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Research Culture and Productivity of the Faculty in State Universities and Colleges

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ABSTRACT

The main objective of this study descriptive-correlational research was to find out the research culture and productivity of the State Universities and Colleges (SUCs). Survey questionnaire was used to gather relevant data. Results showed that the respondents recognized that conducting research was one of their primary duties. By welcoming or accommodating teacher-researchers in their classroom encouraged others conduct research and motivate finish their graduate studies. Respondents felt fulfilled when something of value came out their scientific investigation and ake pride when their research was in line with the achievement of the national socio-economic goals. Their enthusiasm in gathering data, reading research outputs, and surfing in the internet motivated them to do research for their promotions. In terms of research incentives, there was an institutional funding for research; SUCs provided seminars and workshops. On research organization, SUs had research center and it was well organized; in-house review and evaluation of all the researches were done annually. However, presentation of research outputs in international fora was rarely supported. The institution stipulated the average teaching load of the faculty, there were available research mentors; research was the primary mission of the school; SUCs had research advisory boards; had an Institutional Research Board; received trainings grants; issued research participation; and funded faculty research. The findings showed that the faculty were productive in research; however, those were not publish. Most of the faculty used descriptive and experimental researches dealt with issues on social sciences and agriculture which were utilized for community extension and instruction.

KEYWORDS: Research culture, productivity, faculty, State Universities and Colleges

INTRODUCTION

Unprecedented emphasis is being placed on research as the key motor for advancing the knowledge society and its offspring, the knowledge economy. Consequently, research on the state of research has moved high on the priority agendas for governments, for their specialized agencies and bodies devoted to this area, and for higher education institutions according to Kearny (2009) as cited by Pornsalnuwat (2014).

Many countries have begun to prioritize and commit more resources to higher education, research, and innovation. They do so in order to compete more effectively in the competitive global economy of today. This reallocation of resources varies significantly between high and low income countries. According to Kearny, industrialized countries have focused most on overcoming two challenges: first, the need to secure sufficient funding for high level research in education; and second, the need to adapt to world class higher education standards (Gibbs, 2009).

Colleges and universities should recognize and build on the several, sometimes conflicting, cultures that affect faculty members' values and behaviours. A history of late twentieth-century American higher education could not avoid describing the diversity of institutional types and the plethora of disciplines, fields, and specialties. The insightful sociologist Burton Clark (1985, p. 41) highlights this diversity when he discusses "the endless number of churches and sects" produced by disciplinary distinctions and further divided by the variety of colleges and universities. Indeed, nearly twenty years ago, Light (1974, p. 14) proclaimed that "the academic man [or woman] is a myth." That is, distinct disciplinary histories, ways of doing work, and career lines have created diverse professions among academics (Ruscio, 1987); additionally, particular institutional missions have resulted in variation across faculty priorities and workload (Clark, 1985, 1987). Furthermore, faculty members' gender, race, and class affect their experience. They work in a "master matrix" (B. Clark, 1984) where they belong to "an array of groups"-a discipline and department, a specific college or university, a national system of higher education, and a profession (S. Clark, 1986, p. 26). Kuh and Whitt (1988, pp. 12-13) define culture as "the collective, mutually shaping patterns of norms, values, practices, beliefs, and assumptions that guide the behaviour of individuals and groups." Additionally, they explain that culture is "an interpretive framework for understanding and

appreciating events and actions" (1988, p.13). Given this definition, it is clear that faculty not only belong to various groups, in fact, they also live and work in at least four (and often more) cultures. As "interpretive frameworks, "these cultures affect how faculty interact with students, conceptualize and organize their work, participate in institutional decision making, and balance disciplinary and institutional responsibilities, as cited by Austen, (2007).

Although the number of universities and colleges is growing rapidly as part of the massification of higher education, many institutions lack resources and efficiency in research activities. The need to assure basic education and health care often takes precedence over higher education and research (Pornsalnuwat, 2014).

The study aimed to find out the research culture and productivity of the State Universities and Colleges (SUCs) in Central Mindanao. Also it determine to what extent do the faculty members accept and adopt research as an integral part of their functions, determine the respondents' institutional attributes in terms of a) research incentives, b) organization, c) support for research forum, and d) administration support, identify the problems and challenges encountered by the respondents in conducting research, examine the socio-demographic characteristics of the respondents in terms of their age, sex, highest educational qualification, number of years in teaching experience and number research trainings for the last 5 years, determine the respondents' research knowledge skills; determine the respondents' research productivity; determine whether the respondents' individual attributes significantly influence their research productivity; and determine whether the respondents' institutional attributes significantly influence their research productivity.

