

Elevating the research and publication culture of the University of the Immaculate Conception Graduate School: A practical action research

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Abstract

Aim: In this action research, a strategy is created to meet the demand for increasing the participation of Graduate School (GS) faculty and students at the University of the Immaculate Conception (UIC) in the intensification of UIC's research and publication culture to bring it up to the same level as its international recognition.

Methodology: Purposively selecting 30 participants to represent the various stakeholders of the UIC GS, we used a qualitative descriptive research design called Practical Action Research (PAR) to facilitate brainstorming and exploratory sessions aimed at answering our research objectives, which included the following: a) increasing graduate faculty and student research productivity; b) formalizing mentor-mentee publication authorship; and c) incorporating innovative research pedagogies.

Findings: Our research uncovered systemic problems with far-reaching implications that share common causes and potential remedies. Lack of well-articulated policies, research experts, research class directions, and members' confidence are all issues that regularly arise.

Implications/Novelty: To improve the research and publication climate at UIC GS, we came up with a few suggestions as a starting point for a long-term strategy.

Key Words: Publication Culture, Higher Education Institutions, Graduate Schools, Productivity

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INTRODUCTION

Background

The graduate or postgraduate school at any given university is usually responsible for conferring advanced degrees like masters and doctorates. Given the research-heavy nature of these programs, graduate schools at HEIs are counted on to contribute to the institution's overall research and publication productivity.

Research universities play a pivotal role in driving economic and social progress by uncovering new knowledge and training the next generation of academics (Aithal 2016, United Nations Educational, Scientific, and Cultural Organization 2014), and this trend has recently gone global (Kongmanus 2016; Mohrman, Ma, and Baker 2008). Global rankings of HEIs based on research and research-related outputs and outcomes are growing in popularity, providing evidence of this trend.

However, no Philippine HEIs appeared in the results of university rankings such as the Times Higher Education Asia University Rankings 2014 Top 100 and the World University Rankings 2014-2015 Top 200, which use research and publication productivity as flagship criteria (World University Ranking 2014). Concerning the latter, the University of Tokyo and the National University of Singapore, which both have an impressive record of graduate research publications, are ranked 23rd and 25th, respectively. As a result, Cruz's (2014) claim that "without research, many Philippine HEIs are a joke". Even today, many higher education institutions in the Philippines need help in fostering a culture of research.

Continuous research collaboration activities and assessment of research culture characteristics are hallmarks of a research culture that values inquiry and discovery. These should result in sustained human research capital,

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ongoing knowledge production and applications, dissemination, and transfer. Tsikerdekis and Yu's (2017) research illustrates this idea; they found that intra-institutional collaborations are affected by factors such as unit support and previous research experience, researcher attitudes toward sharing knowledge, and available resources.

Further, a top research university will already have research institutes or centers in place that have the scientific and technical capacity pertinent to the HEI's research goals and that serve to organize researchers from across disciplines and to facilitate cross-discipline, cross-sector, and inter-institutional collaborations and productivity (Auranen and Nieminen 2010; Branco, Ponomariov, and Boardman 2010; Pengmanee 2016).

Many Philippine HEIs fall short of the standards needed to be classified as a research university in the current research culture. The Commission on Higher Education (CHED) has long been aware of this research gap. It has been required by Republic Act No. 7722 (also known as the Higher Education Act of 1994) to promote, direct, and support HEIs in carrying out research and instructional functions to equip them to generate high-quality research that will improve education, national development, and the system's international competitiveness. In addition, CHED mandates that each university type (Commission on Higher Education, 2014) cultivate a research community of faculty, post-graduate students, and post-doctoral research workers that encourages and facilitates original research, scholarly publications, and other forms of cutting-edge scholarship.

Like many of their Asian counterparts, Philippine publishers have difficulty having their scientific journal publications included in the master journal lists and citation databases of Thomson Reuters, Scopus, or both. CHED recognizes this as a sign of international renown, and as a result, it has established a system of accreditation for local journals included in the Thomson Reuters or Scopus journal master list and offers financial incentives to accredited journals. Out of 777 Philippine scholarly journals as of July 2015, only 28 are included in one or both of the master mentioned above journal lists. Only 13 of these scholarly publications are put out by academic institutions (Mendoza 2015).

After conducting a needs assessment, the UIC GS realized the graduate research program was not making the most of its resources. In addition, little effort has been put into fostering an environment conducive to academic inquiry and publication. Full-time teachers and students often have to make do with unpublished studies. In particular, graduate-level qualitative research rarely results in articles that can be published in the International Medicine and Biology Association's journal, IMRAD. Therefore, the need to establish authorship agreement guidelines for graduate students and their faculty advisers was identified. Despite the successes of the UIC Research, Publication, and Innovation Center (RPIC), such as the inclusion of the UIC research journal in the Directory of Open Access Journals (DOAJ) and accreditation by the CHED Journal Accreditation System (CHED-JAS) and the dramatic increase in the number of faculty researchers over the past five years thanks to various research programs, the results of the graduate research assessment are paradoxical. As the RPIC has expanded, it has helped more undergraduate programs launch disciplinary journals and made them accessible internationally through the Philippine Open Journal System (OJS). As a result of RPIC's work, UIC is the first university in the Davao area to have a fully operational Research Ethics Committee, demonstrating the university's dedication to ensuring the scientific validity and ethical soundness of research (REC).

