2010	2009	2007	2006	2005	Total	Rank
-Employees of NGA	2	0	0	0	0	0	0	0	2	7
-Administrators	0	0	1	0	1	0	1	0	3	6
- Students	2	2	1	1	2	1	0	1	10	3
- Line agencies	0	3	0	7	2	2	5	1	20	1.5
-Cooperative/Assn	2	0	6	0	5	0	2	5	20	1.5
-Farmers	1	1	0	0	0	0	1	1	4	4.5
-Fisherfolks	0	0	0	0	0	1	2	1	4	4.5
- Teachers	0	1	0	0	0	0	0	0	1	8
Instrumentation										
-Questionnaire	7	7	7	7	8	4	9	9	58	1
-Interview guide	0	2	0	0	1	0	1	2	6	2
-Rating scale	0	3	0	1	0	0	0	1	5	3
-Checklist	0	1	0	0	0	0	0	0	1	4.5
-Attitude scale	0	1	0	0	0	0	0	0	1	4.5
Statistics										
-Frequency/percentages	7	6	7	8	8	4	10	9	59	1
-Range	2	2	0	0	1	1	0	0	6	4
-Standard deviation	2	3	2	2	1	0	0	0	10	3
-Mean	6	5	6	2	3	1	2	1	26	2
-Mode	1	0	0	0	0	0	1	1	3	5
-Chi square	0	0	0	0	0	0	1	0	1	5
-t-test	0	2	0	0	0	0	0	0	2	3
-f test	0	2	0	0	0	0	0	0	2	3
-Pearson r	0	0	0	1	0	0	1	1	3	1
-Path analysis	0	0	0	2	0	0	0	0	2	3
Output										
-Policy	1	5	2	1	5	1	5	2	22	2
-Training program	3	0	3	0	0	2	4	5	17	3
-Development plan	3	2	2	2	4	1	4	6	24	1
-IT systems program	0	0	0	4	0	0	0	2	6	4
-Module	0	0	0	1	0	0	0	2	3	5

Results of the study showed that majority of BA Economics researches utilized line agencies and cooperative/association as respondents, questionnaire as type of instrument, frequency counts and percentages and chi-square as statistical tools. Most of BA Economics researches were conducted to formulate development plan.

The present study is related to a study regarding scholarly projects/theses of 112 graduates of a newly formed Master of Nursing program. It assessed theses to determine if they

met the program outcomes and campus and program values [3]. Just like the present study, it served as basis to formulate a development plan and that the respondents consisted of providers for the family. There was a study that utilized students and the researchers used questionnaires consisting of four themes to describe experiences of 150 students in completion of their thesis [4].

Table 4. Subject matter and design of BSND researches

Subject matter	2013 N=9		2012 N=7		2011 N=10		2009 N=6	
Subject matter	F	%	f	%	F	%	f	%
-Fortified food	3	33	0	0	0	0	0	0
-Food processing	5	56	5	71	9	90	6	100
- Lifestyle	1	11	1	14	0	0	0	0
-BSND Students	0	0	1	14	1	10	0	0
Significance of the study								
-Practical	3	33	4	57	4	40	3	50
-Theoretical	1	11	0	0	0	0	0	0
-Practical and theoretical	5	56	3	43	6	60	3	50
Literature and studies								
-By source	9	100	3	43	8	80	6	100
-By topic/concept	0	0	4	57	2	20	0	0
Content								
- Well organized & extensive	9	100	7	100	10	100	6	100
Analysis								
- Without synthesis	9	100	7	100	10	100	6	100
Design								
Process								
-Survey	3	33	2	29	2	20	0	0
-True experimental	6	67	5	71	8	80	6	100
Sampling technique								
-Complete enumeration	2	22	0	0	2	20	1	17
-Simple random	7	78	5	71	8	80	4	66
-Cluster	0	0	2	29	0	0	1	17
Reliability								
-Without pre test	7	78	6	86	8	80	6	100
-Standardized	2	22	1	14	2	20	0	0
Data analysis and interpretation								
-Table reading and superficial	9	100	7	100	10	100	6	100
Conclusions and recommendations								
-Logical and consequential	9	100	7	100	10	100	6	100

Findings show that literature and studies of BSND researches were well-organized and extensive, without synthesis, and presented by source. Sampling technique used was simple random. Instruments were constructed without pre-test. Data analysis and interpretation were table and superficial. Researchers used experimental method and focused on food processing. BSND students need to complete their researches in one year time. There is a study about completion of research writing. It found out that most economics students at Uppsala and Umea do not complete their undergraduate thesis within the intended time.

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And that coauthoring, compared to writing alone, increases the probability of completing at thesis [2].

