

# Cultivating Research Culture: An Analysis of Contributing Factors, the Institution's Research Initiatives, and Collaboration among the HEI's Trifocal Functions

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**Abstract** Factors contributory to the involvement in research and research-related activities among Catholic university professors were determined, along the institutional research initiatives and the national goals on research, and the extensiveness of convergence among the trifocal functions of the institution in cultivating a research culture. The study revealed that the faculty members' involvement is dependent on the institution's support in making research an essential part of the organizational culture. The presence of a research unit, financial reward and merit system, expertise, research capability programs and institutional policies were found as major contributory factors, while utilization of research output was considered the weakest.

**Keywords:** *research culture, contributing factors, research initiatives, collaboration, trifocal functions*

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## 1. Introduction

*Research cultures are not "born", they are "made". It is compared to a foolish gardener who throws seeds into an unprepared soil, provides no nutrients, and trusts that the resultant plant will grow strong, healthy and well shaped. A research culture is like the plant. The plant needs to be compatible with the soil and location into which it is planted; the soil into which it is planted needs to be well tilled and fertilized; during its formative stages it may need to be staked and pruned; it will need regular watering necessary for a healthy research culture to flourish [1].*

Research culture, may be described as shared values, beliefs, attitudes and norms affecting the carrying out of research tasks in an institution. [2] Quoting Robbins, Waters-Marsh, Cacciope and Millet (1994), described a research culture as "a common perception about research held by the organization's members; a system of shared meaning about research."

Culture is expressed through practices and statements - through the way people act and the way they express themselves. [3] working from a nursing background, examined the components essential to the development of

a research culture and concluded that these are: (1) the researchers' knowledge and expertise (2) the institution's values, beliefs and norms and (3) the institution's material artifacts. [2] drawing on Polk's work, explained: "Knowledge comes in the form of individual research skills and experiences. The values and norms become embedded in the concepts of motivation and support. The material artifacts constitute the facilities and tools necessary for research." [3] described the steps she took to introduce a research culture within a clinical setting:

"...Research culture occurs in three phases: (a) a "birthing phase" involving orientation and the introduction of research tools; (b) a "bonding phase" when each unit developed their research agenda; and (c) finally, a "stabilization phase" when policies are established"

Moreover, [1] emphasized that a research culture within an institution, then, may be summarized as the knowledge about research topics and processes which are sanctioned as appropriate and relevant; the values, beliefs, attitudes and norms which surround the research process within the institution; and the various material ways in which the institution supports or denies support to its researching individuals and groups. New values, beliefs and norms about research develop as individuals and groups attempt

to carry out research projects and to “push the boundaries” of what the institution has previously approved.

Research is a major function of higher educational institutions; presumably faculty members should not only be aware of it, but must in fact be actively involved in the generation of knowledge. Cognizant of such challenge, the Philippine Commission on Higher Education (CHED) has been “pushing zealously for a stronger research orientation among HEIs”, hence the advent of the National Higher Education Research Agenda (NHERA) in 1996, which “articulated the goals of higher education research as well as its mechanics, and the concrete steps to realize its goals” [4]. About 12 Zonal Research Centers (ZRC) had been put up in the country to further promote and encourage research in both state and private HEIs. No less than Saint Mary’s University became an implementing agency for Region 2 and for the years 2008-2010 has been involved in activities designed to improve the research capabilities of faculty members in HEIs.

In view of this study, it is forthright to ask: “Has the academe truly imbibed and developed a research culture? How do the institutional research policies in the locale of the study support the development of a research culture among its faculty members? How do faculty researchers look at some equally important personal and organizational variables as helpful and contributory to cultivating a research culture in the institution? And how extensive is the collaboration among the trifocal functions of the institution in cultivating research culture among its faculty members?”

It is the terminal aim of this study to offer practical recommendations for a more enhanced capability building program for faculty researchers to attract more relevant policy-oriented and disciplinal studies, responsive research policies and stronger collaboration among the trifocal functions of the HEI under study.

## 2. Methodology

The study utilized a combination of quantitative-qualitative research approaches. This is a population study of all full-time faculty members, whether non-faculty or faculty members doing research in Saint Mary’s University, Bayombong, Nueva Vizcaya from School Year 2010-2014. In gathering the needed data, the study utilized the *Cultivating Research Culture Checklist* – a survey consisting of three main parts namely personal and organizational information, Research culture checklist and Qualitative part and *NHERA 2: 2009-2018 Policies and Guidelines*. In treating the gathered data, it utilized Descriptive Statistics, Medians, Means and Standard Deviations, Non-Parametric Friedman Test as well as qualitative data gathered through the one-on-one interview. All computations were carried out using the Statistical Package for the Social Sciences (SPSS) version 17 at p value .05.

## 3. Findings

### 3.1. Involvement of the Faculty Members in Research and Research-related Activities

Debating on the relationship between research and teaching is not a new issue. The initial community which

argued on the relationship between teaching and research tended to include many who were educational theorists and practitioners whose primary interest and motivation was in the area of educational development. Just recently, there have been some participation from faculty who are heavily engaged in teaching. Some of those participants are also active researchers in their chosen subject discipline; others are teachers who are active scholars in the teaching of their discipline rather than front-line researchers.