The UIC GS's low research and publication productivity stands in stark contrast to its mandated role as the university's research leader and casts a shadow over the RPIC's successes. Therefore, examining the causes of this disparity is important to devise effective methods for boosting the research and publication culture at UIC GS. In this action research, we aimed to develop a plan in answer to the need to maximize the involvement of UIC GS faculty and students in the intensification of the promotion of the research and publication culture to parallel the international level of recognition in the field. Specifically, we sought answers on a) how to maximize the research productivity of the graduate school faculty and students, b) how to establish the mentor-mentee publication authorship, c) what new research pedagogy approaches can be integrated into the graduate qualitative and quantitative research process; and d) how can an independent graduate school journal be established in preparation for CHED recognition.

LITERATURE REVIEW

Having a research culture is not simply having a group of researchers, as commonly the case in many HEIs. It is having members that are bonded by shared, research-related values and practices, and a supportive system in which research is uniformly expected, discussed, produced, and valued. Some hallmarks of high performing research universities include recruiting the best and retaining them, and having open and collaborative personal relationships among faculty members and administration-driven cultural change to tailor resource allocations based on faculty members' motivations and abilities. (Hanover Research 2014; Li et al. 2016; Manville et al. 2015).

According to Martin (2009), some standard approaches to fostering research productivity have limitations. Research incentives for instance can reduce intrinsic motivations, making unorthodox approaches such as regular writing, practical tools for creativity, promoting happiness, and encouraging good health, which are relevant to just about any researcher. For example, regular writing can help a low-output scholar produce more papers and help a high-output scholar produce an even more phenomenal number. In support, the study of Buchheit et al. (2011) demonstrated that faculty with high motivation and low ability will likely make best research experience, while fewer teaching preparations, more outside consulting and mentor relationships result in higher output.

Of timely relevance is the essential role of research in internationalization strategies of HEIs as these require evidence-based strategies. In return, as research universities focus on discovering new knowledge, they also become more international in focus. The concrete example of this is the emerging global research paradigm of the 21st century - a description of the top stratum of research universities worldwide characterizing global mission, research intensity, new roles for professors, diversified funding, worldwide recruitment, increasing complexity, new relationships with government and industry, and global collaboration with similar institutions (Mohrman et al. 2008). All these concretize the need for intensification of research and publication culture by HEIs.

METHODOLOGY

Research Design

We employed qualitative descriptive research design specifically PAR approach. This method involves parties in actively examining together current action experienced as problematic towards its improvement, by critical reflections on relevant historical, political, cultural and economic contexts, in a genuinely democratic or non-coercive process (Wadsworth 1998). This PAR approach of active research by and for those to be helped is most appropriate in our investigation of the issues surrounding the UIC GS research and publication productivity for our purpose of making and carrying out plans to elevate the school's culture of research and publication.

Locale

We conducted this research within the UIC GS milieu. Located in the UIC Bonifacio campus, the UIC GS is committed to provide opportunities for continued professional growth and development of scholars, teachers and potential leaders in various disciplines. It aims to expose students to innovative methods in the teaching of various disciplines with research as the focus activity. Currently, it offers Doctoral Degrees in Educational Leadership, Applied Linguistics, and Business Management, as well as Master of Arts in Religious Education, Educational Administration, Elementary Education (major in Teaching College Chemistry and Teaching College Physics), Engineering Education (major in CE and ECE), Education (major in English, Guidance and Counseling, Mathematics, Sociology, and Physical Education), and Master of Science in Pharmacy.

Participants

We involved 30 purposively selected participants (appendix B) who represent the different stakeholders of the UIC GS, including the graduate school dean (1), program coordinators (5), faculty (5), students (5), journal editors (8), top administrators (3), and support service personnel (3). The inclusion of these participants is based on their knowledge and familiarity of the culture, systems and procedures of the UIC GS as evidenced by either of their position, functions, expertise or experiences. Upon approval of the UIC REC, we secured the informed consent of the participants, explained to them the purpose of study, assured them of confidentiality of their responses and

comments, made them realize the extent of their involvement, and granted them the freedom to withdraw from the future exploratory sessions should they experience discomfort with the setup in the process. We also guaranteed them access to the analyzed data and the reports derived from such. As a PAR, we as researchers also served as participants in the study.