METHOD

Research Design. The study used descriptive-correlational method of research. The respondents' socio-demographic characteristics were obtained in terms of their age, sex, highest educational qualification, and research trainings. Knowledge, skills and attitudes towards research were likewise determined. Further, it also determined how the different research culture building factors namely the individual attributes and the institutional attributes influenced the faculty research productivity of the respondents' institutions.

Research Respondents. The target population of the study included the permanent faculty members of State Universities and Colleges in Central Mindanao who have at least earned units in any master’s degree program, master and doctorate degree holders.

Sampling Design. The sampling design that was used in this research was stratified sampling by proportionate allocation of the full-time faculty members of the State Universities and Colleges. There were 294 full time faculty respondents who participated in this study.

Research Instrument. The instrument used was a questionnaire that was adopted from a previous unpublished dissertation of Lopez (2004) and from McRox et.al (2012). A little modification was made on some of the areas of the questionnaire in order to satisfy the objectives of the study. Multiple regression analysis was utilized to test the hypothesis at 5% level of significance.

RESULTS AND DISCUSSION

Research Attitudes and Adoptability of the Faculty Respondents

The results in Table 1 shows that out of the 23 items, 12 items were rated Very Closely Resembles My Attitudes and the other 11 items were rated as Closely Resembles My Attitudes. The result implies that faculty respondents are very much pleased in doing research and they accepted that it’s not only in teaching they can excel but also in research. They are aware that research is part of their job. As revealed in this study the following attitudes very closely resembled themselves: recognize that research is one of the functions of a college faculty (mean=3.51); welcome teachers conducting research in their classroom (mean=3.43); clearly understand the values of conducting research (mean=3.43); welcome research work if there is sufficient research funding (mean=3.40); welcome researches that are in line with the achievement of the national socio-economic goals (mean=3.37); always want to finish their graduate research studies (mean=3.35); feel fulfilled when find something of value from their scientific investigations (mean=3.35); like to conduct researches for it help their promotion (mean=3.34); always welcome the idea of gathering data (mean=3.33); enjoy reading research output (mean=3.32); enjoy surfing the internet (3.31) and pleased when heard the word research (mean=3.28).

These results imply that they recognized that conducting research is one of their primary duties in their institution and in their chosen field. By welcoming or accommodating teacher researcher in their classroom or giving time to answer the questionnaire encourage others who are interested in doing research and these gestures motivates other to finish their graduate studies. Respondents also feel fulfilled when something of value comes out their scientific investigation and they takes pride when their research is in line with the achievement of the national socio-economic goals. Their enthusiasm in gathering data and reading research output plus their enjoyment in surfing internet motivate them to do research to help them in their promotions.

As Gellert (1992) as cited by Pornsalnuwat (2014) stated that teachers should not only teach but must also link their academic endeavor to the ongoing process of general research. As this unity progressively became commonplace among universities around the world, quality research in particular became a dominant criterion for determining academic excellence.

Table 1. Research attitudes and adoptability of the faculty-respondents of State Universities and Colleges in Central Mindanao

Attitudes	Mean	Verbal Description
1. Please when heard the word research.	3.28	Very Closely Resembles My Attitude
2. Enjoy conceptualizing a research problem.	3.22	Closely Resembles My Attitude
3. Happy to think of the work of a researcher.	3.27	Closely Resembles My Attitude
4. Welcome the idea of gathering data.	3.33	Very Closely Resembles My Attitude
5. Welcome assignments to conduct research.	3.18	Closely Resembles My Attitude
6. Welcome teachers conducting research in my classroom	3.43	Very Closely Resembles My Attitude
7. Like to administer the questionnaires	3.20	Closely Resembles My Attitude
8. Like to read literature and studies.	3.23	Closely Resembles My Attitude
9. Love to stay in the library for research work.	3.00	Closely Resembles My Attitude
10. Enjoy reading journals/magazines/books.	3.25	Closely Resembles My Attitude

Table 2.4. Institutional attribute in terms of administrative support as indicated by the faculty of State Universities and Colleges in Central Mindanao