In addition, many scholars and national higher-education systems have seen the connection between teaching and discipline-based research, or what some have described as the “teaching-research nexus,” as the defining characteristic of higher education and what separates it from basic and vocational education [5]. [6] emphasized that research activity can and does serve as an important mode of teaching and a valuable means of learning hence, universities should treat learning as not yet wholly solved problems and hence must always be in research mode. In addition, education experts have argued that the relationship between research and teaching should be a positive one. As [7] has said: “I believe that the main hope for realizing a genuinely student-centred undergraduate education lies in re-engineering the teaching-research nexus.” However, one size does not fit all, and there are evident disparities amongst different disciplines on how this can be achieved. Research work suggests that natural sciences harbor a more specialized research culture, which may be more difficult to translate and relate to teaching [8] and therefore making the research-teaching relationship a positive experience for teachers and students may be a challenging endeavor by nature.

The research locale is a Private, Catholic, Higher Educational Institution in Region 2, Philippines. The institution has embarked on research as early as in the 1970’s. From then onwards, the growth and development of research culture in the University is spearheaded by the University Research Center. In SY 2007-2008, the position of School Research Coordinator was created due to the verticalization of several schools created within the academe. They functioned as members of the research council, with an equivalent load of 12 units in SY 2010-2011. During this year, the Center has encouraged its faculty to conduct significant researches not only for the generation of new knowledge but also for its practical utilization. By the implementation of policies earlier drawn to sustain production, it has annually involved several faculty members who are either remunerated financially or by merit through research points. By 2012 a new Research Agenda has been formulated with the Schools’ respective coordinators [9].

In this study, the research population from 2009 to 2014 included 148 full time faculty members in the College Department, across eight schools within the University. They comprised administrators with part time teaching loads and full time teachers, either doing research or not doing research at all. The list was supplied by the University Human Resource and Development Office. However, in the final collation of the data, only 130 faculty members or about 88 percent of the survey data was gathered. Over the years, some faculty members resigned or retired from work, or were not able to return the questionnaire on time, despite the two-month retrieval

period. Thus, the survey yielded the following information on the current involvement of faculty members in research and research-related undertakings:

Only about 58 percent of faculty members in the locale are involved in research and 52 percent do not have research collaboration at all; 64 percent do not lead while 9 percent have experienced one or two lead research undertakings respectively. Only about 3 percent of the faculty members have experienced one or two commissioned researches. Only 8 percent have involved themselves as collaborators in one or two commissioned researches. 72 percent have no participation as paper presenters in research conferences. Others have presented their papers in more than three research conferences; another 50 percent have attended conferences only as part of the audience. 84 percent have not attended international research conferences; 73 percent have no national participation; 58 percent have no local research participation. 87 percent have no local awards; 96 percent have no national awards, and 96 percent have not received any international awards. 50 percent of the faculty members have no research advisees; 46 percent have not attended any examining (critiquing) panel. About 90 percent have no published researches in international journals; 96 percent have no national publications, while 74 percent have no researches published in local journals.

About 97 percent of the faculty members state that the institution sponsors research seminars or fora; 95 percent say that researches are published in journal forms; 95 percent stated that researches are presented on posters and displays; 96 percent affirm that research units exist in the institution to lead research activities; 90 percent believe that there are pertinent disciplinary studies being conducted in the academe; and 91 percent indicate that relevant institutional studies are being conducted.

In terms of gaining experiences on research-related tasks, about 30 percent say they were invited as research lecturers; 52 percent say they became research instructors; 76 percent of them have been immersed as members of thesis proposal defenses; 56 percent have experienced acting as chairpersons; 26 percent were assigned either as research coordinators or research assistants; 29 percent as independent project researchers; 77 percent became respondents or subjects of researches; and 47 percent as field workers.

When asked about the faculty members' engagement on some selected research-related activities, only about 26 percent write researches for publication; 76 percent are supervising undergraduate research students; 35 percent are undertaking funded researches, and 46 percent are mentoring co-teachers or faculty researchers.

When the faculty members were asked if they have gained any of the following **positive** impacts of their involvement in research-related activities, about 90 percent had enhanced their understanding of research; 89 percent had become aware of various research methodologies; 87 percent had developed their research skills; 80 percent had been motivated to pursue graduate or postgraduate studies; 79 percent had been benefited through research incentives; and 79 percent had been deeply engaged in their own discipline through research.

On the other hand, when the faculty members were asked if they have gained any of the following **negative** impact of their involvement in research-related activities,

only about 10 percent of the faculty-respondents stated that their research involvement led to a lack of interest in teaching and facilitating their learning; 14 percent said that their mentoring contacts with students had been lessened; 10 percent became disinterested in their academic welfare, 11 percent said that research interests distorted what they teach; 29 percent said they were unable to balance teaching and doing research, and 31 percent said that research made them have a lesser social life.

In terms of the faculty-respondents' awareness on some institutional policies on research, 87 percent are aware of the existence of some policies on multidisciplinary research program; 86 percent are aware on policies that pertain to conduct of commissioned researches; 91.5 percent are aware about policies on publication program; 86 percent about policies on education and training program; 88 percent about policies on faculty research assistantship program; 82 percent on research center's systems and procedures; 76 percent on financial assistance for local and international paper presentation; 88 percent on research incentive (financial) mechanism or package; 90 percent on policies concerning contract for research load; 95 percent are aware on the existence of policies on the selection of Likha Awardees; and 95 percent are aware on policies regarding publication of research outputs (in-house journals).