Procedure

We used the research spiral method as defined by Mills (2003), which involves the processes of focal area identification, data collection, data analysis and interpretation, and action plan formulation in a cyclical process (Figure 1.A) wherein the spiraling Plan-Act-Observe-Reflect route (Figure 1.B) is integrated. Supposed that the implementation of the action plan would highlight other aspects needing improvements, the same spiraling processes would be applied. The actions and gathered data are evaluated and re-evaluated until the desired quality of product is attained. The spiral approach is a dynamic process; that is, it does not follow a linear pattern nor the usual causal sequence of problem to action. Instead, the processes of data collection, action and reflection spiral back and forth.

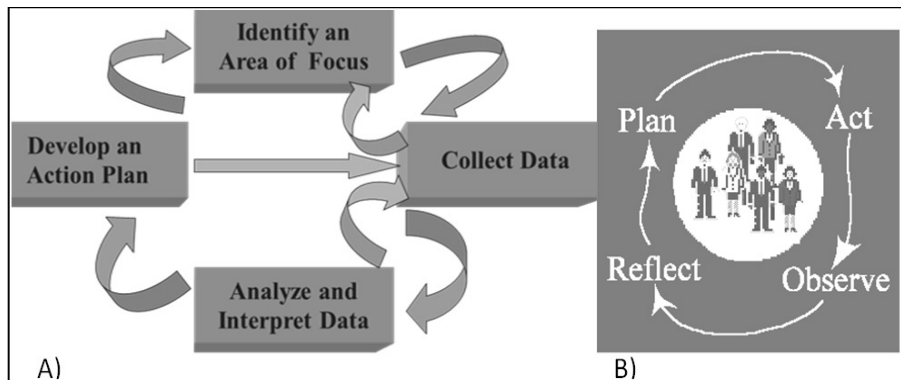


Figure 1. Frameworks of the study. A) Research spiral and B) Spiraling action research process as basis of work plan

Considering these frameworks, we first identified the areas of focus, then plotted a schedule of activities consisting of four brainstorming and exploratory sessions (purposively for research pedagogy, ownership/authorship of publishable paper, research output presentations, and research journal publication) with purposes of generating problematic issues. We then analyzed the data and used our findings for conceptualizing short-term and long-term plans to address the objectives of the study.

RESULTS AND DISCUSSION

The recurring issues during the brainstorming and exploratory sessions are regrouped, based on our original research questions they address. Further, we sub-grouped the issues according to which level they affect, as published studies have established that institutions with strong research and publication productivity share characteristics that are seen on three levels such as the institutional, program leadership, and individual levels (Hanover Research 2014). As expected, many of these problematic issues overlap in effects, necessitating for multi-level efforts to solve.

Maximization of UIC GS Research Productivity

UIC has institutional research policies in place; one designed to intensify research productivity is the very attractive research incentive scheme. However, the GS faculty seemed unmoved in terms of their involvement in their percentage of engaging in institutional or collaborative researches, thus incurring poor publication record. Hence, we were burdened to dig in the roots of this problem with the aim of customizing approaches/strategies that will arouse the latent research capacities of the faculty, thereby foster the GS research productivity.

Notably, the issues at the levels of the GS leadership and individual members can be thought of directly

causing poor research productivity. These include low or lack of area expertise, research experts, class directions, as well as members' confidence. Table 1 details the recurring issues surrounding low research productivity and presents recommendations that may help address them.

Table 1: Recurring issues on UIC GS research productivity and corresponding recommendations

Level	Recurring Issues	Recommendations
Institutional	Lack of guidelines to facilitate forging of linkages in research and publications of UIC with other institutions (national & international) of advanced state in terms of technology. Need to establish a committee to facilitate registration of intellectual property (e.g., patent & copyright) rights of researchers/writers.	Establish clear policies on research linkages and partnerships; create open research collaborations, opportunities, and benefits esp. with experts from known research-intensive institutions. Collaborate with UIC ITSO to protect and promote graduate research projects and outputs.
GS Admin/Leadership	Lack of coordination/direction of research classes towards graduate research output intended for publication. Absence of pool of experts with research agenda with whom students can affiliate or work. Need to reveal and promote the research and publication record of graduate school faculty.	Emphasize in research classes the importance of publishing research outputs by requiring a publication plan as early as research proposal stage. Have a transparent roster of GS faculty and institutional researchers' expertise and research interests. Establish networks and linkages with external researchers esp. those the GS has limited expertise on. Encouragement to GS faculty to act as lecturers/speakers of their respective areas of expertise. Have a concrete system that supports and rewards speakerships of faculty, e.g., higher Rank and Promotion points, etc.
Individual Members (faculty & students)	Underdeveloped methodology in research teaching. Many thesis and dissertation advisers have no or limited international publication. Limited research capability of faculty and graduate students.	Recruitment/invitation of experts in research methods to teach in UIC GS or train Research faculty. Have a system that supports Internmentoring and collaboration (i.e., junior researchers to work with senior researchers with established publication track record); Study possibility of having both principal and associate advisors for certain projects;

Table 1: Conti....

