The Normal Lights

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FOREWORD

Research on the quality of teaching performance vis-à-vis student learning appears to be the dire need of the times. To address this universal issue, four researches deal with: 1) LET (Licensure Examination for Teachers) as predictor of job performance along interdisciplines; 2) the pros and cons of teaching large classes; 3) a tracer study of BSMT (Bachelor of Science in Math Teaching) and BSE (Bachelor of Science in Education) degrees offered in the University; and 4) factors linked to chemistry majors' academic achievement. These researches support the PNU Research Agenda for the ensuing years (2013-2015). In related studies, *The Normal Lights* presents the initial processes involved in developing and validating an instrument to gauge film literacy among Social Science majors in the hope of using it as a model in other majors/disciplines. That all these studies could give way first and foremost to showing concern to the healthcare of undergraduate students is shown in the research done by selected faculty of Biological Sciences. Finally, three book reviews on the perennial academic and administrative problems assailing tertiary institutions, secondary and primary levels of schooling grace the present issue.

Using the collaborative participatory method, Reyes *et al.* generate the PNU-Research Agenda (2013-2015) to "advance the teacher education in the Philippines toward international competitiveness," starting from a stakeholder forum to a workshop followed by its presentation to the Research Council to the final approval of the Board of Regents.

Diaz and company discuss in their study the relationship existing between the LET performance by PNU graduates across disciplines with their teaching performance in the workplace. Correlating the evaluation scores from the immediate superiors, peer, and self, the researchers point out a negligible link between the aforecited factors, although positive, but weak significant correlations exist (there's the rub) among representative graduates coming from CLLL (College of Languages, Linguistics and Literature) and COS (College of Science).

Just how pragmatic or sound is the concept of teaching large classes insofar as knowledge, attitudes and challenges or coping mechanisms of teachers and the taught are concerned? This ticklish problem is explored in Hermosisima's research. Comparably, Toledo *et al* trace some 100 BSE and BS Math majors' teaching performance in the field to determine their employment traits, relevance of previous experience on campus training to their present tasks, and their assessment of academic programs in retrospect. Still on academic performance of chemistry undergraduates, Andamo, working with Camacho and Duad, identified five factors affecting these majors' learning aspects—academic skill, test competence, time management, test anxiety, and study technique enough to conclude that effective, wise time management best predicts their academic performance.

No stretch of imagination can possibly measure the influence of movies in the private lives of university students, but somehow exploratory attempts may be done to develop and validate an instrument to measure film literacy. Precisely, this is accomplished in Garcia and Belecina's study that encourages those teaching in the sciences and the humanities to follow suit in future research.

Ayuste and other selected faculty from FSTEM take the challenge, though, in a different level, but equally formidable field of study—raising the student level of awareness on their health profile, especially on common respiratory problems. Evolved in their research is the recommended PPRHP (Primary Preventive Respiratory Healthcare Program) to complement PNU's health services. After all, ideally research in the academe should redound to benefit, better yet, uplift student welfare, while students stay under her wing, the institution likened to a mother ever protective of her brood.

In hindsight the book reviews serve as metaphors—sort of clarion call—for tertiary institutions, secondary and primary levels to ponder the roles expected of them in society. The Filipino review on raising Filipino consciousness stresses the seemingly endless preoccupation of celebrating the life of the mind in answer to what Heidegger terms as "the passion to know" **a posteriori**.

The Editor

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DEVELOPMENT OF THE PHILIPPINE NORMAL UNIVERSITY RESEARCH AGENDA (PNU-RA)

Wilma S. Reyes
Ramer V. Oxiño
Rita Bumanglag-Ruscoe
Lucilla R. Fetalvero
Felicia I. Yeban
Philippine Normal University

ABSTRACT

Employing the collaborative-participatory method, this study was geared toward the development of the PNU's two-year research agenda (2013-2015). The development employed processes which included the formulation of the process framework, formulation of research agenda framework, identification of themes, and finally the identification of key research areas. These processes were carried out through collaborative-participatory method, involving the University's top management, staff, faculty, students, and other external stakeholders from the University's partner institutions, both public and private. The themes the study arrived at are as follows: policy studies, multidisciplinary studies and pure research, local responsiveness, translational research, internationalization, product development, sustainability, and new and emerging areas in teacher education. The researchers concluded the effectiveness of the employment of collaborative-participatory process in developing a relevant university research agenda. The researchers recommend the use or adaption of the frameworks, the research themes, and the key research areas identified in the study among the colleges and universities especially the teacher education institutions (TEIs) to produce cutting edge and innovative as well as nationally and globally relevant researches to advance teacher education as a discipline.

Keywords: *collaborative-participatory method, research agenda process framework, agenda framework, research themes, key research areas*

INTRODUCTION

Universities are expected to generate new knowledge. In the new knowledge economy, this task, while traditionally and essentially viewed as a function of institutions of higher learning, is increasingly emphasized because new knowledge providers are emerging and challenging universities' role in creating, producing, and translating knowledge. It becomes imperative then for Philippine Normal University to transition itself as a research-oriented teacher education university to strategically position her in functioning as the National Center for Teacher Education. Vital to PNU's role as NCTE is the mapping out of puzzle areas in teacher education and translating these into research agenda which will underlie the institution's research initiatives.

The first PNU Research Agenda (first known as University Research Agenda or URA) was crafted in 2004. It was crafted through a series of processes which started with a stakeholders' forum with the theme: "Networking: The Continuing Search for Useful Knowledge." The participants to this forum were stakeholders that included legislators and high-ranking officials of both public and private educational agencies. The output listed research topics which were classified, reviewed, and finally put together to constitute the first URA, their classification based on the five dimensions of teacher education, namely: 1) context; 2) input; 3) process; 4) effect; and 5) impact.