The foregoing results of the faculty members' involvement in research and research-related activities show how research is made part of the organizational culture. While there are few faculty members who stated that they have experienced some negative effects of research, many of them accept that research activities benefited them greatly not only in terms of incentive package or benefits received through conducted researches, but helped them to become more engaged in their own disciplines. Accordingly, the [10] asserts that it is important to take into account the importance of "engaged inquiry" by faculty members, an activity that involves much more than content mastery, teaching skills, doing research and scholarly publication alone. Producing books, articles or researches is the most visible - and certainly one of the most useful - results of scholarly engagement. However, there are other wide range of activities that faculty members can engage in such as participating in national meetings of professional organizations, serving on the editorial boards of school journals or refereeing manuscripts for presses, serving as lecturers, or becoming members of paper-critiquing panel. These are also evidence of active engagement and should be recognized as enhancing teaching in the discipline. Such activities put faculty members in sustained touch with new research and with the best work that is being done in and beyond their disciplines. Perhaps most importantly, engaged inquiry allows faculty members to test their knowledge and opinions in the company of professional peers - in the institution, that is, of colleagues as experienced and informed as they are. When faculty work in an institution at which the primary emphasis is on teaching, it is all too easy for them to gauge the value of their ideas by the degree to which students find them comprehensible, interesting, and persuasive. But regular interchanges with professional colleagues relative to research allow teacher-scholars to continue to learn and test their knowledge,

rather than allow their ideas to become locked into patterns learned in graduate school or perhaps too neatly packaged by the demands of pedagogy.

The [10] further asserts that any teacher might create such learning opportunities, but a teacher who is also an engaged scholar is better equipped to show students the process by which they themselves might grasp and, ideally, help to create or generate knowledge. He or she can teach them to become not passive consumers of information, but creative contributors to a community of learning. Given this kind of education, students are better prepared to use, expand, and know the limits of knowledge in whatever fields, professions, or communities in which they find themselves after they graduate.

In addition, while a study conducted by [11] among 182 faculty members at a large urban university confirmed that teaching effectiveness and research productivity among faculty are independent constructs because they are nearly uncorrelated, in practice, however, as shown in the study of Colbeck (1998) as cited by [10] found that faculty members do successfully integrate teaching and research. On the average, the faculty observed in her study accomplished teaching and research goals simultaneously during one-fifth of their work time. Their opportunities to integrate those roles were shaped by the ways expectations were defined by their disciplines and by university and departmental contexts. Colbeck cautioned against seeing research and teaching as mutually exclusive, noting that when policies and the institutional culture emphasize only one role rather than an integration of both, faculty engagement in the unsupported role diminishes.

Colbeck's ideas therefore explicitly state that when the institution is supportive of both research and teaching activities, there is a greater chance for the faculty members of higher education to engage in both areas for the benefit of themselves, their disciplines and their undergraduate teaching.

### 3.2. Faculty Members' Experiences on some Aspects as Contributory to Cultivating Research Culture in the Academe

[3] examined various components essential to the development of a research culture noting that "a research culture may occur in three phases. These are: (a) a "birthing phase", which involves an orientation and the introduction of research tools; (b) a "bonding phase" when each unit develop their research agenda; and (c) finally, a "stabilization phase" when policies are established."

Relative to the research locale's research growth and development through the years, "the birthing and bonding phases" are already well established in the institution. In this section, the second objective of this paper which is to determine the faculty members' perceptions on some factors contributory to cultivating a research locale in the academe as part of the "stabilization phase" is herein discussed. Two groups of faculty-respondents, such as (a) full time faculty members doing research (n=75) and (b) full time faculty members not doing research at all (n=55) were asked about the extent of contribution of some factors, which are believed to contribute to cultivating research culture in the academe. The reason for the presence of the latter is two-fold: (a) for objectivity reasons, the perceptions of faculty members who are not

doing research will serve to validate, if not strengthen the claim of those faculty members who are immersed in conducting researches; and (b) such perceptions shall also establish if the contributing factors are also present or felt in the academe despite the fact that they do not conduct any research at all. Thus the extent of contribution of the factors to cultivating research is equated with the extent of its presence in the academe.

The researchers' expertise or capability to conduct research were rated by the respondents with median scores between 2.50 to 3.49, described as "greatly contributory" to cultivating research culture in the academe and that they are "greatly present or felt" in the institution.

It is however, highly noted that two items under research utilization had been rated by faculty-researchers as least felt in the academe. These are: (a) that conducted researches are utilized by communities for their appropriate application; and (b) that researches on priority disciplines are utilized by government and non-government agencies.

In the structured interview with faculty members regarding the real connection between teaching and research where the faculty researchers' capabilities or expertise was brought to the fore, a big number declared the need to capacitate or enhance the expertise or capabilities of teachers, especially those teaching in the HEIs. For example, respondent 1, a faculty member of the social sciences, who is into research for seven years now and respondent 4, from the religious education department, who has been in the institution for 20 years respectively mention:

"Through research we contribute to the generation of knowledge in one's discipline and craft relevant community extension services"....

"it's a part of being a true educator".....

The statement that teachers of HEIs must be research-oriented has been affirmed by several other faculty-respondents who stated:

"Since research improves teaching, the teacher being a researcher becomes imperative (resp.6)".....

"An HEI has threefold functions thus research is one of the functions aside from being educator/instructor (resp.10)".....

"Teaching and research are inseparable not only is it a requirement of the course but also one way to contribute to our profession. Results from research are bases for decision making (resp.12)".....

Moreover, capacitating oneself to conduct researches not only enhances one's personal development but also generates additional understanding of their discipline and other disciplines as well. The following qualitative statements strengthen the aforementioned claim:

"Faculty members can relate other information/ideas from other disciplines (resp.15)"....

