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Research Productivity, Knowledge and Competence among Faculty Members of Iloilo Science and Technology University Satellite Campuses

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Abstract: **ISAT U satellite campuses, particularly the Barotac Nuevo Campus, struggle to be at par with the leading universities in the Philippines especially in research productivity but the manifestations of research development can hardly be seen. It is in this premise that the researcher would like to ascertain whether the research knowledge, research competence and institutional support can affect the research productivity of the faculty members of the satellite campuses of the ISAT U System. Descriptive-quantitative-correlational research design was employed. The data gathering instrument is the questionnaire adapted from Mendoza (2008) and from the instrument of AACUP used in Accreditation. One-hundred fifty-six (156) faculty members of the ISAT U satellite campuses were the respondents. Twenty-five (25) were from ISAT U Barotac Nuevo Campus, twenty-five (25) were from ISAT U Dumangas Campus, eighty-two (82) were from ISAT U Miag-ao Campus, and twenty-four (24) were from ISAT U Leon Campus. Mode, mean and regression were the statistical tools used. Findings revealed that the faculty members had low research productivity, average research knowledge and maintained a practitioner level of research competence. They perceived the institutional support for research related activities as moderate. Significantly revealed by the findings is that for a faculty to be research productive, he should possess research knowledge, competence and institutional support. Taken individually, only research competence is the predictor of research productivity. It is recommended that a developmental plan for the enhancement of research productivity of the satellite campuses should be strictly implemented.**

Keywords: **research productivity, research competence, research knowledge, institutional support.**

1. INTRODUCTION

Strong research profile adds to institutional reputation, visibility, and recognition. For that reason, and a host of others, faculty research output remains a dominant concern for academic institutions (Azad & Seyyed, 2007). Despite the acclaimed recognition of the significance of research for both the institution and the faculty, a wide variation of its production is found among faculty and at different institutions. Evidences point out that clearly the culture and environment for research are not-well developed. Philippines is not an exemption because the current state of higher education research leaves much to be desired in terms of quantity, quality, thrusts and contribution to national development. As observed by Bernardo (2003) in his study on the typology of HEIs in the Philippines, only 15 out of 223 HEIs in the sample met the requirements for the graduate –capable HEI category, and only two HEIs met the criteria for doctoral/research university categories.

Research is one of the keys of the vision-mission of any college in a university in addition to instruction and teaching (Rosas in Bernales, 2011). Universities are expected to be centers of creating new knowledge through research. ISAT U

Main Campus had answered this expectation to be a seat of dynamic research activities but the external campuses proved short of the expectation. The present scenario in the satellite campuses is the scarcity of research products, be it completed researches, copyrights, and utility model. The faculty members are deficient in terms of research productivity expected of a faculty of any university. This problem is enhanced by the very low or minimal research knowledge of the faculty members, their deficient research competence and the moderate institutional support that the institution allots to the research department to fund research related activities. The main campus provides research capability building trainings and other activities that would improve the situation but the moves were still not answering the gap that is being identified. It is in this premise that research knowledge, research competence and institutional support would be ascertained if they could affect the research productivity of the faculty members of the satellite campuses.

2. FRAMEWORK

This research is anchored on the scholarly theories of Cognitivism, Constructivism, and Symbolic Interactionism which are linked on research knowledge, research competence and institutional support which are deemed predictors of research productivity.

Social cognitive theory (SCT) (Bandura, 1986), holds that portions of an individual's knowledge acquisition can be directly related to observing others within the context of social interactions, experiences, and outside media influences. When people observe a model performing a behavior and the consequences of that behavior, they remember the sequence of events and use this information to guide subsequent behaviors. Observing a model can also prompt the viewer to engage in behavior they already learned.

Constructivism (Bruner, 1960) is an active process in which learners construct new ideas or concepts based upon their current/past knowledge. The learner selects and transforms information, constructs hypotheses, and makes decisions, relying on cognitive structure to do so. Cognitive structures are used to provide meaning and organization to experiences and allow the individual to “go beyond the information given”. Bruner (1966) states that a theory of instruction should address four major aspects: predisposition towards learning, the ways in which a body of knowledge can be structured so that it can be most readily grasped by the learner, the most effective sequences in which to present material and the nature and pacing of rewards and punishment. Good methods for structuring knowledge should result in simplifying, generating new propositions, and increasing the manipulation of information.