In keeping with the challenges to ensure quality education, the URA was reviewed and revised in 2008. The revisions included the following: 1) addition of *Policy Research* topics on Teacher Education and Higher Education, and Development Research; and 2) the inclusion of a brief description of each area for clarity and comprehensibility. The revised URA was disseminated to the academic community which in turn suggested additional topics. These suggested topics were incorporated in the final copy of the URA for 2008-2010 published in print form and disseminated to all stakeholders through the Revised Research Manual released in June 2009.

The designation of PNU as the National Center for Teacher Education (NCTE) in 2009 by virtue of Republic Act 9647 and its becoming a Higher Education Regional Research Center (HERRC) just

recently through the efforts of the incumbent president, Dr. Ester B. Ogena, make it imperative for PNU to revisit the URA to make it more responsive to the NCTE mandate of the University, specifically to: sustain conduct of researches, case studies and other appropriate methodologies to enhance curriculum and training designs for teacher training, teacher education, and continuing professional education of teachers and academic supervisors.

The PNU as NCTE is mandated by the law to create an Education Policy Research and Development Office which shall:

a) Establish and maintain a database of education policies and significant issues facing the country's education system, as well as the education systems of other countries, especially in the Asia Pacific Region;

b) Create and test different models of teacher education**,** address key factors in successful teacher education programs, and determine which model would best achieve the country's education goals;

c) Provide a systematic dissemination of research outputs on teacher education to make them readily available to end users such as teachers and academic supervisors;

d) Share research expertise and competence in education research with other Teacher Education Institutions throughout the country, provided that the research funding of other state universities and colleges shall in no way be affected by the provisions of the Republic Act No. 9647;

e) Advise the country's policy makers and decision makers in planning, implementing and evaluating reforms in teacher education including the licensing of professional teachers;

f) Assist in the assessment of government programs on education**.** As such, PNU may be required by any agency to comment on/or make recommendations regarding the different policies and programs on education; and

g) Conduct periodic studies in aid of crafting responsive policies and programs on education.

Clearly, the provisions suggest that the PNU is not the sole beneficiary of its research efforts. All other Teacher Education Institutions (TEIs) stand to benefit also, as they will be provided with database of education policies, information on significant issues facing the country's education system, and different models of teacher education which will be used as guide in achieving successful teacher education programs in their own institutions. Equally, the TEIs will benefit from the research expertise and competence in education research of PNU.

The PNU-RA 2013-2015 is a blueprint for tangible and sustainable research initiatives the PNU will take in the next two years to advance the teacher education in the Philippines toward international competitiveness.

Goal and objectives

The designation of PNU as NCTE necessitates urgent reforms and transformation within the institution to fulfill its mandate and to respond to challenges and demands of varying scales and complexities. It follows that holistic reforms within the University are imperative to upgrade the quality of competitiveness of teacher education in the country as implied in the NCTE law (Ogena, 2012). One of the University's goals is to strengthen the culture of research among faculty, staff, students and other key players of the University. Thus, the PNU's Strategic Development Plan 2012-2022 outlines the specific research objectives on which the development of the PNU-RA is anchored. The research objectives are as follows:

1. Conduct high impact researches that will improve the quality of the educational system, particularly teacher education in the country and the world.
2. Develop innovative ideas in education that will give PNU an international distinction.
3. Share expertise and competence in educational research to the community of learners and/or scholars.

4. Provide data to the Department of Education (DepEd) and the Commission on Higher Education (CHED) as input in designing curricular programs in basic education and teacher education.
5. Take the leadership role in the development of unifying teacher education research agenda among teacher education institutions.
6. Provide policy makers with empirical research data to serve as bases of formulating the country's education legislative agenda.
7. Disseminate all timely research inputs systematically in all modalities (print, non-print) to all its stakeholders.
8. Establish and maintain a database of international and national educational policies and other significant data related to education in the Philippines, the Asia Pacific region and beyond.
9. Set the research directions of all levels across different disciplines in the University system.
10. Provide appropriate allocation of fund and other related resources to ensure efficient and timely implementation of research projects anchored on the PNU-RA, specifically the University-based researches (project-based researches).
11. Provide research incentives to faculty whose outstanding research skills and exemplary research outputs provide significant contribution to teacher education and merit to the University.

Statement of the problem

Generally, this study employed the collaborative-participatory method to develop the two-year (2013–2015) research agenda of the Philippine Normal University.

Specifically this study aimed to:

1. Develop the PNU-RA process framework;
2. Develop the PNU-RA framework;
3. Identify the research themes; and
4. Determine the key areas of research

METHODOLOGY

Mainly, this study employed the collaborative-participatory method to develop the Philippine Normal University Research Agenda (PNU-RA).

The development of the PNU-RA started with a workshop which involved the PNU researchers and faculty to review and update the existing PNU research agenda. The workshop was followed by a multi-stakeholder's forum to further revisit the PNU-RA. The participants of the forum comprised PNU officials, faculty including those from PNU campuses, administrative staff, and student leaders. Research experts from top state colleges and universities in the Philippines were also present. Partner institutions like the National Economic Development Authority (NEDA); Commission on Higher Education (CHED); Senate of the Philippines; Southeast Asian Minister of Education, Innovation and Technology (SEAMEO INNOTECH); and United Nations Educational, Scientific and Cultural Organization (UNESCO) among others were also represented. The participants were grouped according to sectors. Upon invitation, the participants were given guide questions on what to discuss and focus on during the forum. Outputs of the workshop were consolidated by the researcher-documenters to come up with the first draft of the research agenda.

The first draft of the PNU-RA underwent deliberation by the faculty and staff of the Center for Research and Development in Education (CREDE). College and campus workshops led by the research coordinators from CREDE followed. Workshops aimed to get feedback for review, enrichment and refinement of the research agenda by the PNU faculty. Consolidated feedbacks were used as inputs in coming up with the second draft.

The PNU-RA was then presented to the University research council for approval that eventually led to the holding of focus group discussion (FGD) participated in by the University President and the Vice President for Planning, Research and Extension (VPPRE). Inputs generated by the FGD were used to come up with the PNU-RA.