"It makes me more well-versed on various fields (resp.22)"...

"HEI teachers must not become stagnant with what they were taught in the past but must use them to discover and maybe develop new knowledge (resp.28)";

"Teachers in HEIs must demonstrate multidisciplinary teaching function to be effective in the teaching profession (resp.32)"...

"Research enhances professional development of teachers; thus, teachers must find time in conducting researches (resp.33)"...

“In my opinion it should be because in doing research we gain knowledge and we could apply it in the subject we teach (resp.37)”...

“To integrate his findings in research in his lessons (resp.40)”...

“As a faculty member it is important that you are equipped with research competencies (resp.41)”...

“We do have responsibility to improve teaching through research (resp.43)”....

Further, several faculty-respondents mentioned that research expertise or capabilities among teachers is a way of contributing sustainably to the field of knowledge and one can achieve this through creativity in research-related undertakings:

“Teachers are expected to participate in creating new developments and contribute actively in their discipline (resp.45)”...

“Acquiring new learnings is a continuous process for a teacher (resp.50)”;

“Faculty members should not only focus in the instruction but also mentor students in their researches (resp.55)”...

“Because of the substantial connection bet teaching and research (resp.62)”...

“Since research is the foundation of better and innovative learning (resp.65)”....

“The teacher himself knows his students he mentors and at the same time as a researcher he gains more knowledge and shares this to his students (resp.76)”...

“An HEI faculty must be research-oriented (resp.78)”;

“HEI faculty has to explore new dimensions/aspects of what they teach (resp.83)”;

“connecting teaching and research brings new ideas into the classroom (resp.113).”

Higher Educational Institutions are also mandated by the Commission on Higher Education to produce collaborative, multidisciplinary, and relevant research projects that will help solve societal problems. This idea was strengthened by faculty- respondents to wit:

“To comply with the typology of a university. The research skills of a teacher in HEI is deemed necessary (resp.7)”;

“because HEI has threefold function;s thu,s research is one of the functions aside from being an educator/instructor (resp.10)”....

“Teachers have the duty to continually move toward excellence through research and graduate studies (resp.30)”...

“Research enhances professional development of teachers; thus, teachers must find time in conducting researches (resp.33)”;

and “teachers should pursue personal growth and development and one way of which is doing research to contribute to society (resp.36).”

However, a few faculty - respondents claimed that they can not do research because of a number of factors. Among them are:

“Time constraints (resp.3)”....

“Not all faculty members have time to conduct research because of teaching loads (resp.51)”...

“Conducting research definitely increases teachers knowledge but realistically being a full time teacher is already demanding much of teachers’ time, effort and energy so they should either be jus teachers or researchers (resp.5)”...

“Not everyone can conduct/do good research (resp.9)”...

“I don’t understand research (resp.21)”...

“A research needs focus and much attention. Students need their teachers every now and then. To give teachers/research instructors other load/subject would mean diverting attention and having less time with teaching (resp.34)”...

“Not all faculty member is really equipped with the knowledge in research. We cannot serve two masters we either love or hate each of them. It’s just like the dual role of the faculty members. Besides faculty members find it difficult to squeeze these particular duties to their 24 hour duty for the day (resp.59).”

Despite the presence of such problems however, many faculty-respondents believe that teachers in HEIs are expected not only to teach concepts in the discipline, but are also expected to contribute to the generation of new knowledge in the discipline. Thus, teachers in HEIs must contribute to cultivating research culture in their own dicipline.

[1,2] states that “research culture” refers to the organization’s shared values, beliefs, attitudes and norms affecting the carrying out of research tasks. It refers to a common perception about research held by the organization’s members; a system of shared meaning about research. One of the integral components which are essential to the development of a research culture include the researchers’ knowledge and expertise. [2] explained: “The knowledge comes in the form of individual research skills and experiences. A research culture can not flourish in an academe without a researcher, whose expertise and capabilities must be tapped and integrated in the whole of the institution’s organizational culture.”

Other than strengthening the perception that research thus, contributes to the development of the teacher, somehow, the direct experiential accounts also reflected a number of challenges that face them in their desire to enhance their research capability or expertise. The University Research Center is trying to resolve the problems by continuously capacitating the teachers with research competencies through research capability-building programs and with the establishment of research units in various schools within the academe as discussed in the next section.

### **3.3. Comparison in the Experiences of the Faculty Researchers across the Ten (10) Contributing Factors to Cultivating Research Culture**

The Friedman test yielded a p value which is less than .05, indicating an overall difference in the perceptions of the factors that help cultivate research culture in the academe. The results of the pairwise comparisons specifically indicate the sources of variation in the perceptions of the faculty–respondents across the ten factors, giving more weight (or higher ratings) to some factors, while less (or lower ratings) in the other factors.

In descending order, the variation may also be gleaned from the overall ratings given by the faculty respondents on the ten factors namely: Presence of Research Unit ( $\bar{x}$ =2.83); financial reward and merit system ( $\bar{x}$ =2.80); researchers’ expertise ( $\bar{x}$  =2.79); research capability programs ( $\bar{x}$ =2.78); institutional research policies ( $\bar{x}$ =2.78); research funding ( $\bar{x}$ =2.71); working conditions ( $\bar{x}$ =2.67);

infrastructure ( $\bar{x}=2.64$ ); inter-institutional collaboration ( $\bar{x}=2.66$ ); and utilization of research output ( $\bar{x}=2.54$ ).