Items	No		Yes		Total
	N	%	n	%	
1. Does your institution stipulate the average teaching load of the faculty?	271	92.2	23	7.8	294
2. Is research a primary mission of your school?	245	83.3	49	16.7	294
3. Is research productivity an important component of the faculty roles and responsibilities?	269	91.5	25	8.5	294
4. Do faculty members get release time to do research? If so, how much time?	168	57.1	126	42.9	294
5. Are the current researches funded?	194	66.0	100	34.0	294
6. Does your school have a research advisory board?	225	76.5	69	23.5	294
7. Does your school have an Institutional Research Board?	224	76.2	70	23.8	294
8. Does your school receive training grants for research?	223	75.9	71	24.1	294
9. Does your school encourage faculty more involved in research?	281	95.6	13	4.4	294
10. Are issues with regards to research participation of the faculty addressed?	218	74.1	76	25.9	294

Research Related Problems encountered by the Faculty

Table 3 shows the research related problems encountered by the faculty of State Universities and Colleges in Region XII. There were 18 identified research-related problems encountered in doing research these problems were rated by the faculty respondents. Among these problems, time-constraint (mean=2.42) and overloaded with academic subjects (mean=2.61) were rated as their problem TO A GREAT EXTENT which means that these problems have a great effect on the ability of the faculty to pursue or do research.

The other research related problems were rated TO SOME EXTENT. These problems were scarcity of financial resources (mean=2.21), faculty considered only instruction not research as their primary duty (mean=2.15), lacked of sustainability to conduct research (mean=2.12), lacked of library/ laboratory

facilities (mean=2.11), lacked of manpower resources (mean=2.08), lacked of knowledge about possible sources of fund (mean=2.06), lacked of opportunity to do research (mean=2.05), lacked of administrative support (mean=2.03), inadequate accessed to literature (mean=2.02), inequity in carrying research roles (mean=2.02), no training opportunities (mean=2.00), insufficient research skills (mean=1.99), lacked of competing demands on the field (mean=1.96), favoritism in awarding research grants (mean=1.94), insufficient access to new technology of information and communication (mean=1.91) and the lack of interest to conduct research (mean=1.83). Although these problems when properly address, the faculty would be encouraged to do research.

Hazelcorn (2005) argues that the nature and availability of training and development opportunities for academics facilitated to promote research practices in universities. For example, time management training enabled the academics to maintain balance between workload (either teaching or administrative) and research activities (Jenk, 2009). Consequently, academics from teaching intensive universities could minimize the negative impact of teaching and administrative responsibilities on their research performance especially for writing publications (Hemmings et al. 2007).

Table 3. Research related problems encountered by the faculty of State Universities and Colleges in Central Mindanao

Characteristics	Extent	
	Mean	Verbal Description
1. Time Constraint	2.42	To great extent
2. Overloaded with academic subjects	2.61	To great extent
3. Insufficient research skills	1.99	To some extent
4. Scarcity of financial resources	2.21	To some extent
5. Lack of opportunity to do research	2.05	To some extent
6. Lack of Manpower resources	2.08	To some extent
7. Inadequate access to Literature	2.02	To some extent
8. Lack of administrative Support	2.03	To some extent
9. No training opportunities	2.00	To some extent
10. Insufficient Access to New Technology of Information and Communication	1.91	To some extent
11. Lack of competing demands of the field	1.96	To some extent

Table 5.1 Research Productivity of the faculty-respondents of State Universities and Colleges in Central Mindanao

Variables	Frequency *	Percentage
	(n = 294)	(%)
Roles in Research:*		
1. Institutional Research		
Proponent	118	40.1
Co-Proponent	111	37.8
Research Assistant	45	15.3
Data analyst	47	16.0
Enumerator	23	7.8
2. Theses and Dissertations		
As an adviser	180	61.2
As panel member	184	62.6
As reader	85	28.9
3. Funded Research Project		
As Research Supervisor	24	8.2
As Principal researcher	102	34.7
As Research Assistant	51	17.3
Data Analyst	39	13.3
As Enumerator	28	9.5
Number of Researches Produced For the Last 5 yrs		
Less than 5	224	76.2
5 - 7	36	12.2
8 - 10	15	5.1
11 - 13	3	1.0
14 - 19	6	2.0
20 and more	10	
Number of Researches Published in Refereed Journal		
None	188	63.9
1 - 2	67	22.8
3 - 4	39	13.3
*Multiple Response		

Type of Research Produced

Table 5.2 shows the type of researches produced by the faculty respondents of State Universities and Colleges (SUC's) in Region XII. Most of the respondents (50.7%) produced descriptive research; 42.9% used experimental method; 31.3% used applied/action research method; 20.7% used basic/Fundamental/Pure Research Method; and the least of them (3.1%) used Ex Post Facto Research Method.