The third draft was validated by selected PNU faculty experts. The agenda was further refined for its fourth draft. After consulting the University President and the VPPRE, the PNU-RA was presented to the external validators during the SUCs Research Management Training till the fifth draft came up.

Before the Board of Regents (BOR) approved the PNU-RA, the Academic Council, Administrative Council, and Research and Extension Services Coordinating Committee had passed judgment on it.

RESULTS AND DISCUSSION

The PNU-RA process framework

A process framework based on the Input-Thruput-Output-Outcome model was used to facilitate the development of the PNU Research Agenda. The figure below explains three vital questions that framed the development of the PNU-RA using the process framework. First, questions on antecedents - the variables and conditions that shape, direct, or dictate the nature of teacher education processes and contexts. These specifically refer to input and contexts/drivers. **INPUT TO TEACHER EDUCATION** examines the relationship between the antecedent conditions and the process of teacher education; the available resources and conditions that determine program options. **CONTEXT OF TEACHER EDUCATION** refers to socio-cultural, technological, economic, environmental, and political (STEEP) conditions and trends driving the desire for change, defining the kind of change, and determining the purpose of change to be pursued in teacher education.

Second, questions on processes, the **THRU-PUT OF TEACHER EDUCATION which** directly or indirectly shapes the nature of teacher education or any factor associated with the intervention of a teacher education program, both pre-service and in-service. It also includes the systems that are in place to develop, implement, manage, evaluate, and improve the programs.

Finally, questions on output and outcomes - **OUTPUT OF TEACHER EDUCATION** generally cover contributions of teacher education research to the quality of teacher education institutions and

basic education through policy recommendations and development of future programs. It also embraces the impact of teacher education to community development and continuing development of teachers. **OUTCOME OF TEACHER EDUCATION** includes expected outcomes of teacher education vis-à-vis the conditions and demands of present society that help shape or direct the nature of teacher education process. It revolves around teacher education competitiveness, as indicated by the performance of teachers, students, programs, and the institution itself.

These three vital questions serve as frames with which the research areas and the research questions are defined. The thread that links all these together less in the imperative of competitiveness. For PNU to remain competitive – to be sought for answers to questions in teacher education, the University has to implement its research agenda at the moment where its research commands the optimum value to the University's stakeholders.

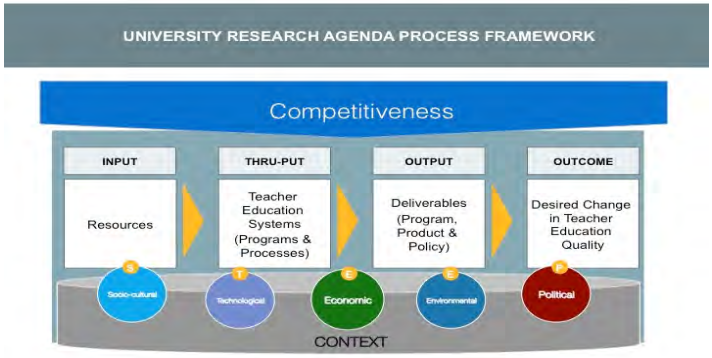

Figure 1. University research agenda process framework

Part of the process framework is the identified national context shaping higher education efforts in the country. This is anchored on the Philippine Development Plan (PDP 2011-2016) and the Millennium Development Goals (MDGs) which both aim to reduce, if not totally eradicate poverty, and to lay the foundations for sustainable human development. To address this, the Philippine Higher Education has for its mission: a) productivity and competitiveness with good graduates; b) intensified research for technological innovation; and c) improved quality of life of the Filipinos and responsiveness to societal needs.

To help accomplish the national development goals, the National Higher Education sets research agenda gearing toward the generation of knowledge and technologies needed for international, national, and regional higher development; policy formulation; developing innovative programs in cutting edge higher education fields and advancing the frontiers of knowledge in the various disciplines. Promoting teacher education as the primary mission of PNU also aligns the PNU Research Agenda with the goals and objectives of NHERA-2 (National Higher Education Research Agenda). PNU-RA suggests key research areas or themes to justify teacher education research as a public investment and rationalize the need for it in teacher education.

The PNU-RA is responsive to the K to 12 program of the government. It includes topics that are geared toward the conduct of researches that address issues on problems related to implementing such program e.g. development of new teacher education curriculum, identification of effective teaching approaches in preparing pre-service teachers, and creation of programs to train in-service teachers, development of instructional materials, funding and infrastructures, support systems provided by the government, among others. All these researches are directed toward fulfilling the PNU's mandate and assisting the Department of Education (DepEd) establish and maintain of a complete, adequate, and integrated system of basic education relevant to the goals of national development.

Harmonizing standards compels all universities in the world to strive for international ranking. The majority of ranking systems which determine the quality of universities in the world reveals research performance and influence through publications of research articles with high quality, as measured by H-index and impact through citations from ISI journals. The relevance of international recognition through the academic ranking of world universities positions research not only in the Philippines but also in the international arena. To respond to this demand, the PNU, to be competitive, must do innovation-oriented type of research. PNU, as NCTE, will create the future of teacher education through innovative research, projecting the image of the University distinctly as the model teacher education institution in Asia, if not the best.

The PNU-RA framework

The discussion induced by the process framework generated a wealth of data that point to innovation as the anchor on which research initiatives by the University will be deduced. PNU as NCTE requires the University to be the innovation hub of teacher education research. The figure below illustrates the PNU Research Agenda framework with innovation as anchor identifying eight (8) research themes.

Figure 2. Philippine Normal University Research Agenda

Research themes and their descriptions

The multi-stakeholders forum on revisiting the PNU Research Agenda led to identifying the eight research themes. These themes are as follows: policy research, multidisciplinary/pure research, local responsiveness, translational research, internationalization, product development, sustainability, and new emerging areas in teacher education, all interconnected to achieving innovation.

POLICY STUDIES refer to researches on applying social scientific findings to solve educational issues and problems. They are researches on the various dimensions of policy formulation, implementation, monitoring and evaluation focusing on financing teacher education, economics of education, governance and management of teacher education, policies in teacher training, systems standards in teacher

education institutions, systems structure, and procedures in the delivery of basic education.