Table 5. Content and design of BSHRM researches

CONTENT	2012 N=9		2009 N=4		2006 N=8	
	f	%	f	%	f	%
Subject matter						
-BSHRM students	7	78	4	100	6	75
-HRM equipment and facilities	2	22	0	0	0	0
-Hotel operations	0	0	0	0	2	25
Significance of the study						
-Practical	6	67	4	100	5	63
-Theoretical	2	22	0	0	3	37
-Practical and theoretical	1	11	0	0	0	0
Literature and studies						
-By source	3	33	1	25	3	37
-By topic/concept	6	67	3	75	5	63
Content						
-Stereo-typed and insufficient	3	33	0	0	2	25
-Well organized & extensive	6	67	4	100	6	75
Analysis						
-With synthesis	7	78	3	75	8	100
-Without synthesis	2	22	1	25	0	0
DESIGN						
Process						
-Survey	8	89	4	100	6	75
-Trends	1	11	0	0	0	0
-Case study	0	0	0	0	2	25
Sampling technique						
-Complete enumeration	4	44	0	0	1	12
-Simple random	1	11	2	50	0	0
-Cluster	1	11	0	0	1	12
-Purposive	2	22	0	0	3	38
-Stratified - Proportional	1	11	0	0	0	0
-Stratified – Equal allocation	0	0	1	25	0	0
-Systematic with a random start	0	0	1	25	3	38
Reliability						
-With pre-test	0	0	1	25	1	12
-Without pre test	8	89	3	75	7	88
-Standardized	1	11	0	0	0	0
Data analysis						
-Table reading and superficial	7	78	2	50	6	75
-Exhaustive and in-depth	2	22	2	50	2	25
Conclusions and recommendations						
-Logical and consequential	9	100	4	100	8	100

Data showed that majority of BSHRM researches used BSHRM students as respondents, survey as research design, and purposive and systematic with a random start as

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sampling technique. Literature and studies were well-organized and extensive, with synthesis and presented by topic/concept. Instruments used were not pre-tested.

Table 6. Respondents and output of BSND researches

Respondents	2013	2012	2011	2009	f	Rank
-Students	6	6	10	7	29	1
-Senior citizen	1	0	0	0	1	4
-Mothers	1	1	0	0	2	3
-Teachers	5	5	9	6	25	2
Instrumentation						
Type of instrument						
-Questionnaire	5	2	1	1	9	2
-Rating scale	4	5	9	6	24	1
Statistics						
-Frequency counts & percentages	9	7	10	7	33	1
-Mean	6	7	9	6	29	2
Output						
-Training program	4	1	0	0	5	2
-Development plan	4	6	10	7	27	1
-Module	3	1	0	0	4	3

Findings showed that majority of BSND researches used students as respondents, rating scale as instrumentation. Mean, frequency counts and percentages are widely used as statistical tool. BSND researchers constructed a development plan as an output.

Table 7. Respondents and output of BSHRM researches

RESPONDENTS	2012	2009	2008	f	Rank
-Students	9	3	6	18	1
-NGA Employees	0	0	1	1	3.5
-Employees of line agencies	0	0	1	1	3.5
-Teachers	0	1	0	2	2
INSTRUMENT					
-Questionnaire	9	4	8	21	1
-Interview guide	0	0	1	1	2
STATISTICS					
-Frequency and percentages	0	0	6	19	1
-Mean	0	0	1	1	3
-t-test	0	0	3	3	2
OUTPUT					
-Policy	0	1	1	7	1
-Training program	0	1	5	6	2.5
-Development plan	1	1	4	6	2.5
-IT systems program	2	1	0	3	4

Data showed that majority of BSHRM researches used students as respondents, questionnaire as instrument, and frequency counts and percentages for statistics. Research results were on policy.

CONCLUSION AND RECOMMENDATION

Based from the data gathered, BSND and BSHRM researches are simple and uncomplicated with the use of campus students as respondents. BA Econ researches are challenging since the respondents are located outside the municipality. There are errors in research instruments. Simple statistical tools are used by the researchers. The literature and studies are presented in an organized manner and relevance of study to other studies mentioned is included. The result of researches gears towards development of curriculum, program and the institution.

It is recommended that BSND and BSHRM researchers to consider respondents

other than campus students. Validity and reliability of research instrument should be tested by the student with the guidance of statistics instructor, research instructor and/or thesis adviser. The student-researchers should try using tools other than descriptive statistics in consultation with their statistics instructor, research instructor and/or thesis adviser. They should include implications and justifications of results using the cited literature and studies as well personal observations, and experiences of the researchers.

REFERENCES

[1]   Bitchener, John and Helen Basturkmen (2006). Perceptions of the Difficulties of Postgraduate L2 Thesis Students Writing the Discussion Section. Journal of English for Academic Purposes. Volume 5, Issue 1. January 2006. URL: www.aut.ac.nz/__data/assets/pdf_file/0008/15794/collated_list_2006.pdf. Date retrieved: February 2014.

[2]   Lofgren, Curt and Henry Ohlsson (1999). What Determines when Undergraduates Complete their Thesis: Evidence from Two Economics Departments. Economics of Education Review. Volume 18, Issue 1. February 1999. URL: eric.ed.gov/?id=EJ579404. Date retrieved: February 2014.

[3]   Dobratz, Marjorie C. et al. (2006). Outcomes of Scholarly Inquiry: An Analysis of Master's of Nursing Students' Projects/Theses. Journal of Professional Nursing. Volume 22. September-October 2006. URL: onlinelibrary.wiley.com/doi/10.1046/j.1365-2648.2003.02538.x/abstract. Date retrieved: February 2014.

[4]   Lundgren, Solveig M. and Maud Halvarsson (2009). Students' Expectations, Concerns and Comprehension when Writing Theses as Part of their Nursing Education. Nurse Education Today. Volume 29. Issue 5. July 2009. URL: onlinelibrary.wiley.com/doi/10.1046/j.1365- 2648.2003.02557.x/abstract. Date retrieved: February 2014.