Level	Recurring Issues	Recommendations
		Develop research leadership by creating research career pathways.
	Low confidence of graduate students and faculty to apply for research grants for thesis and dissertation.	Conduct seminars on funding sources, writing grant applications, submitting grant applications, etc.

Establishment of Mentor-Mentee Publication Authorship

Interestingly, relatively fewer issues were raised regarding authorships, reflecting the unfamiliarity with the publication process and poor research authorship outputs of the UIC GS.

As the school has no policy yet regarding authorships, the recurring issues (Table 2) were mostly on the need for these authorship guidelines and documents, in order to protect the GS and its faculty and student researchers, while leveraging to increase faculty authorship percentage.

Table 2: Recurring issues on publication authorships and corresponding recommendations

Level	Recurring Issues	Recommendations
Institutional	Urgency of UIC-customized policies on co-authorship of research articles out of their thesis and dissertation. Absence of guidelines, i.e., MOU, MOA and TOR, as to the thesis or dissertations funded by other institutions or agencies.	Form a committee to construct the ff: a) guidelines re authorships/ownerships, b) documents and forms like authorship waivers, special authorizations, template MOUs, MOAs, and TORs.
GS RPIC Leadership	Need to articulate research-related protocols to draft Mutual Agreement form for thesis or dissertation advising work. Urgency to polish graduate research guidelines for teaching, advising, writing, and defending thesis and /or dissertation.	Establish policies encompassing all aspects/activities of the GS Research for consistencies, observance, and sustenance re mentor, mentee, graduate school office, and research and publication office responsibilities, authorships, grants/funding, etc

Integration of New Research Pedagogy Approaches into the Qualitative and Quantitative Research Process

Remarkably, most of the issues that recurred may reflect the discussants’ low satisfaction with the GS’s research pedagogy in relation to the methodologies for quantitative and qualitative research process. In particular, the need for manual of protocols for the scholarly conduct of researches, as well as for graduate research curriculum review was highlighted.

At the individual level, all issues interestingly intertwine as one - graduate students are poor in technical writing, which is one very important skill in research. In consideration of all these issues (Table 3), we formulated recommendations in answer to our discussants’ implicit call for overhaul of the GS research pedagogy.

Table 3: Recurring issues on GS research pedagogy and corresponding recommendations

Level	Recurring Issues	Recommendations
Institutional	Requisites for the Implementation of online studies/distance learning. Establish faculty and student exchange with foreign universities for curricular enhancement and development.	Introduce innovative offerings like online or distance learning, twinning with leading research institutions with alignment to existing and emerging areas of research strength, and foreign exchanges/fellowships to attract high quality international research scholars.
Grade School Leadership	Need for research curriculum review to avoid overlapping of subject requirements. Necessity to have a graduate research learning module that lists all the requirements and their specifications. Need to formulate protocols/guidelines on tasks for validators, statistician, and editor/reader. Not clearly-articulated or detailed criteria for evaluating thesis/dissertation during proposal and final defense.	Review and revise research curriculum. Create graduate research manual encompassing all protocols/SOPs re conduct of research to guide all stakeholders.
Individual Members	Need to have a bridging program in writing for graduate students. Clamor of the graduate students to undergo intensive write shops and seminars to develop writing skills essential to produce internationally acceptable research articles. Limited in terms of pertinent documents to substantiate research protocol for thesis or dissertation writing. Non-inclusion of quality and well-cited published literature in problem formulation.	Develop a bridging program where students immerse in writing (including RRS organization, RS synthesis, research gap recognition, IMRAD, referencing etc.) to really attain research writing competency as part of clearance before entry to research methods.

Discussion

The prestige of HEI graduate schools is entrenched in the quantity, quality, and impact of research and publication of its faculty and students. In this PAR, we delved into the challenges hampering relevant research and publication outputs of the UIC GS, using pertinent stakeholder representatives as participants. Our goal is to formulate and workout plans to elevate the UIC GS research and publication culture, primarily by addressing these concerns: a) maximization of research productivity of faculty and students; b) establishment of mentor-mentee publication authorships; c) integration of new research pedagogy approaches into the graduate qualitative and quantitative research process; and d) establishment of an independent journal in preparation for CHED Journal Incentive Program (JIP) recognition.

On maximizing the GS research productivity, the prevalent issue was lack of policies that will instigate development of a culture of research. The School members’ unproductive research practices are due to absence of

guidelines and discomfort about research, thus the absence of initiatives to develop them. Once these policies are formulated, they must be enforced with regularity so they can be well-established overtime and manifest positive impact at all levels of the School.

The area of research polices is well studied. Very important of these is the incentive policy. In their study comparing funding environments of university research in eight countries, Auranen and Nieminen (2010) found that though significant differences in the competitiveness of funding systems exist, there is no straightforward connection between financial incentives and the efficiency of university systems, which implicate other factors relevant to high research productivity. This may explain why the UIC GS does not manifest high research productivity despite of UIC's very competitive research incentive scheme. It may be connected to the observation and admission of our discussants that GS faculty and students lack confidence in applying for research grants, which could be the underlying reason for their complacence in applying for institutional research funding.