MULTIDISCIPLINARY/PURE RESEARCH refers to research on one problem or issue involving several disciplines in teacher education. It includes curricular studies, assessment of programs, delivery of teaching-learning process, and pedagogical content knowledge.

LOCAL RESPONSIVENESS RESEARCH pertains to researches on different areas of teacher education responding to the needs and problems of the local community and industry. It covers studies on indigenous peoples/cultural communities, multicultural education, curriculum localization, green technology, technology and livelihood education, and school-community partnership.

TRANSLATIONAL RESEARCH deals with researches on translating educational theories into teaching-learning practice. It embraces field studies, constructing pedagogical/instructional models, curriculum models, teacher education models, instructional delivery models, student financing models, change, development and transformation research, and university-community-industry partnership.

INTERNATIONALIZATION RESEARCH refers to researches on international rankings and global benchmarking. It encompasses quality assurance systems, qualification standards, products that will attract international audience, cultural diversities, and international linkages.

PRODUCT DEVELOPMENT RESEARCH is defined as researches on quality product (material and human resources) solutions to national and global educational issues and demands. It includes instructional materials and instrument development, educational resources development, competence and capacities of teachers and learners, and technological knowledge products.

SUSTAINABILITY RESEARCH encompasses researches on the value of environmental sustainability, continuing growth and forward thinking. It extends to the physical environment, information and communications technology, equipment/infrastructure requirements, management system, and organizational culture.

NEW AND EMERGING AREAS IN TEACHER EDUCATION are researches on emerging trends, values and norms in educational systems. Cognition and brain-based research, possible existence of East-Asian pedagogies, new ecologies of learning are researches classified under this theme.

The PNU Research Agenda offers a strategic spectrum of innovation-oriented research areas that scholars, practitioners, and graduate and undergraduate students in the field of teacher education will focus on their research work to project the future of teacher education in the country and to be internationally recognized teacher Education University in Asia as envisioned by 2022. The following objectives will be pursued:

1. Improve the product of teacher education (pre-service and in-service).
2. Advance teacher education in the country for international competitiveness.
3. Generate new knowledge in teacher education to meet the current and future demands of the knowledge economy for national development and international acceptance.
4. Increase PNU's research productivity to transition the university as a research-oriented teacher education university.

The implementation of the PNU-RA will hopefully contribute to defining, broadening, and deepening the anatomy of teacher education as a scientific field of inquiry.

The matrix below shows the categories of research areas that emanate from the entire process of teacher education from different perspectives of multi-stakeholders' which shape the INNOVATION research themes for the PNU-RA 2013-2015.

Philippine Normal University Research Agenda Matrix

TEACHER EDUCATION PROCESS					
		INPUT	**THRU-PUT**	**OUTPUT**	**OUTCOME**
INNOVATIONS RESEARCH THEMES	**Policy studies**	Student Admissions Policies	System of Monitoring and Evaluation	Policy Analysis Research	Indicators of National Development
		Teacher Education Students' Recruitment, Selection, Retention	Faculty and Staff Development	Systems Review of Policies in Teacher Education Institutions	Impact of Teacher Education on National Development
				Systems Structures and Procedures in the Delivery of Basic Education	
				Policies in Teacher Training	
	Multidi-sciplinary studies and pure research		Curriculum Studies/Disciplinal Content		
			Pedagogical Content Knowledge (PCK)		
			Technological Pedagogical Content Knowledge		
			Pedagogical Approaches/Methods and Strategies		
			Delivery Models of Teaching		
			Alternative Learning System		
			Assessment of teaching-learning		

		TEACHER EDUCATION PROCESS			
		INPUT	**THRU-PUT**	**OUTPUT**	**OUTCOME**
INNOVATIONS RESEARCH THEMES	**Local responsiveness**		Curriculum Localization	Impact of Teacher Education in Community Development	Indicators of Regional Development
			Cultural/Multicultural Studies		Impact of Teacher Education to Regional Development
			IP Education		
			Green and Technology		
			Technology and Livelihood		
	Translational research		Teachers' Field Study Experiences	Impact Study	Change, Development and Transformation
			University-Community-Industry Partnership	Teacher Education Model Building	
	Internationaliza-tion	Qualifications of Faculty in Teacher Education Institutions	Licensure/Professional Examinations Performance	Benchmarking/Comparative Studies (with other TEIs /countries)	Index of Teacher Education Competitiveness by Discipline
					Drivers of Teacher Education Competitiveness
			Institutional Accreditation Standards		Index of International Acceptance and Recognition
					Indicators of Quality Teacher Education
		Qualifications of Administrative Staff	Certification Standards and International Ranking System		

<table>
<tr><th colspan="5">TEACHER EDUCATION PROCESS</th></tr>
<tr><th colspan="2"></th><th>INPUT</th><th>THRU-PUT</th><th>OUTPUT</th><th>OUTCOME</th></tr>
<tr><td rowspan="8"></td><td rowspan="8">Product development</td><td rowspan="2">Teacher Qualities</td><td>Instructional Materials Development</td><td rowspan="8"></td><td rowspan="8"></td></tr>
<tr><td rowspan="7">Teaching Philosophy, Beliefs and Values</td></tr>
<tr><td>Instrument Development</td></tr>
<tr><td>Technological Pedagogical Content Knowledge</td></tr>
<tr><td>Students' Achievement</td></tr>
<tr><td>Academic and Co-curricular Activities for Students</td></tr>
<tr><td>Continuing Education of In-Service Teachers</td></tr>
<tr><td rowspan="5">INNOVATIONS RESEARCH THEMES</td><td rowspan="4">Sustainability</td><td>Systems Standards (Productivity, Efficiency and Effectiveness)</td><td rowspan="3"></td><td rowspan="3"></td><td rowspan="3">Sustainability of Competitiveness</td></tr>
<tr><td>Administrative Management System</td></tr>
<tr><td>Governance</td></tr>
<tr><td>Use of Educational Facilities to Facilitate Learning (library resources, laboratories such as speech laboratories)</td><td rowspan="3">Utilization of Equipment and Facilities</td><td rowspan="3"></td><td rowspan="3"></td></tr>
<tr><td>New and Emerging areas in teacher education</td><td>Working Environment/Conducive Workspace</td></tr>
<tr><td></td><td>Financial Management and Sustainability</td><td>East Asian Pedagogies
New ecologies of learning</td><td>Cognitive and Brain-Based research</td><td>Emerging values and norms in educational system</td></tr>
</table>

Key areas of research

The eight research themes identified by the researches facilitated determining key research areas.