### **3.4. Institutional Research Initiatives in the Locale that support the Development of a Research Culture among its Faculty Members and their Complementarity to the CHED NHERA 2 Guidelines and Provisions**

#### **3.4.1. On goal and objective 1 of CHED NHERA 2, “Improving research capability of Philippine HEIs to generate knowledge towards international competitiveness” through: (a) research capability programs; and (b) strengthening Graduate Education in Priority Disciplines, the Institution’s initiatives are:**

On research capability programs, seven activities were spearheaded in the year 2009; nine in 2010; seven in 2011; ten in 2012; and six in 2013.

In terms of strengthening Graduate Education in Priority Disciplines, there are ten key areas underscored and in each area, various topics are integrated or form part of the subject contents in the Graduate School. The specific topics or contents are also indicated per program cluster for easy reference among the institution’s administrators, faculty members, students, and CHED officials, and other stakeholders.

In terms of research capability programs organized or attended by faculty members and students of the Graduate School, one training capacitation happened in 2014; five in 2013; three in 2012; nine in 2011; three in 2010; and five in 2009. The said research programs are either organized in tandem with the University Research Center, solo sponsorship, or in tandem with other units in the academe. Somehow, the capacitation-trainings strengthen the faculty members and students in the nuances of research.

#### **3.4.2. On the second goal and objective of the CHED NHERA 2, “enhancing research productivity of the HEI in distinctive areas of competence (disciplinal studies)” through: (a) research funding; (b) institutionalization of a system of rewards and incentives; and (c) Journal Accreditation Services**

In terms of research funding, four researches funded from various agencies and institutions were conducted from 2009 – 2012.

With regards institutionalization of a system of rewards and incentives for research undertakings and outputs of HEI faculty and researchers, URC policies and guidelines for financial remuneration of faculty researches have already been instituted in the previous years but gained stronger or enhanced implementation from 2011 up to the present.

There are currently nine journals in existence in the University. These are: (1) The Accountancy Research Journal; (2) the Business Sense; (3) the Arts & Sciences Journal; (4) Architecture and Engineering Journal; (5) the SPAG Journal; (6) the SCIT Journal; (7) the Journal of Northern Luzon; (8) the Graduate Research Journal; and the SMU Research Abstracts. While these have not yet undergone accreditation, the URC has undertaken steps towards this by having the journals reviewed by internal reviewers.

#### **3.4.3. On CHED NHERA 2 Goal and Objective 3, “Generating new knowledge needed for the advancement of higher education as well as for national development”, through: (a) Dovetailing HEIs with R & D Initiatives of the DOST; (b) establishing external linkages; (c) establishment of zonal research laboratories with state-of-the-art facilities and equipment for cutting edge technology research; and (d) creation of a visiting scholars and fellowship program.**

In terms of dovetailing HEIs with R & D initiatives of the Department of Science and Technology, four initiatives were undertaken by the University.

In establishing networking or external linkages, in 2009, eight external networks were established by the academe with agencies and institutions. In 2010, the University has sustained five external partners. In 2011, three linkages have been formed. In 2012, three linkages were sustained.

In establishing zonal research laboratories with state-of-the-art facilities for research, the University has purchased a six-unit Software on Plagiarism Detector and fifty units of SPSS software; computer units for Plagiarism Tests; and established the SPSS Laboratory Facility in the University.

In visiting scholars and fellowship program, nine memoranda of understanding were signed with various academes both local and international from 2008 to 2014.

#### **3.4.4. In CHED NHERA 2, goal and objective 4, “Promoting and facilitating dissemination and utilization of research outputs” through: (a) Research dissemination and utilization; (b) multi-disciplinary research; (c) policy orientation; (d) participation and networking; and (e) balanced attention given to Basic and Applied Researches.**

In terms of research dissemination, in 2009, four researches were presented in both local and international paper conferences; another four were presented in 2010; five in 2011; and four in 2012. In terms of research utilization, about 21 researches had been utilized throughout the years. Some are utilized either in instruction (crafting instructional materials such as modules), or in community extension programs of the University.

In line with multi-disciplinary research, the University Research Center Handbook, especially on Chapter III, pages 21-25, specifies some policies in the conduct of multi-disciplinal studies, institutional (policy-oriented studies) and commissioned researches.

On policy orientation, the conduct of institutional studies helps in enhancing the institution’s policy formulation and development. As an institution of higher learning, SMU focuses on continuing descriptive and analytical self-studies that will bring to the attention of the management and academic officials and personnel relevant feedback and data on the efficiency of its various programs, services, and operations, and on the effective utilization of its resources.

On participation and networking, various areas of collaborations are found in the institution’s: (a) Multi-disciplinary collaborative research program; (b) research publication and dissemination program; (c) collaborative empowerment (education and training); and (d) faculty research assistantship program.

**3.4.5. In terms of “generating new knowledge and advancing the frontiers in the various disciplines within the academe”, it is evident that:**

Through the years, the School of Arts & Sciences has a steady number of faculty members doing research from S.Y 2009 – 2013, followed by the School of Engineering and Architecture and the School of Education. There are however, very minimal researches conducted by faculty members in priority research clusters in the Schools of Accountancy, Business, Information and Technology, Health Sciences, Public Administration, and the Basic Education.