Symbolic Interactionism (Vega, 2006), examined the ways in which the individual is related to society through ongoing social interactions. This school views the self as socially constructed in relation to social forces and structures and the product of ongoing negotiations of meanings. Thus, the social self is an active product of human agency rather than a deterministic product of social structure.

It is believed that the research productivity depends on the research knowledge and the research competence of the faculty members of the ISAT U satellite campuses and the institutional support extended regarding research endeavors.

The theoretical framework of the study is presented on the page the follows.

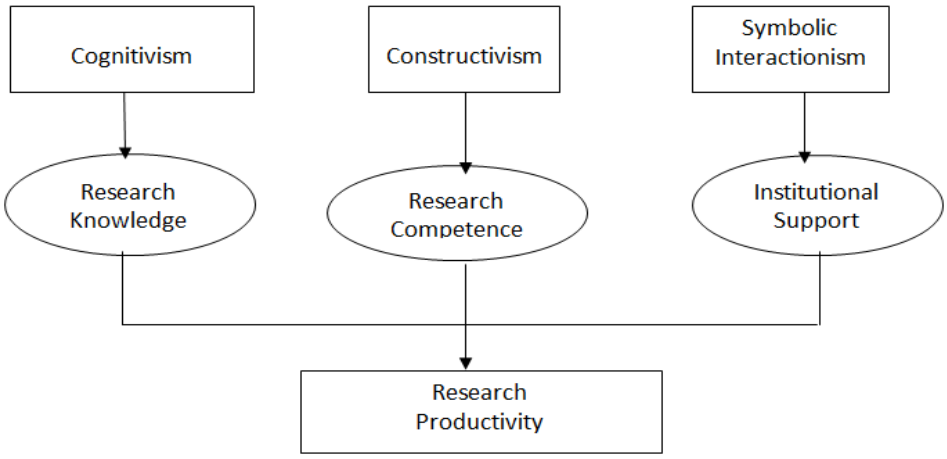

Figure1. Schematic Diagram of the Theoretical Framework

3. RESEARCH OBJECTIVES

The study aimed to determine the research productivity, research competence, and research knowledge of the faculty members of the ISAT U satellite campuses. It also aimed to find out the extent of institutional support extended by the administration to research related activities and ascertain whether research knowledge, research competence and institutional support affect the faculty members' research productivity.

4. METHODOLOGY

This study used descriptive-quantitative-correlational research design. Descriptive design (Cristobal, Jr. & Cristobal, 2013) is utilized for the purpose of portraying a population that has been chosen because of some specific characteristics. These methods were used to determine the level or extent of research production, research knowledge and research competence of the faculty members of the ISAT U satellite campuses. Descriptive-quantitative research design was used to determine the extent of institutional support that the administration of the different campuses extends to the faculty researchers. This method was also used to determine whether the research knowledge, research competence and institutional support could predict the research productivity of the faculty members of the ISAT U satellite campuses.

This design is also correlational in nature because the data would also determine whether the independent variables research knowledge, research competence and institutional support would have a relation to the research productivity of the faculty members of the ISAT U satellite campuses. Correlational studies (Padua and De Guzman-Santos, 1998) were designed to estimate the extent to which different variables are related to one another in the population of interest.

The study was conducted at Iloilo Science and Technology University (ISAT U) satellite campuses located in the municipalities of Barotac Nuevo, Dumangas, Miag-ao and Leon. The total respondents of the study were the one-hundred fifty-six (156) faculty members of the ISAT U satellite campuses. There are twenty-five (25) respondents from ISAT U Barotac Nuevo Campus, twenty-five (25) respondents from ISAT U Dumangas Campus, eighty-two (82) respondents from ISAT U Miag-ao Campus, and twenty-four (24) respondents from ISAT U Leon Campus. No sampling procedure and no sampling design is recommended because the population served as the respondents of the study.

The data gathering instrument was in the form of a questionnaire patterned and adapted from Mendoza (2008) and from the instrument of AACUP used in Accreditation. The questionnaire was composed of three parts: Part I, Questionnaire on Research Production; Part II, Questionnaire on Research Knowledge and Research Competence, adapted from the questionnaire of Mendoza (2008); and Part III, Questionnaire on Institutional Support, taken from the instrument of AACUP used in Accreditation.