Policy Studies - Qualifications Standards, Students' Recruitment, Selection and Retention, Economics of Education, Teacher Training Policies, Systems Standards in Teacher, Education/Basic Education, Legislative Agenda in Education, Governance, Administrative Management System

Multidisciplinary Studies and Pure Research - Curricular Studies; Teaching Philosophy, Beliefs and Values; Teacher Qualities; Pedagogical Content Knowledge/Methods of Teaching; Delivery Models of Teaching Assessment of Teacher Education/Basic Education Programs; and Assessment of Learning

Local Responsiveness - Cultural/Multicultural Studies, Indigenous Education, Curriculum Localization, Green Technology, Technology and Livelihood Education, School-Community-Industry Partnership

Translational Research - Field Studies; Model Building; Change, Development and Transformation Studies; School-Community Partnership; School-Industry Partnership

Internationalization - Benchmarking/Comparative Studies, Quality Assurance Systems, Cultural Diversities, International Linkages, International Scholarships and Exchange Programs, Transnational Education

Product Development - Learning Resource Package Development, Instrument Development, Technological/Livelihood Education Products, Educational Inventions, Teacher Competence and Capacities ICT Utilization and Integration in Teacher Education

Sustainability - Environment and Climate Change, Information and Communications Technology, Equipment/Infrastructure, Knowledge Management System, Organizational Culture, Financial and Auditing Operations

New Emerging Areas in Teacher Education - Cognitive and Brain-Based Research, East-Asian Pedagogies, New Ecologies of Learning, Emerging Values and Norms in Educational Systems

CONCLUSIONS AND RECOMMENDATIONS

The employment of the collaborative-participatory method is effective in developing a University research agenda. The researchers recommend its use among the colleges and universities especially the Teacher Education Institutions (TEIs) in coming up with their own to advance teacher education as a discipline.

The development of the research agenda is facilitated if the process employed is anchored on a process framework, as its framework determines or dictates the goals and purpose, the methodology to follow, and partly the content to be included. It should be the first step in the process done collaboratively and consultatively.

Heavily anchored on a framework that provides essential principles on which the content of the agenda is based, it ensures comprehensibility, coherence, completeness, accuracy or the relevance of the research as a whole. The development of an agenda framework should be made requisite in the whole process of the development ideally done collaboratively and consultatively involving experts, key players, and implementers in a university. Moreover, the mandate and the vision of the university ought to be primarily considered in the development.

Identifying themes is facilitated if the agenda framework on which they are based is clearly established, and done collaboratively with the involvement of the primary and secondary stakeholders. It should also be largely backed up by literature to ensure the timeliness and significance of the themes.

Also determining themes based on a sound agenda framework results in probing extensive and relevant key research areas. Thus it is recommended that the formulation of both process framework, and research agenda, as well as identifying themes precede determining key research areas.

The process framework and the research agenda framework generated and the research themes and key research areas identified in the study may be used or adapted, especially by the TEIs in the country to produce cutting edge and innovative, better yet nationally and globally relevant researches to advance teacher education as a discipline.

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LET AS PREDICTOR OF TEACHING PERFORMANCE: THE CASE OF PNU GRADUATES ACROSS DISCIPLINES (2007-2010)

Rosemarievic V. Diaz, Glinore S. Morales, Rosanna A. Diana, Marilou M. Ubina, Jennie V. Jocson, Aurora B. Gonzales, Celia M. Ilanan, Marivic M. Pimentel , Bert J. Tuga, Florisa B. Simeon, Eisha Vienna M. Fernandez, Donna Marie B. De Mesa, Gina O. Gonong, Maria Elvira A. Asuan, Marla C. Papango, Crist John M. Pastor

Philippine Normal University

ABSTRACT

This study discusses the relationship between the performance in the Licensure Examination for Teachers (LET) taken by PNU graduates and their teaching performance. The LET scores, obtained from PRC, and teaching performance evaluation scores given by the Head, Peer and Self, were correlated. The results indicate that there is a negligible link between the scores in the LET and the teaching performance of the respondents. However, positive significant correlations, although weak, are found in the case of CLLL, COS, and 2007 examinees. The "Very Satisfactory" or "Outstanding" teaching performance evaluation rating earned by the respondents indicates the knowledge, skills, and philosophies learned during the pre-service training. Finally, this research posits that an emerging paradigm of teaching performance must be progressively developed.

Keywords: *teaching performance, predictor of success, LET*

INTRODUCTION

The 21st century has enabled us to see different modalities by which learning is transferred. In modern society, learning becomes easier and faster, as students relate to complexities of a digital world. In fact, there is so much change in the manner learning is experienced that the question still remains: in which best way to teach and how does one assess a "good," if not qualified teacher, as well as a good teaching performance?