**3.4.6. In terms of the NHERA 2 priority Disciplinary clusters consisting of Science and Math, Environmental Science, Humanities, Social Sciences, Education & Training, Health & Health Profession, Information Technology, Engineering and Architecture, and other Disciplines, the following studies were conducted from 2009 – 2013.**

In science and mathematics, three were conducted in 2009; six in year 2011; four in 2012; and seven in 2013.

In education and teacher training, seven researches were produced in 2011; two in 2012; and four in 2013.

In health and health profession, no researches were conducted by faculty members, while in information and communication technology, only one was conducted in 2011 and two in 2013.

In engineering, architecture and maritime clusters, only engineering and architecture are areas of research concerns among faculty members. There were eight researches conducted in 2010, four in 2011, five in 2012, and nine in 2013.

There are however no studies in agriculture, environmental science and the humanities. Meanwhile for the Social Sciences, two studies were conducted in 2009; five in 2011; three in 2012; and four in 2013.

**3.4.7 In terms of multidisciplinary researches conducted in education and education management,** one research was conducted in 2010; three in 2011; four in 2012; and seven in 2013.

**3.4.8 In terms of policy oriented studies on financing of higher education such as cost sharing in higher education; economics of higher education; governance and management of higher education; accreditation and other quality mechanisms; rationalization of higher education; internationalization of higher education; access and equity measures; and student financing models,** there are still no researches conducted in these areas.

**3.4.9 In terms of researches on quality and standards in the context of: International rankings and global benchmarking; quality assurance systems; equivalency; redefining classifications of HEIs; technology and education; model building studies; institutional development studies; manpower demand and supply studies; and graduate tracer studies,** there were no researches conducted in these areas.

**3.4.10 In terms of other research topics considered by the Commission in response to emerging needs of the country such as the NHERA 2 multisectoral researches on: Food safety and security; enhancing indigenous renewable energy source in the domestic energy mix; development of vaccines and diagnostic**

**kits using indigenous materials; disaster risk management; pollution control; climate change specifically on the issue of global warming; future ASEAN; and peace process and conflict resolution,** there were no researches conducted in these areas.

### **3.5. Extent of Collaboration among the Trifocal Functions of the Institution in Cultivating Research Culture among its Faculty Members**

On the basis of the one on one interview and survey, about 97 percent of the respondents believe that there is a close connection between teaching and research in HEIs. Among the reasons shared were: (a) Teaching and research in higher education is given much emphasis; (b) there is complementarity between teaching and research; and (c) researches improve pedagogical practices and/or solving problems in the teaching and learning processes. However, some teachers do not believe in the duality or multiplicity of functions of teachers in HEIs because of: (a) inadequacy of time or the difficulty of balancing teaching and doing research; and (b) lack of research competencies among them.

Only about 24 percent believe that the academe at this stage is research-intensive, 76 percent stated otherwise, indicating the following reasons: (a) a lot of things relative to research like policies and guidelines still need to be improved; (b) a research intensive institution must have 80% or above of its population who are into research; (c) research production and publication in national and international journals are still limited; (d) there is still inadequacy in the facilities and equipment, especially in the natural sciences; (e) research is intensive only in few or selected schools or departments in the University; (f) there is still hesitation among some faculty members at this point like not finishing on time and the fear of payback; and (g) the institution gives financial funding but inadequate at this point.

A minimum of three hours is spent by faculty members doing their own researches daily while about five hours is spent doing undergraduate research mentoring. The activities are done in school during consultation hours and at home. About 63 percent of the teachers stated that the conduct of research does not affect their undergraduate teaching on the strength of the following: (a) managing effectively and efficiently one's time or setting of priorities; (b) mentoring student-researches during consultation hours; and (c) doing one's research during free time or during week ends. Others stated that doing research: (a) affects teaching preparation; (b) requires too much time; (c) results to lesser time for social functions; and (d) has never been their strength.

Some institutional or personal factors that are associated with teachers spending time on research activities are: (a) the financial remuneration, rewards or incentives and other benefits given to faculty researchers; (b) social prestige, interest and passion to do research among faculty members; (c) research is made part of teaching loads; (d) the patience and perseverance, and motivation of the faculty researchers; (d) faculty members assigned as panel of evaluators; (d) research is always made part of the agenda in faculty meetings and institutional activities; and (e) inadequate teaching loads.

In addition, 38 percent have experienced doing multiple researches besides teaching, and they manage their time doing multiple researches besides teaching by: (a) setting of calendar of activities and setting priorities; (b) working with people (lead researchers) who can aid in the research processes; (c) working at night for the writeup, and during weekends for the research processes; and (d) making full use of available time.

Only about five percent prefer to do institutional or policy-oriented studies; 63 percent prefer to conduct disciplinary studies because: (a) doing researches in their own discipline brings out the best in them since it is their expertise; (b) the practical results of disciplinary researches can be easily integrated in their own discipline through the specific subjects or teaching loads; (c) disciplinary researches are in line with the teachers' interest and knowledge; and (d) disciplinary researches bring about innovation in the current set-up/ or teaching to create new knowledge and enrich student learning. Moreover, 32 percent can do both institutional or disciplinary studies since: (a) research is a matter of practice and competence, both disciplinary and institutional policy-oriented studies resolve problems in the discipline and problems that pervade in the institution; (b) it enables them to meet the institutional research agenda and the agenda in the discipline; and (c) both types of researches are equally important and a competent researcher can do both.

When the faculty-researchers were asked if the University Research undertakings support the creation of multidisciplinary, collaborative and creative research projects of demonstrable national and global significance, of the 130 faculty respondents, 3% stated that such undertakings are to a "very little extent", 30% indicated "to a little extent", 59% said "to a great extent", while 8% shared that URC undertakings with demonstrable national and global significance are done "to a very great extent."