To facilitate the conduct of the study, the researcher asked approval from the President of the ISAT U System through the Vice-President for Academic Affairs. A copy of the approved letter was given to the different Campus Administrators of the satellite campuses seeking permission to field the questionnaire to all the faculty participants. The researcher personally distributed the questionnaire to the campuses through the campus administrator. They were the ones who distributed the questionnaires to the respondents to be filled up and collected the forms once they have accomplished them. Then, the researcher went back to the campuses to retrieve the accomplished questionnaires.

Right after the retrieval of the instruments, the data were scored, classified, tallied and summarized. The statistical tools that were used in the study were the mode, the mean and the regression. Mode was used to determine the research productivity. Mean was used to determine the level of research knowledge and research competence and extent of institutional support Regression was used to determine the predictors of research productivity, regression was used.

The informed consent made contains the study goals, the type of data to be used to gather information, and a brief background of the study. Included also in the consent is the reason why this study was done. Moreover, it was discussed there how the respondents are being chosen. In this research study, they are being invited to take part because of their status as a faculty member of ISAT U satellite campuses. It was also stated that they (the respondents) are being asked to participate in a survey questionnaire that will involve his/her participation in a maximum of 20 minutes and the location will be determined according to their preference. Furthermore, the respondents will be informed that there are no anticipated risks in their participation. If they feel some discomfort at responding some questions, they will be free to ask the researchers or they can skip the question. Then, it follows with the information that the findings may provide them a better understanding of their research knowledge, research competence, research productivity and the extent of the

institutional support on the research activities of the faculty members. In addition, informed consent also stated that the respondents' participation will be completely voluntary. Meaning, they may skip any question that they do not want to answer and if they decide not to take part in the study, it will not affect their current relationship with the University of the Visayas and Iloilo Science and Technology University. Lastly, it will also include the respondents' right even if at the onset of the investigation to withdraw and withhold specific piece of information, the reassurance that their participation on answering the survey questionnaire will be kept with utmost confidentiality. It will also be included in the informed consent that a heartfelt gratitude will be truly expressed to them for the efforts and time they have willingly shared despite their hectic schedules.

5. RESULTS AND DISCUSSION

Research Productivity:

In higher education, past and recent studies have shown that research productivity plays a major role in attaining success in academia as it relates to promotion and tenure, salary and the fringe benefits of the profession (Kotrlik, et al, 2002). Hasselback and Reinstein (1995) reiterated that most decision makers consider research works published by faculty members as the primary signal for their quality. Though in evaluation of research performance, quality is paid more attention than quantity, in general, the number of papers published in university journals, extent of participation in editorial group of specialized journals, publishing reference and text books, number of papers at local, regional, national and international levels, contributing in organizing conferences and seminars as directors and other positions and submitting project reports can be manifestations of research performance of faculty members (Tafreshi, 2013).

Research Productivity of Faculty Members of ISAT U Satellite Campuses:

Campus	Published	Unpublished	In-pressed	Total
A	1	47	19	67
B	2	27	14	43
C	0	22	6	28
D	65	124	57	246
Total	68	220	96	384

Of the satellite campuses, Campus D manifested the capability of being research productive because they had published 65 completed papers in accredited journals. The challenge lies on how the three campuses (A, B and C) could improve their productivity. Enhancement programs should be given to these campuses to develop their writing skills so that they could come up with research outputs that are publishable in refereed and accredited journals. The research productivity of Campus D can be accounted to the size of the institution. The campus had 82 plantilla faculty members and a student population of more than 3,000 notwithstanding its university status. This observation is supported by the studies of Behymer (1974), Bailey (1992), Dundar and Lewis (1998), Gorman and Scruggs (1984), and Vasil (1992) who reported that institutional size was related to research productivity. However, Blackburn, Bieber, Lawrence and Trautvetter (1991) contradicted the findings when they reported that the characteristics of the employing institution was not related to research productivity.

Research Knowledge of the Faculty Members:

Level of Research Knowledge of Faculty Members:

Criteria	A n = 25		B n = 25		C n = 24		D n = 82		Total n = 156	
Conceptualization	3.27	A	3.23	A	3.33	A	3.14	A	3.24	A
Operationalization	3.35	A	3.33	A	3.37	A	3.20	A	3.32	A
Data Collection	3.22	A	3.25	A	3.41	A	3.41	A	3.14	A
Data Processing and Analysis	3.06	A	3.07	A	3.20	A	2.95	A	3.07	A
Research Application	3.09	A	3.15	A	3.19	A	3.19	A	3.11	A
Grand Mean	3.20	A	3.21	A	3.30	A	3.09	A	3.20	A

Legend: 1.00 – 1.89 Very Poor (VP); 1.90 – 2.69 Poor (P); 2.70 – 3.49 Average (A); 3.50 – 4.29 Above Average (AA); 4.30 – 5.00 Excellent (E)

A faculty member must be knowledgeable and be equipped of the different processes, types, principles and concepts regarding research. The research knowledge that a good researcher should possess is to know how to carefully investigate data, analyze data, explain data and verify the facts.