This low confidence in research grant applications is not to be endemic in UIC alone, as published data supports that only a few institutions in the country have access to sufficient funding for research. In the case of CHED grants, a major consideration is the involvement of both partner institutions and CHED, necessitating clear allotments of funding counterparts in order to increase the chance of approval (Clemena and Acosta n.d.). UIC GC must then make it a part of their research program to have their faculty and graduate students taught by seasoned researchers in writing approvable grant applications. UIC GC members should be immersed in creating connections and linkages not only with CHED and other external funding agencies but also with fellow researchers in potential partner institutions, for increased chance of grant approval; this approval will expectedly boost the researchers' track record, and their morale and confidence in applying for more research grants.

The other factors behind research productivity are elucidated in the report of Hanover Research (2014), emphasizing that an institution's recruitment and hiring strategy to select members who have the training, goals, and commitment facilitates research productivity. This is concretized by the report of UNESCO Institute for Statistics (2014) that in industrialized Asian nations like Singapore and Malaysia, research universities are staffed primarily by scholars who have done their graduate coursework abroad, typically in a Western university, as they believe that faculty trained abroad brings a worldview work ethics and abilities in critical thinking and research that are necessary to build an academically-vibrant environment. These research universities with more members trained abroad see a risk of narrowing creative thinking in hiring too many in-house or country-trained PhDs.

Additionally, hiring global research experts will facilitate mentorship, which is another need highlighted in our findings. Hanover Research (2014) stressed that practice of mentorships is an important element of culture establishment, as it will facilitate inter-collaboration between inexperienced or new researchers and established scholars. According to Su (2011), departmental prestige plays a role in scientists' research productivity, and scientists placed in highly prestigious departments demonstrate consistent high productivity. It can be perceived that this department prestige is anchored on the presence of experts acting as mentors in the department. This underscores the need for experts in order for mentorship programs to be successful and sustain accumulative advantage effect.

Finally, as UIC expands, another possibility is having an inter-institutional center for industry, knowledge and technology transfer, such as those in place in well-established research universities, to facilitate access by industry partners and other external stakeholders to the center's faculty and research results. Demonstrated by Branco et al. (2010) to increase research funding and results dissemination and utilization, these centers are channels to provide the opportunity for industry, government, and non-profit entities to collaborate with the university faculty, resources, and discoveries.

In relation to mentor-mentee publications, again lack of policy and documents prevailed as an important issue for our discussants. In research universities abroad, graduate students are seen as important contributors to publications, both as they assist in conducting faculty members' research and publish as part of their graduate program requirements. Master's and PhD students are required to publish their research in journals as a condition of graduation (United Nations Educational, Scientific and Cultural Organization 2014). This practice provides a real opportunity to increase publication outputs of the school by having faculty research advisers as co-authors of their advisees' publications.

In a study on the impact of graduate students on research productivity in Korea (Kwon et al. 2015), it was found that the number of students of a graduate school has a significant impact on their supervisors' research productivity, even though graduate students are critical about carrying out research. This indicates that graduate schools' research and publication productivity much rely on having expert research faculty to inspire and direct students who may in the outset still be repulsed by the idea of research, so that in the long run, they become scientifically minded graduate students who see conducting research and publishing as indispensable (Gaffey 2015), increasing not only their personal research authorships but also those of their schools.

Authorship is the primary way to recognize a researcher's contributions to a research project. A critical question around authorship concerns the quantity and quality of contribution that will qualify an individual to be listed as an author. In particular, the determination of authorship credit and order is a difficult process, especially for graduate students, whose disadvantaged power position in research settings increases their vulnerability to exploitation (Oberlander and Spencer 2006).

Lypson and Philibert (2012) proposed that each author should ideally meet each of these criteria: a) Substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; b) Drafting the article or revising it critically for important intellectual content; and c) Final approval of the version to be published. Beginning authorship discussions in the project will help establish that all the contributors' expectations are aligned and that initial authorship and authorship order can change throughout the development of the project in order to better reflect the actual contributions of all investigators (Gaffey 2015). In this context, UIC GS need to put in place authorship policy backed by agreements and waivers to avoid the pitfall of unethical authorship.

On the question of research pedagogy improvement, the prevailing issue is again the lack of program manuals that embodies all rules, regulations, expectations, schedules, etc. for all members especially thesis and dissertation students and advisors. In particular, the need for research learning modules for GS students is highlighted. As a matter of fact, module making is very demanding. A relevant research pedagogy transforms schools' service and teaching culture into a culture of research and scholarship (Santo et al. 2009) anchored on well evaluated and functional system modules (Howard and Brady 2015), production and execution of which pose great challenge for the UIC GC RPIC leadership.