When the faculty-respondents were asked if they believe in the idea that the institution is helping raise community awareness and initial actions among Marians on social issues emanating from researches conducted, of the 130 faculty respondents, 3% said "to a very little extent", 36% stated "to a little extent", 57% believed that it is done "to a great extent", and 4% declared "to a very great extent."

## 4. Conclusions

On the basis of the foregoing summary of findings, the following conclusions were derived:

1. The faculty members' involvement in research and research-related activities, while still at a minimal level, showed how the institution is making research an essential part of the organizational culture. While there are few faculty members who stated that they have experienced some negative effects of research, many of them accept that research activities benefited them greatly not only in terms of incentive package or benefits received through conducted researches, but helped them to become more engaged in their own disciplines;
2. The ten factors are considered immensely contributory in cultivating research culture

among faculty members in the research locale. However, the utilization of research outputs is an aspect found wanting in the institution; that it is an area that should be strengthened or reinforced inasmuch as utilization is the be-all and end-all of any research production and dissemination;

3. The faculty-respondents varied in their perceptions of the ten (10) factors as greatly contributory in cultivating research culture. The faculty members considered Presence of research unit; financial reward and merit system; researchers' expertise; research capability programs; and institutional research policies as the five topmost contributory factors in strengthening research culture in the academe, while utilization of research output is considered least felt or a weak area in the academe;
4. While the Institution's various research initiatives and activities complement the four goals and objectives of the CHED NHERA 2 provisions and guidelines, it is felt that it is only at a moderate level. The strongest area is on research capability building. The data culled both on survey and interview validated the faculty-respondents' experiences on the great contribution and presence of these research initiatives in the academe as contributory factors in cultivating research culture. However, while the University greatly supports and encourages conduct of basic and applied researches, many studies are classified as basic researches. There are minimal applied researches due to lack of facilities and equipment, except some applied researches in Natural Sciences, and Engineering and Architecture.
5. On the strength of the survey and interview of research coordinators, majority of the faculty members in the locale believe and agree on the trifocal functions of HEIs (multiplicity of functions among HEI faculty members) in that while the primordial duty of the faculty members is to teach (do instruction), conducting researches in their major fields make them more engage in the discipline, and that community-based researches as end-products of the discipline can become bases for relevant extension services to needy communities.

## 5. Recommendations

On the basis of the foregoing, the following recommendations are advanced:

1. While it is true that teaching effectiveness and research productivity are two independent constructs, they are not mutually exclusive. Faculty members can enrich their effective disciplinary instruction through research and by conducting research, they contribute to the generation of new knowledge in the discipline. Premised on these findings, it is therefore strongly recommended that faculty members teaching in HEIs take into account the importance of sustained "engaged inquiry" or

- “scholarly inquest” – not merely activities that involve content mastery, teaching skills, producing books or articles but through the following research – related activities:
- 1.1 capacitating oneself on research methodologies, statistics and research writing;
  - 1.2 organizing research fora and paper conferences;
  - 1.3 conducting field works or community immersions;
  - 1.4 collaborating on commissioned researches;
  - 1.5 serving as research lecturers;
  - 1.6 acting as members of paper-critiquing panel;
  - 1.7 serving as research assistants, research teachers, and or research coordinators;
  - 1.8 supervising undergraduate research students as advisers;
  - 1.9 mentoring undergraduate, faculty researchers, and colleagues;
  - 1.10 conducting disciplinal or policy-oriented researches as lead researchers and not merely collaborators;
  - 1.11 writing for publication in national and international journals;
  - 1.12 participating in national meetings of professional research organizations;
  - 1.13 looking for agencies that sponsor research activities and applying as independent project researcher or proponent;
  - 1.14 refereeing research manuscripts;
  - 1.15 participating in inter-institutional or inter-agency research works;
  - 1.16 serving as paper presenters in national and international conferences; and
  - 1.17 performing research-based community extension services. Such activities that reflect “engaged inquiry” allow faculty members to test their knowledge and opinions in the company of professional peers within the institution, that is, of colleagues as experienced and informed as they are, and with faculty members of other institutions thereby enhancing their research capabilities and research culture of the academe.
2. While the ten factors were rated immensely contributory in cultivating research culture in the academe, the following activities may further boost their importance:
- 2.1 The Researchers’ Expertise or Capabilities – by immersing oneself on the various research-related activities mentioned above;
  - 2.2 Existence of Research Unit(s) – (a) crafting of common research policies and guidelines and strict implementation of the same within each research unit (school research council) cognizant with the general policies and guidelines of the University Research Center; and (b) hands-on and well-functioning tasks or duties of members of the school research council consisting of the Academic Dean, Research Coordinator, Research Teacher, Research Adviser, and Members of the Critiquing Panel, supervised by the URC;
  - 2.3 Capability Research Programs – Continuing capabilities on the following:
    - 2.3.1 conceptualizing research problems;
    - 2.3.2 identifying sources of research problems
    - 2.3.3 writing the subsections;
    - 2.3.4 searching for related literatures and studies;
    - 2.3.5 keeping oneself abreast with research methodologies;
    - 2.3.6 statistics or data treatments;
    - 2.3.7 techniques of quantitative and qualitative research approaches;
    - 2.3.8 crafting the data gathering instrument, and measuring validity and reliability tests;
    - 2.3.9 samples and sampling techniques;
    - 2.3.10 identifying sources of data;
    - 2.3.11 professionalism in panel critiquing, conduct (procedures on) of research defenses; and
    - 2.3.12 responsibilities and functions of the members of the critiquing panel, etc;
  - 2.4 Financial Reward and Merit System – (a) Review of policies on collaboratorship. (They should not end up being merely collaborators but they should learn to lead). Recommendation: three collaboration (1 per year) for the apprenticeship program leading to promotership or becoming lead researchers;
  - 2.5 Infrastructure/Equipment/Materials – (a) Building of infrastructure or purchase of equipment for departments or schools that conduct applied researches (e.g. Natural Sciences & Engineering and Architecture). Or this could be made possible by linking with governmental and private agencies and a counterpart from the school may be proposed;
  - 2.6 Research Funding – Maximization of school funding for research according to approved CHED standards;
  - 2.7 Institutional Research Policies - (a) Faculty research application for remuneration be reviewed first on the level of the school research council for endorsement to the URC; (b) bases for evaluation of research application be made transparent to the proponent; (c) review of policies on giving of merit points for doctorate (15 points) and masterate (10 points) be considered .
  - 2.8 Working Conditions – (a) Proactive measures be done on putting up needed facilities and equipment via institutional linkaging with governmental and private agencies; (b) additional funding for research; and (c) Duality or multiplicity of functions among faculty members may be addressed by lowering the basic load (from 24 to 18) to have more time on mentoring undergraduate researches, do their own research, and perform other tasks expected of them;
  - 2.9 Utilization of Research Outputs – Researches conducted whether disciplinal or policy-oriented, or community-based must be utilized for appropriate application. This can be done through: (a) sustained invitation of target communities during research fora to inform them of issues relevant for application in the communities; (b) adoption of communities where the researches are to be applied; (c) implementation of relevant institutional studies by converging with appropriate centers or units in the academe, with the researcher as proponent or lead chair of the