According to Mendoza (2008), the following research processes that a knowledgeable researcher should acquire are the following: conceptualization, operationalization, data collection, data processing and analysis, and research application. The faculty members of the ISAT U satellite campuses had average knowledge of the research processes. This means that possession of knowledge is not enough; it should be coupled with speed and flexibility of a proficient writer. The strongest criteria on research knowledge that the respondents possess is on *operationalization* and the weakest criteria is on *research application*.

Research Competence of Faculty Members:

Research competence involves the mastery of skills needed to design and conduct a systematic, empirical, objective, public, and critical investigation of an identified problem or issue. It is the ability to conduct independent research and to make appropriate use of quantitative, qualitative, or mixed methods of analytical techniques.

Level of Research Competence of Faculty Members:

Criteria	A n = 25		B n = 25		C n = 24		D n = 82		Total	
Conceptualization	.3.16	P	3.08	P	3.11	P	3.01	P	3.09	P
Operationalization	3.30	P	3.26	P	3.18	P	3.09	P	3.21	P
Data Collection	3.18	P	3.14	P	3.30	P	3.04	P	3.17	P
Data Processing and Analysis	3.09	P	3.05	P	3.17	P	2.94	P	3.06	P
Research Application	3.01	P	3.01	P	3.05	P	2.92	P	3.00	P
Grand Mean	3.15	P	3.11	P	3.16	P	3.00	P	3.11	P

Legend: 1.00 – 1.89 Deficient (D); 1.90 – 2.69 Apprentice (A); 2.70 – 3.49 Practitioner (P); 3.50 – 4.29 Master (M); 4.30 – 5.00 Expert (E)

The faculty members of ISAT U were found to be "practitioners" with regards to the level of research competence. This means that they may possess the knowledge and is capable and ready to use it but they lack the speed and flexibility of the proficient researcher. This implies that the faculty members need more training on this area so that they could become experts and be research productive. The findings conformed with that of Mendoza (2008), when he found out that the accounting educators maintained a "practitioner" level of competency regardless of their geographical location.

Institutional Support:

Maruyama (2012) says that, "One final way in which research begins is from the availability of research funds." Creswell (1985) acknowledged the importance of institutional support and the research culture within an institution to the faculty member's research productivity.

Extent of Institutional Support:

Campus	N	Mean	Description
A	25	3.28	Moderate Institutional Support
B	25	3.12	Moderate Institutional Support
C	24	2.71	Moderate Institutional Support
D	82	3.35	Moderate Institutional Support

Legend: 1.00 – 1.89 Very Low; 1.90 – 2.69 Low; 2.70 – 3.49 Moderate; 3.50 – 4.29 High; 4.30 – 5:00 Very High

As perceived by the respondents, the extent of institutional support to research related activities is only moderate. This is supported by the fact that the budget given to external campuses for the research department is very minimal. The budget taken from RA 8292 and Fund 101 is insufficient to facilitate the research related activities. This predicament articulates