A related and overarching issue on the need for curriculum review was also raised. This entails separate study in consultation with various stakeholders, with a goal of creating globally relevant research curricula. As Kilburn, Nind, and Wiles (2014) emphasized, the teaching of research methods places very specific demands on teachers and students, and the capacity to undertake and engage with research requires a combination of theoretical understanding, procedural knowledge and mastery of a range of practical skills. While this may sound very difficult to achieve, many studies have indicated several approaches for effective research pedagogy.

For instance, Hanover Research (2014) suggests giving main consideration to student involvements, citing that doctoral students who are exposed to research practices early in their education are more likely to complete their dissertations. Hence, one approach may be adopting a research-focused curriculum design in which students are made to work on industry projects (Aithal 2016). This research-focused curriculum design may also intensify active involvement of faculty members in intensive research with the industry, as this entails partnerships with the industry and research centers willing to take up graduate research students as research assistants in certain projects, in some sort of "intensive research internship program." The glimpse of hope for UIC GS for this arrangement is that experts of research institutions may well be willing to have graduate student assistants at hand, while the school may attract more students to enroll because of opportunities provided by this immersion program.

This is supported by the study of Lewthwaite and Nind (2016) on pedagogical research methods across disciplines and national boundaries, covering qualitative, quantitative, and mixed methods with research experts as participants. They elicit what experienced research teachers know about the pedagogy of methodological learning to stimulate pedagogical culture. Not surprisingly, the experts agree that distinct pedagogical challenges go with the classroom method, particularly in the generation of knowledge and understanding required to enhance practice. They concluded that pedagogy is found to centre on connecting learners to research, giving direct and immersive experiences of research practice, and placing great significance on active learning and learning by doing.

On the area of having an independent journal publication for CHED recognition, the challenge for the UIC

GS is providing track record in the aspects required by CHED JIP like being included in the Thomson Reuters or Scopus master journal lists, or both. Ironically, only about 5% of the Philippine journals have made it in the list despite of CHED's training workshops on scientific article writing and editorial management. Added to these are the various organizations and government agencies providing training to editors on scientific journal management and to researchers on writing scientific articles, as well as training on preparing research proposals and conduct of research.

While this may implicate a national or cultural factor that hinders Philippine HEIs break through into the prestigious international research journal arena, the UIC GS-RPIC needs to intensify its publication team and infrastructure in order to seize the opportunities of the time.

As argued by Martin (2009) in his well-researched exposition on "some paths less traveled for research productivity", unorthodox approaches like promotion of regular writing, tools for creativity, happiness, good health, and crowd wisdom have challenged conventional ideas about research management. These unconventional approaches in the long run would increase and sustain overall research productivity more than incentives could. Establishment of clear-cut manuals of policies is important indeed but while it's not established yet, the UIC GS must not let other members of the School to not cooperate with units working for the Schools research and publication outputs.

According to a study on factors leading to limited faculty publications in Philippine HEIs, there are seven most challenging factors preventing faculty members from publishing enough or not publishing at all. These are having limited time, lack of training on publication, fear of rejection, lack of interest, faculty laziness, limited funds, and lack of institutional support (Wa-Mbaleka 2015).

In one way or another, these factors can be true in many HEIs in the country, including UIC, thus the identified faculty experienced in research and publication may well be afforded with writing-researching sabbaticals or retreats to sustain productivity and avoid burnout. In a related study of Jacobs and Winslow (2004), examining faculty workload and its relationship with faculty dissatisfaction, it was found that professors' dissatisfaction increases among those working the longest hours. Interestingly, the study also revealed that very long hours on the job greatly contribute to research productivity, posing a dilemma, especially for dual-career faculty researchers: to spend time with children and family sacrificing research productivity, or work long hours sacrificing family time.

On the bright side, the UIC GS has established strong presence in the region backed by its steadily increasing enrolment and close collaboration with CHED-XI regional office. The School has existing characteristics like open and supportive leadership and high work values amongst members which can provide a fertile ground for the school's programs designed to nurture its research and publication culture.

CONCLUSION, RECOMMENDATIONS AND IMPLICATIONS

There are no shortcuts in establishing a strong culture of research and publication in an HEI particularly where traditional norms of self-regulation and restrained intellectual freedom exist. Fortunately for UIC GS, the leadership's open-mindedness to unearth the issues that hamper research pedagogy and productivity revealed many ways research and publication acculturation could be worked on.

Our overarching expectation from this study was that the unraveled issues hampering the UIC GS research and publication productivity would lead to discernible solutions, as reflected in our formulated recommendations. Based on these recommendations, we developed a three-year strategic plan incorporating key strategies to address the identified problematic issues. This strategic plan can be basis for short-term action plans, aimed at collectively arousing each member's willingness to take part in the UIC GS research and publication acculturation. Insofar as our recommendations could be of help, it is incumbent upon all levels of the UIC GS to initiate appropriate actions for their planning, execution, and evaluation vis a vis expected performance indicators, periodically. Finally, our findings open opportunities for future research on evaluations/assessments of the outputs and outcomes from action plan executions, for further intensification of the UIC GS research and publication culture. While our data, analysis, and recommendations focused on UIC GS, the implications may generalize to faculty research and publication productivity within other institutions desiring to advance their respective schools' research and publication culture.