- program/activity; (d) invitation of government and non-governmental agencies during conferences to allow them to pick up relevant or appropriate researches for their use; (e) a stronger URC and CES linkage or tie up to pass on relevant researches for utilization in target communities; and (f) disciplinal researches can be used to enrich instructional content.
- 2.10 Inter-Institutional Collaboration – (a) enhance visiting professors and fellowship program by having one activity at least every semester; (b) preparation of annual plan of activities between or among partner-institutions for its sustenance to discourage one-shot deal activity; (c) encourage other inter-institutional research partnerships by crafting MOUs; (d) utilize faculty members' membership to professional organizations to widen the base of the academe's inter-institutional collaborations; and (e) strengthen faculty exchange program by determining expertise in various schools within the academe for exchange to partner-institution.
  3. Inasmuch as "utilization of research output" has been rated the lowest and is considered least felt in the academe, this must be given attention as recommended in 2.9 of section 2.
  4. Priority research areas or clusters which have never been explored, but which can still be possible priority areas in future researches of faculty members are strongly recommended. These are: (a) Agriculture; (b) Environmental Science; (c) Health and Health Profession; and (d) the Humanities; likewise, other possible research areas recommended by the CHED NHERA 2 (which remain to be unexplored by faculty members) are on:
    - 4.1 **quality and standards** in the context of: (a) International rankings and global benchmarking; (b) quality assurance systems; (c) equivalency; (d) redefining classifications of HEIs; (e) technology and education; (f) model building studies; (g) institutional development studies; (h) manpower demand and supply studies; and (i) graduate tracer studies;
    - 4.2 **multisectoral researches (emerging needs of the country)** such as: (a) Food safety and security; (b) enhancing indigenous renewable energy source in the domestic energy mix; (c) development of vaccines and diagnostic kits using indigenous materials; (d) disaster risk management; (e) pollution control; (f) climate change specifically on the issue of global warming; (g) future ASEAN; and (h) peace process and conflict resolution; and
    - 4.3 **policy-oriented studies** particularly on: (a) financing of higher education such as cost sharing in higher education; (b) economics of higher education; (c) governance and management of higher education; (d) accreditation and other quality mechanisms; (e) rationalization of higher education; (f) internationalization of higher education; (g) access and equity measures; and (h) student financing models.
  5. On the basis of the survey interview regarding the reasons for some teachers opting to teach and not doing research and immersing themselves in research-related activities, the following are advanced:
    - 5.1 On the problem of lack of time to do research – A restudy and consideration of the idea of lessening teaching loads to have more time to do research in their own discipline as previously floated by the URC (i.e. mechanism A: 12 units teaching loads and 12 research loads per semester; mechanism B: 18 units teaching loads and 12 units research per semester. Interested faculty members however, must apply. Proposals must be cognizant with CHED NHERA 2 Agenda, Institutional and Disciplinal Agenda;
    - 5.2 On the problem of lack of research skills among some faculty members – teachers must have the personal will to learn and assimilate themselves in the research undertakings of the school. They should be willing to undergo capability trainings to enhance their competencies and work as research collaborators; and
    - 5.3 On the trifocal functions of an HEI, a greater collaboration between and among existing Centers in the academe (URC-CES-IKAT) and individual schools within the locale must be established. Individual school development plans must explicitly indicate the goals and thrusts, policies, and program-activities of the Centers to create bridge and co-ownership of the trifold functions: instruction – research - community extension. The centers serve as facilitators of the school development plans and keep track of their progress; while the coordinators serve as conduit to individual schools they represent.

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