Table 5.2 Types of research produced by the faculty-respondents of State Universities and Colleges of Region XII. SY 2015-2016.

Types of Researches Produced	Frequency *	Percentage
	(n = 294)	(%)
Basic / Fundamental/Pure	61	20.7
Applied/ Action	92	31.3
Historical	11	3.7
Descriptive	149	50.7
Correlational	44	15.0
Ex post facto	9	3.1
Evaluation	36	12.2
Experimental	126	42.9
*Multiple Response		

Areas/Focus of Research

Table 5.3 shows the Areas/Focus of Research conducted by the faculty of State Universities and Colleges (SUC's) in Region XII. Most researches are focused on Areas/Field in Agriculture as revealed by 97 (33%) of the respondents, major Issues on Social Science (Families & Com Transition, Education, Disaster, ICT, and Social Change) was focused by 91 (31%) of the respondents. About 26.9% focused on major Issues in the Natural Sciences (Climate Change, Pollution, Conservation, Energy, Health and Food, 20.10% focused on Institutional/School's Research Agenda,19.7% focused on Curriculum Based and 18.70% of the respondents focused their researches on Science and Technology.

Table 5.4. Use of the researches conducted by the faculty-respondents of State Universities and Colleges in Central Mindanao

Use of the Researches	Frequency *	Percentage
a. for curriculum development	(n = 294) 66	(%) 22.4
b. improve instruction	102	34.7
c. institutional planning	59	20.1
d. community extension	152	51.7
e. local, provincial or national planning for development	72	24.5
*Multiple Response		

Relationship between Respondents' Individual Attributes and their Research Productivity

As Roleda et al (2014) found out that research productivity has been conducted in many settings relating to the research attributes like age, gender, doctorate, academic in breeding and other. To be a leading university, an institution must not only produce numerous research output but these output must have an impact to the research and academic communities at large. They also found out that faculty attributes such as age, faculty rank, doctorate, doctorate age and longevity correlate significantly with research productivity.

In this study, the results in Table 6 showed that the combined contribution of the individual attributes included in Model 1 significantly influenced the faculty members' research productivity (F-value=13.824, p< 0.05). Moreover, educational attainment (t-value=2.538, p < 0.05), number of years in teaching (t-value=2.329, p < 0.05), number of research trainings, p < 0.05), research attitudes (t-value=2.789, p < 0.05), and knowledge and skills (t-value=3.091, p < 0.05) of the faculty were best significant predictors of research productivity. These results imply that the higher is the faculty members' level of education, the higher is their level of productivity in research. In addition, the results denote that the longer the faculty is in service, more research training, better attitude in research, and higher level of knowledge and skills, the more productive they are in research. The results support the findings of Jitpitak

Table 5.3 Areas/Focus of research conducted by the faculty-respondents of State Universities and Colleges in Central Mindanao

Areas/Focus of Researches	Frequency *	Percentage
1. Curriculum Based	(n = 294) 58	(%) 19.7
2. Institutional/School's Research Agenda	59	20.1
3. Major issues on Social Sciences (Families & Com Transition, Education, Disaster, ICT and Social change)	91	31.0
4. Major issues in the Natural Sciences (Climate Change, Pollution, Conservation, Energy, Health and Food)	79	26.9
5. Agriculture	97	33.0
6. Science and Technology	55	18.7
*Multiple Response		

Uses of the Researches Conducted by the Faculty Respondents

Table 5.4 shows the uses of the researches conducted by the faculty of State Universities and Colleges (SUC's) in Region XII. The most common used of research as indicated by the faculty respondents was for 1.) Community extension with 152 (51. 7%) respondents, second commonly use of research was to improve instruction with 102 (34.70%) respondents, third common use of research was for local, provincial or national planning for development with 72 (24.5%), fourth commonly use of research was for curriculum development with 66 (22.40%) respondents and lastly was for institutional planning with 59 (20.10%).