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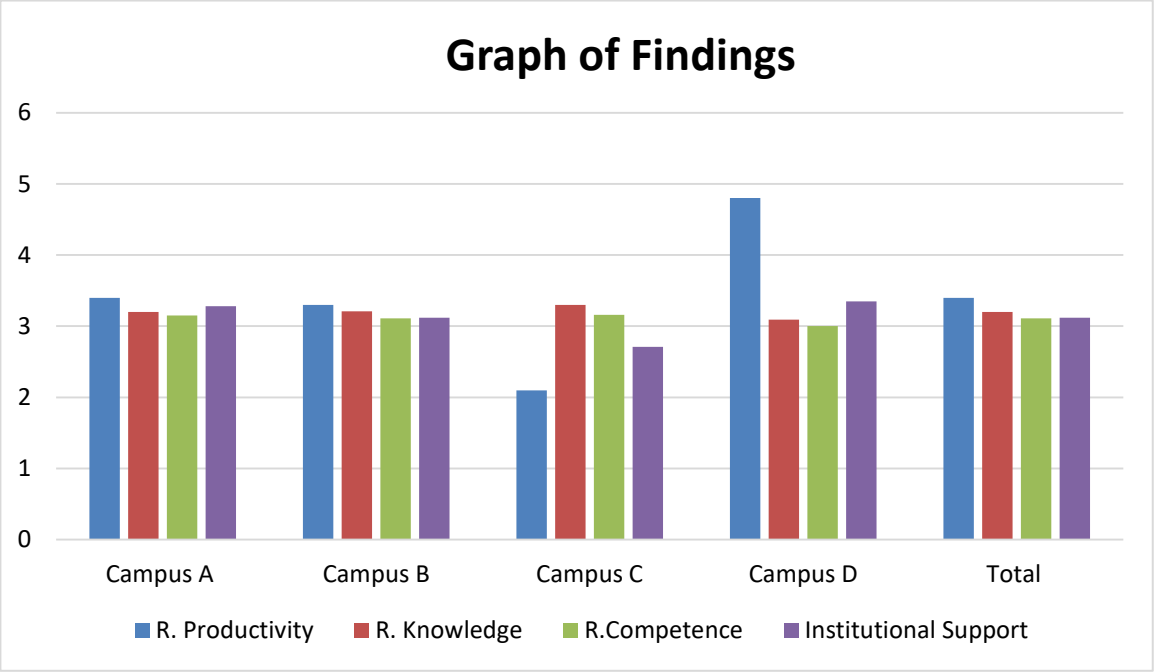
the lack or research outputs from the different satellite campuses. The feedback of the faculty members in formal and informal gatherings revealed that they wanted to have sufficient support from the administration so that their attention would be focused on the research endeavor they are engaged in. This clamor of the faculty members are also supported by the findings of Iqbal (2011) that majority of the faculty members desire to have funds to conduct researches, along with research leave, faculty members also desire to have access to latest books and journals, they want to reduce their teaching load and desire to attend seminars and conferences on research productivity.

The following graph depicts the findings of the study:



Predictors of Research Productivity:

Research productivity is undoubtedly a strong indicator of how far a higher education institution has gone in terms of giving services to the community and the nation as a whole. Academicians vouched that the trademark of a successful and research-oriented institution is their research productivity.

Predictors of Research Productivity:

Model		Unstandardized Coefficients		Standardized Coefficients	t	p-value	Remarks
		B	Std. Error	Beta			
1	(Constant)	-2.364	1.153		-2.050	.042	Significant
	KNOWLEDGE	-.057	.032	-.553	-1.789	.076	
	COMPETENCE	.088	.032	.864	2.775	.006	
	INSTITUTIONAL	.044	.031	.111	1.434	.154	

a. Dependent Variable: RESEARCHES

R SQUARED = 0.158

The presence of the three independent variables together would really mean that there is significance. This means that knowledge, competence and institutional support if provided to a faculty member would really result to his high research productivity. A faculty member given the mechanism of improving his knowledge and competence on research processes coupled with very high institutional support will surely be propelled to have high research productivity.

On the other hand, if the independent variables are treated distinctly of each other, only the variable research competence is significant. Thus it is a predictor of research productivity. This means that the level of research competence of the faculty member have a relationship to his research productivity. This implies that the more competent a researcher is, the more research productive he becomes. That is why, the research department of each campus prepare research capability building seminars and workshops to enhance the research competence of the faculty members. This finding was supported by the study of Pabhapote (1996) whose findings revealed that research competence is an explanatory factor which explains faculty research productivity. Moreover, in the study of Wichian, Wongwanich & Bowarnkitiwong (2009), research productivity variables were affected by direct correlation with the researcher's characteristics, researchership, research competence and institutional research-promoting characteristics. This implied that the instructors at the Pedagogy department who were capable in research skills and technique, funding skills, research management and research communication skills would produce high research productivity. Employing the LISREL and Neural Network Analyses, it was found out that research competence was found having the highest importance followed by institutional support, researchership and characteristics.

6. CONCLUSIONS

The faculty members of the ISAT U satellite campuses possess average research knowledge and maintained "practitioner" level of research competence. They perceived the institutional support to research related activities as moderate. Research knowledge, competence and institutional support if provided to a faculty member would really result to his high research productivity. At the same time, a research competent faculty is also a research productive faculty.

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