Teaching performance is connected to 'effectiveness' (Day, 2007), 'influence' (Haper, Candice and de Jong, 2004), 'identity' (Day, 2007), 'beliefs' (Magno, 2010 and Chai, Teo and Lee, 2010), and 'competence' (Bonifacio, 2009). In the case of the Philippine educational setting, part of ensuring quality teaching performance is passing the Licensure Examination for Teachers (LET). Mandated by the Philippine government in 1996 (Professional Regulation Commission website), the LET is a standard evaluation measure administered by the PRC to determine who among the graduates of teacher education courses are technically and academically fit to be considered 'professional teachers.' Due to the demand of the examination to place the graduates as licensed and non licensed, the examination covers the component areas of education: General Education, Professional Education and Major Field of Concentration or Specialization. In a study conducted by Ramos (2009), the results of the LET could be taken as a valid predictor of 'teaching competence.' Studies made on the teacher licensure examination used in the country in the early period, the Professional Board Examination for Teachers (PBET), also underscore how the licensure examination could be a good predictor of the teaching performance of teachers. Therefore, passing the licensure examination may very well address one factor which points to teaching effectiveness.

This study aimed to assess the predictive correlation of LET performance, and the teaching performance of PNU graduates across disciplines. Presumably, that there is a direct link between the LET scores and teaching performance.

LET as predictor of teaching performance

Presently, the Professional Regulation Commission (PRC) administers the LET in two schedules: one given in January and the other in July.

The Philippine Normal University (PNU), the country's National Center for Teacher Education (NCTE), continues to be the leading TEI as far as LET results indicate. PNU has consistently ranked number 1 in the LET.

The LET tests three general components of pre-service education: General Education, Professional Education, and the Major Field of Concentration.

This collaborative study worked on the hypothesis that high LET performance can predict a good teaching performance of teacher education graduates in their workplace. Excellent teaching performance is expected to produce high student achievement which will eventually affect the overall performance of an academic institution.

The study is anchored on the following framework:

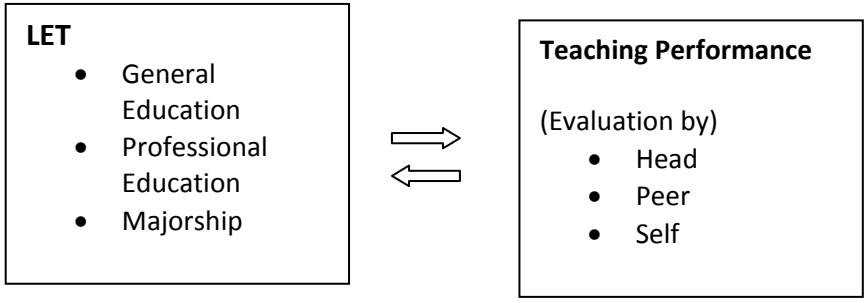

Figure 1. Conceptual framework

The Overall Score in LET is derived from the scores in the three sub-components: General Education (GE), Professional Education (PE) and Majorships, while the Overall Teaching Performance Evaluation Result is derived from the evaluation ratings given by the Head, Peer and Self. Correlations between LET scores and Teaching Performance

evaluation results are determined. Specifically, the study sought answers to the following questions:

1. What is the trend of the PNU LET Performance in the years 2007-2010 across disciplines?
2. Is there a relationship between the LET performance of the graduates and their teaching performance as evaluated by their heads, peers and self?
3. What is the teaching performance of the PNU Top LET passers?

METHODOLOGY

This study looked into the LET scores of 4,036 PNU graduates who took the LET in the years 2007-2010. The LET scores were gathered from the results released by the Professional Regulation Commission (PRC). Coefficients of correlations between the scores in the Overall LET and each of its sub-components were computed.

The researchers traced a total of 419 PNU graduates to 256 private and public schools in Regions III, IV, V and NCR. Evaluations of the department heads and peer of the total respondents were requested to assess respondents' teaching performance. To address what literature points as an integral part of evaluating teaching performance, self evaluation was also requested from the respondents. All evaluations were done using instruments adopted by the Philippine Association of State Universities and Colleges (PASUC) and are utilized as a criterion in the implementation of NBC 461.

The Teaching Performance Evaluation rating is interpreted along the following continuum:

Table 1. Continuum of teaching performance

Mean Rating	Interpretation
4.51 – 5.00	Outstanding
3.51 – 4.50	Very Satisfactory
2.51 – 3.50	Satisfactory
1.51 – 2.50	Fair
1.00 – 1.50	Poor

Then, the LET scores of those who responded, 419 of them, were correlated to their teaching performance. The number of respondents supports Fraenkel and Wallen's (1993) recommendation of 50 minimum number of subjects for a correlational study.

The respondents were grouped according to their Colleges/clusters:

CASS (Arts and Social Sciences)
CED (Early Childhood and Elementary Education)
CLLL (Languages and Literature)
COS (Mathematics, Science and Technology)

Other data gathered were described and analyzed using the mean, frequencies, and percent. All computations made use of SPSS software.

RESULTS AND DISCUSSION

The study yielded the following results:

Trend of PNU LET performance in 2007-2010

To determine the trend, the correlation coefficients were computed between the overall LET scores and any of its three components.

All coefficients of correlations are found in Table 2. The statistical results revealed that among the LET takers from 2007-2010, there is significant and strong positive correlation between the Overall LET scores, and any of its three components—General Education (GE), Professional Education (PE) and Specialization (Spec). This means that those who scored high in each of the LET sub-component also scored high in the Overall LET. This further indicates that those who score high in the Overall LET also scored high in each of the sub component.

Table 2. Correlation between the scores in overall LET and its sub-components

Respondents	Scores	r	p-value
PNU graduates (N = 4,036)	Overall LET and General Education	**0.824****	0.000
	Overall LET and Professional Education	**0.920****	0.000
	Overall LET and Specialization	**0.873****	0.000

***significant at 0.01*

Similar trend is found when the graduates are grouped according to their respective Colleges. Results are shown below.