Table 6. Regression Analysis on the influence of the individual attributes and the research productivity of the faculty of State Universities and Colleges in Central Mindanao

INDEPENDENT VARIABLES	DEPENDENT VARIABLES		
	Coefficient β	t-Value	p-Value
Model 1	Research Productivity		
Constant	-13.9168	-2.1847*	0.0297
Age	-0.2155	-1.6656	0.0969
Sex	-0.8366	-0.6233	0.5336
Educational Attainment	0.9834	2.5379*	0.0117
Number of Years in Teaching	0.3127	2.3287*	0.0206
Research Training	0.4639	2.7285*	0.0068
Research Attitudes	4.2309	2.1729*	0.0306
Knowledge and Skills	3.6298	3.0905*	0.0022
Model Statistics (R-Square = 0.253, F-Value = 13.824*, p-Value = 0.000)			
* = significant at 5% level			

Relationship between Respondents’ Institutional Attributes and their Research Productivity

Table 7 reveals that the combined contribution of the institutional attributes such as research incentives, research organization, support for research forum, and administrative support significantly influenced the faculty members’ research productivity (F-value=4.346, p < 0.05). Taken singly, the support for research forum (t-value=2.985, p < 0.05) and administrative support (t-value = 1.987, p < 0.05) were found best significant predictors of research productivity. These results imply that the greater is the frequency of the faculty to attend and participate in the research fora, the higher is his/her level of research productivity. Furthermore, the results indicate that the greater is the administrative support in research like giving the faculty release time to do research, funds for research, mentoring and others, the higher is the faculty members’ level of research productivity. These findings support the contention of Hemmings, Rushbrook and Smith (2007) who found that well-reputed researcher as mentor may influence the research interest and productivity of mentee. According to Jenks (2009), the arrangement of activities that provide opportunities to interact with renowned researcher is useful for fostering the importance and value of doing research among academics.

(1989) and Pabhapore (1996) who had found that personal characteristics and environmental factors positively correlate with and could predict the faculty research productivity.

As the study of Chen, Yining, Gupta, Ashok, Hoshower, and Leon (2004) found out that some scholars believe that promotion has a motivating effect on research productivity. For instance, Fox (1985) suggested that higher education institutions can influence faculty research behavior through the manipulation of the reward structure for promotion. Other researchers, however, insisted that faculty publish not for external rewards but because they enjoy the process of inquiry (McKeachie, 1979). Prior studies identified two categories of personal motivational factors that drive academic research: (1) investment factors or extrinsic rewards (e.g., salary raises, tenure, and promotion) and (2) consumption factors or intrinsic rewards (e.g., an individual’s personal satisfaction from solving research puzzles, contributing to the discipline, and achieving peer recognition).

In addition to personal motivation, other factors also had substantial influence on faculties’ research productivity. One well-established research productivity theory, Life-Cycle theory, suggests that in general the research productivity of a researcher rises sharply in the initial stages of a career, peaks at the time of tenure review, and then begins a decline (Diamond 1986; Goodwin & Sauer 1995; Hu and Gill 2000). Other studies have identified that the following factors influence research productivity: (1) tenure status, (2) the allocation of working time to research activities, (3) length of the tenure probationary period, (4) teaching loads, and (5) financial research support (Buchheit et al. 2001; Cargile & Bublitz 1986; Chow & Harrison 1998; Tien 2000; Levitan & Ray 1992; Hancock et al. 1992).

Mary-Louise Kearney, Director of the UNESCO Forum on Higher Education, Research and Knowledge as cited by Gibbs (2016) stated that reinforcing research and higher education multiplies pressure on the funding, content and structure of knowledge system these challenges have become particularly overwhelming for middle-and-low income countries thus increasing the risk of their further marginalization. Kearney also adds that knowledge generated by research is the basis of sustainable development which requires that knowledge be placed at the service of development, be converted into applications and be shared to ensure widespread benefits. Indicators for research productivity (patents, scientific papers) are also notoriously weak in 3rd world countries until this situation improves, access to knowledge will remain inequitable and sustainable development a distant goal. Access to knowledge is another factor where serious discrepancies persist with damaging consequences for production and dissemination two areas are affected the research productivity and ICT access. Furthermore, investment in research is increasing in emerging companies and many nations are prioritizing and more resources to higher education, research and innovations.

Table 7. Regression Analysis on the influence of the institutional attributes and the research productivity of the faculty of State Universities and Colleges in Central Mindanao

INDEPENDENT VARIABLES	DEPENDENT VARIABLES		
	Coefficient β	t-Value	p-Value
Model 2	Research Productivity		
Constant	0.6875	0.1592	0.8736
Research Incentives	1.2252	1.0653	0.2876
Research Organization	0.6698	0.8557	0.3929
Support for Research Forum	3.4296	2.9851*	0.0031
Administrative Support	0.5924	1.9870*	0.0479
Model Statistics	(R-Square = 0.238, F-Value = 4.346*, p-Value = 0.002)		

* = significant at 5% level

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