REFERENCES

- Aithal, P. S. 2016. "How to Increase Research Productivity in Higher Educational Institutions-SIMS Model." *International Journal of Scientific Research and Modern Education* 1(1): 447-458.
- Auranen, O., and Nieminen, M. 2010. "University Research Funding and publication Performance: An International Comparison." *Research Policy* 39(6): 822-834
- Branco, L., Ponomarev, P., and Boardman, C. 2010. "Influencing Scientists' Collaboration and Productivity Patterns Through New Institutions: University Research Centers and Scientific and Technical Human Capital." *Research Policy* 39(5): 613-624.
- Buchheit, S., Collins, A., and Collins, D. 2011. "Intra-Institutional Factors that Influence Accounting Research Productivity." *Journal Of Applied Business Research* 17(2): 17-32.
- Commission on Higher Education. 2014. *Handbook on Typology, Outcomes-based Education, and Institutional Sustainability Assurance*. Quezon, Philippines: Commission on Higher Education.
- Clemena, R. M. S., and Acosta, S. A. (n.d.). "Developing Research Culture in Philippine Higher Education Institutions: Perspectives of University Faculty." Retrieved April 30, 2017 (<https://goo.gl/w9RiQM>).
- Cruz, I. 2014. "Research or the Lack of it. The Philippine Star." *PhilStar Global*, Retrieved December 14, 2016 (<https://goo.gl/HcqG3s>).
- Gaffey, A. 2015. "Determining and Negotiating Authorship: Why Authorship Matters to you." *Psychological Science Agenda*. Retrieved April 25, 2017 (<https://goo.gl/o1U5P2>).
- Hanover Research. 2014. "Building a Culture of Research Recommended Practices." Retrieved May 25, 2017 (<https://goo.gl/zDGm91>).
- Howard, C., and Brady, M. 2015. "Teaching Social Research Methods after the Critical Turn: Challenges and Benefits of a Constructivist Pedagogy." *International Journal of Social Research Methodology*. 18(5), 511-525.
- Jacobs, J. A., and Winslow, S. E. 2004. "Overworked Faculty: Job Stresses and Family Demands." *The Annals of the American Academy of Political and Social Science* 596(1): 104-129.
- Kilburn, D., Nind, M., and Wiles, R. 2014. "Learning as Researchers and Teachers: The Development of a Pedagogical Culture for Social Science Research Methods?" *British Journal of Educational Studies* 62(2): 191-207.
- Kongmanus, K. 2016. "Development of Project-Based Learning Model to Enhance Educational Media Business Ability for Undergraduate Students in Educational Technology and Communications Program." *Journal of Advances in Humanities and Social Sciences* 2(5): 287-296.
- Kwon, K. S., Kim, S. H., Park, T. S., Kim, E. K., and Jang, D. 2015. "The Impact of Graduate Students on Research Productivity in Korea." *Journal of Open Innovation: Technology, Market, and Complexity* 1(1): 21-30.
- Lewthwaite, S., and Nind, M. 2016. "Teaching Research Methods in the Social Sciences: Expert Perspectives on Pedagogy and Practice." *British Journal of Educational Studies* 64(4): 413-430.
- Lypson, M., and Philibert, I. 2012. "Residents and Authorship: Rights, Obligations, and Avoiding the Pitfalls." *Journal of graduate medical education* 4(2): 138-139.
- Manville, C., Hinrichs, S., Parks, S., Kamenetzky, A., Gunashekar, S., Wilkinson, B., and Grant, J. 2015. "Characteristics of High-Performing Research Units: A Preliminary Analysis." *Higher Education Funding Council for England (HEFCE)*, Retrieved December 14, 2016 (<https://goo.gl/Df2Acq>).
- Martin, B. 2009. "Research Productivity: Some Paths Less Travelled." *Australian Universities' Review*, 51(1): 14-20.
- Mendoza, E. M. 2015. "Scientific and Academic Journals in the Philippines: Status and Challenges." *Science Editing* 2(2): 73-78.
- Mills, G. E. 2003. "Action Research: A Guide for the Teacher Researcher." New Jersey, NJ: Merrill Prentice Hall.
- Mohrman, K., Ma, W., and Baker, D. 2008. "The Research University in Transition: The Emerging Global Model." *Higher Education Policy* 21(1): 5-27.