Table 3. Correlation between the scores in overall LET and its sub-components across colleges

Respondents	Scores	r	p-value
from CASS (N= 944)	Overall LET and General Education	0.820**	0.000
	Overall LET and Professional Education	0.926**	0.000
	Overall LET and Specialization	0.873**	0.000
from CED (N= 1170)	Overall LET and General Education	0.844**	0.000
	Overall LET and Professional Education	0.965**	0.000
	Overall LET and Specialization	0.920**	0.000
from CLLL (N= 511)	Overall LET and General Education	0.810**	0.000
	Overall LET and Professional Education	0.915**	0.000
	Overall LET and Specialization	0.772**	0.000
from COS (N= 1,411)	Overall LET and General Education	0.827**	0.000
	Overall LET and Professional Education	0.872**	0.000
	Overall LET and Specialization	0.897**	0.000

***significant at 0.01*

All coefficients of correlations reflected in Table 3 show that there is significant and strong positive correlation between the Overall LET score and all of its sub-components. It may be noted that in the case of CASS, CED and CLLL graduates, the highest coefficient of correlation is found between the Overall LET score and that of the Professional Education. This result could be taken as a good indicator that the strength of the PNU programs lies in the Professional Education subjects, considered as the 'heart' of BSE and BEED courses.

Table 4 below shows the coefficients of correlations between the Overall LET score and its sub-components when the graduates are grouped according to the year when they took the examination.

Table 4. Correlation between the scores in overall LET and its sub-components across years

Respondents	Scores	r	p-value
2007 (N= 1,283)	Overall LET and General Education	0.813**	0.000
	Overall LET and Professional Education	0.931**	0.000
	Overall LET and Specialization	0.834**	0.000
2008 (N= 900)	Overall LET and General Education	0.836**	0.000
	Overall LET and Professional Education	0.948**	0.000
	Overall LET and Specialization	0.870**	0.000
2009 (N= 815)	Overall LET and General Education	0.837**	0.582
	Overall LET and Professional Education	0.902**	0.000
	Overall LET and Specialization	0.881**	0.000
2010 (N= 1,005)	Overall LET and General Education	0.831**	0.000
	Overall LET and Professional Education	0.902**	0.000
	Overall LET and Specialization	0.881**	0.000

***significant at 0.01*

The results show the same trend; that the Overall LET score is significantly and positively correlated with any of its sub-components. In all groups, the highest coefficient of correlation is between the Overall LET score and score in PE which again suggests the strength of PNU programs.

The teaching performance of the respondents

This section presents the results of the evaluation of the respondents' teaching performance, as evaluated by their department heads, peer, and self.

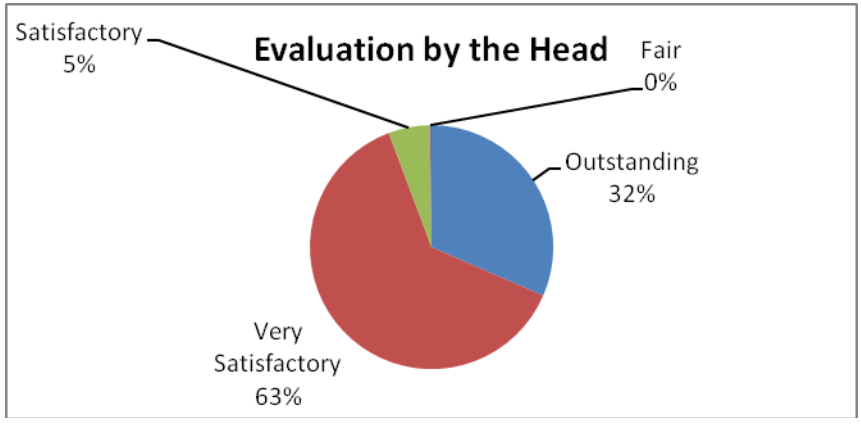

Figure 2. Teaching performance as evaluated by the head

Figure 2 shows that just less than one-third of the respondents were evaluated as "Outstanding" while about 63% as "Very Satisfactory (VS)." This implies that the department heads of the 256 private and public schools where the respondents are based, are generally satisfied with the PNU graduates' performance.

Figure 3 implies that the respondents have good working relationship with their peers as 45% were evaluated as "Outstanding" while 50% as "Very Satisfactory" by their peers.

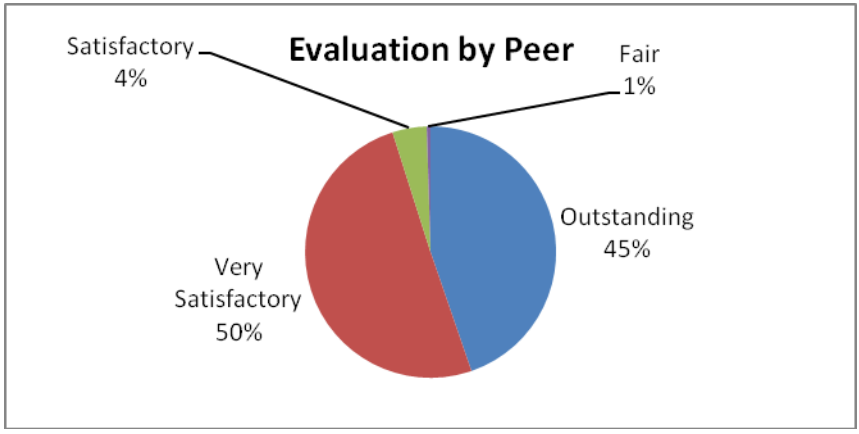

Figure 3. Teaching performance as evaluated by the peer

Contrastingly, Figure 4 shows the results of respondents' Self-Evaluation. About one-third or 32% of the total respondents evaluated themselves as "Outstanding" while 67% as "Very Satisfactory." The results suggest that the respondents had enough confidence in performing their jobs as teachers. This may imply that their PNU training offers equip them with the necessary skills and confidence to perform their jobs efficiently.