- Oberlander, S. E., and Spencer, R. J. 2006. "Graduate Students and the Culture of Authorship." *Ethics & Behavior* 16(3): 217-232.
- Pengmanee, S. 2016. "Developing Students' Mathematical Reasoning Ability Based on Constructivist Approach." *Journal of Advances in Humanities and Social Sciences* 2(4): 221-231.
- Santo, S. A., Engstrom, M. E., Reetz, L., Schweinle, W. E., and Reed, K. 2009. "Faculty Productivity Barriers and Supports at a School of Education." *Innovative Higher Education* 34(2): 117-129.
- Su, X. 2011. "Postdoctoral Training, Departmental Prestige and Scientists' Research Productivity." *The Journal of Technology Transfer* 36(3): 275-291.
- Tsikerdekis, M., and Yu, N. 2017. "Unit Support, Past Experience and Researcher Attitude for Intra-institutional Research Collaboration: Survey Study in a US Doctoral/Research University." *Higher Education Policy* 1-23. Retrieved May 15, 2017 (<https://goo.gl/4PJxTN>).
- United Nations Educational, Scientific and Cultural Organization. 2014. "Higher Education in Asia: Expanding Out, Expanding Up: The Rise of Graduate Education and University Research." Retrieved April 25, 2017 (<https://goo.gl/Vo6U52>).
- Wadsworth, Y. 1998. "What is Participatory Action Research? Action Research International Part 2." Retrieved November 25, 2017 (<https://goo.gl/M4ankM>).
- Wa-Mbaleka, S. 2015. "Factors Leading to Limited Faculty Publications in Philippine Higher Education Institutions." *International Forum* 18(2): 121-141.
- World University Ranking. 2014. "Asia University Rankings." Retrieved December 14, 2016 (<https://goo.gl/1RjBv6>).

APPENDIX

Appendix A - Recurring Issues during the Focus Group Discussion Sessions

Appendix A.1. Recurring Issues on Research Pedagogy (Session 1)

1. Underdeveloped methodology in research teaching
2. Thesis and dissertation advisers without international publication
3. Non-inclusion of quality and well-cited published literature in problem formulation.
4. Lack of coordination/direction of research classes towards graduate research output intended for publication.
5. Not well-articulated graduate research agenda, i.e., NHERA 2 and NUHRA aligned customized for UIC.
6. Need to have a bridge program for writing/speaking for graduate students.
7. Absence of pool of experts with research agenda with whom graduate students can affiliate or work.
8. Urgency to polish graduate research guidelines for teaching, advising, writing, and defending thesis and /or dissertation.
9. Necessity to have a graduate research learning module that lists all the requirements and their specifications.
10. Essentials of research curriculum review to avoid overlapping of subject requirements.

Appendix A.2. Recurring Issues on Waivers, Contracts, and Agreements (Session 2)

1. Limited in terms of pertinent documents to substantiate/establish research protocol for thesis or dissertation writing.
2. Urgency to formalize and make functional the ethics review of academic research with human subjects.
3. Need to articulate research-related protocols to consequently draft the following forms:
 - 3.1 mutual agreement form for thesis or dissertation advising work.
 - 3.2 informed consent (for quantitative studies).
 - 3.3 compliance certificate for research ethics protocol.
4. Absence of guidelines, i.e., MOA and terms of references, as to the thesis and/or dissertations funded by other institutions or agencies.
5. Urgency of UIC-customized policies on co-ownership/co-authorship of research articles out of their thesis and dissertation.
6. Not clearly-articulated or detailed criteria for evaluating thesis/dissertation during oral examination (proposal and final).
7. Need to formulate protocols/guidelines on tasks for validators, statistician, and editor/reader.
8. Strengthen the requisites for quality assurance system, e.g., the use of Grammarly, Plagiarism Detector, Publish or Perish Software, and SPSS.

Appendix A.3. Recurring Issues on Partnerships, Linkages, and Research Fellowships (Session 3)

1. Urgency to establish the research capability of the graduate students and the faculty.
2. Lack of guidelines to facilitate the forging of linkages in research and publications of UIC with other institutions (national and international) of advanced state in terms of technology.
3. Need to reveal and promote the research and publication track record of graduate school faculty.
4. Encouragement to our graduate school faculty to act as lecturers /speakers of their respective areas of expertise.
5. Low confidence of graduate students/faculty to apply for a research grants for thesis and dissertation.
6. Establish foreign exchange students and faculty for curricular enhancement and development through symposia and benchmarking practices.
7. Requisites for the Implementation of online studies/distance learning.

Appendix A.4. Recurring Issues on Publication Standards and Editorial Board (Session 4)

1. Need to institutionalize the IMRAD format to make the research article ready for international publication.
2. Necessity to establish a competent editorial staff composed of experts from various fields of disciplines.
3. Urgency to forge a partnership with international journals run by foreign writers and researchers.
4. Strengthen the role of OJS to provide international visibility of the research outputs of the university.
5. Conduct steps to encourage all faculty researchers/graduate school students to seek membership in peer editors society and international reviewers circle to facilitate intercontinental publications.

6. Need to establish a committee to facilitate the patent and copyright registrations to secure intellectual property rights of the researchers/writers.
7. Clamor of the graduate students to undergo intensive writeshops, seminars, and trainings to develop the writing skills of the graduate students to produce an internationally accepted research article.
8. Need to intensify efforts to have the UIC research journals be accredited by reputable journal evaluators.