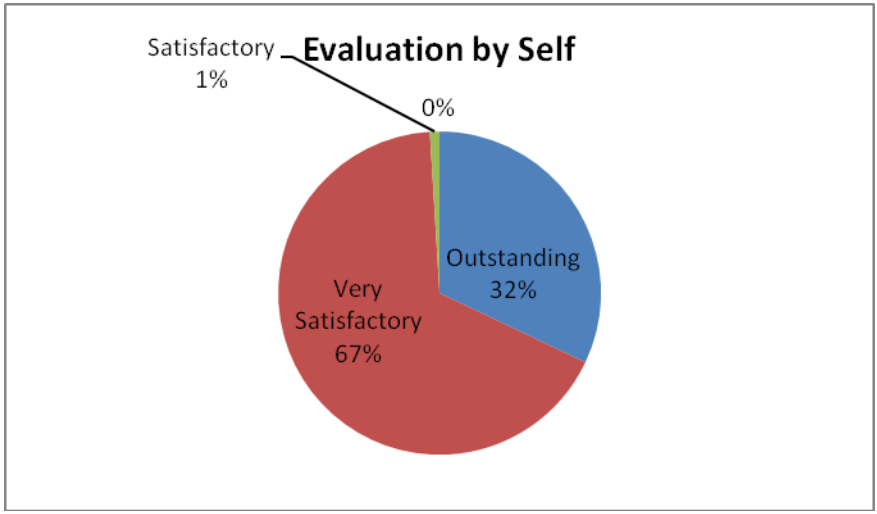

Figure 4. Teaching performance as evaluated by self

To obtain the Teaching Performance Rating of the respondents, the average of the evaluation of the head, peer and self was computed. The results are presented in Figure 5.

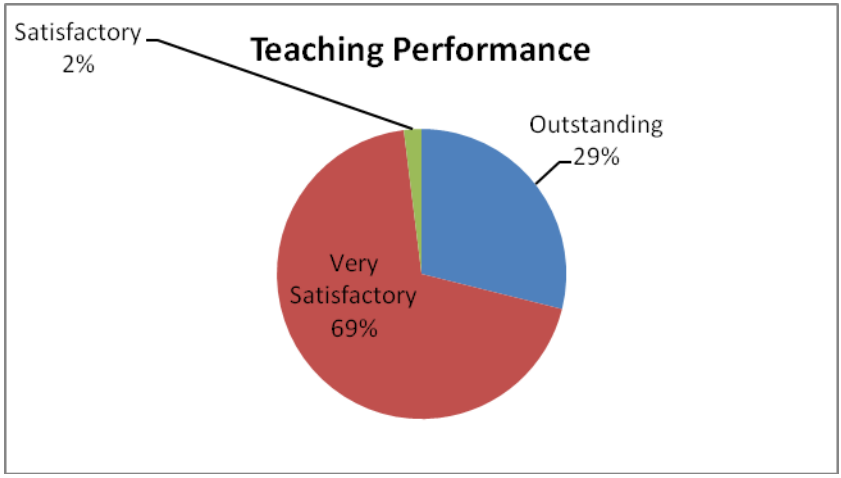

Figure 5. Teaching performance of the respondents

It can be gleaned from Figure 5 that 98% of the respondents were rated as either "Very Satisfactory" or "Outstanding." This means that despite being new in the profession, almost all of the respondents were performing well as teachers in their respective schools. Their competence may be attributed to the kind of training they received.

Relationship of LET performance and teaching performance

To determine if a relationship exists between LET performance and Teaching Performance, two sets of correlational tests were done. In the first set, the Overall LET score was matched with the Evaluation score by head, peer, self and with Overall Teaching Performance. All correlation coefficients are found in Table 5.

Table 5. Correlation between overall LET score and teaching performance evaluation score

Respondents	Scores	r	p-value
PNU graduates (N = 419)	LET and Evaluation by Head	0.071	0.147
	LET and Evaluation by Peer	0.070	0.157
	LET and Evaluation by Self	0.017	0.728
	LET and Overall Teaching Performance	0.067	0.176

It can be inferred from Table 5 that for all 419 respondents, there was negligible correlation between the Overall LET score and any of the Teaching Performance as Evaluated by head, peer, and self. This could be attributed to the homogeneity of this group of respondents where almost all had very satisfactory rating in their teaching performance as revealed in the previous discussion.

Grouped according to the Colleges from which they came from, some differences were noticed in the results of the correlation tests between the teaching performance evaluation and LET scores of the respondents from CLLL and COS. The results are shown in Table 6.

Table 6. Correlation between overall LET score and teaching performance evaluation score across colleges

Sample Respondents	Scores	r	p-value
from CASS (N= 136)	LET and Evaluation by Head	0.028	0.748
	LET and Evaluation by Peer	-0.003	0.969
	LET and Evaluation by Self	-0.046	0.598
	LET and Overall Teaching Performance	0.006	0.941
from CED (N= 72)	LET and Evaluation by Head	0.045	0.707
	LET and Evaluation by Peer	-0.057	0.632
	LET and Evaluation by Self	0.055	0.649
	LET and Overall Teaching Performance	.009	0.940
from CLLL (N= 56)	LET and Evaluation by Head	**0.268***	0.046
	LET and Evaluation by Peer	0.258	0.088
	LET and Evaluation by Self	0.250	0.076
	LET and Overall Teaching Performance	**0.366***	0.013
from COS (N= 155)	LET and Evaluation by Head	0.152	0.059
	LET and Evaluation by Peer	**0.259****	0.001
	LET and Evaluation by Self	**0.164***	0.043
	LET and Overall Teaching Performance	**0.239****	0.003

** significant at 0.05, **significant at 0.01*

For the 136 respondents from CASS and 72 respondents from CED, the results show a negligible correlation between the Overall LET score and any of their Teaching Performance as Evaluated by head, peer, and self.

By contrast, for the 56 CLLL respondents, there was a weak but significant positive correlation between the LET score and evaluation by the Head (*r=0.268, p=.046*), and Overall Teaching Performance (*r=0.366, p=.013*); and negligible correlations with the other teaching performance evaluation scores. Finally, for the 155 COS respondents, there was a weak, but significant positive correlation between the LET score and evaluation by peer (*r=0.259, p=.001*), by self (*r=0.164, p=.043*), and Overall Teaching Performance (*r=0.239, p=.003*); and negligible correlation with evaluation by head.

When the respondents were grouped according to the year when they took the examination, the coefficients of correlation between Overall LET scores and Teaching Performance were negligible except in the case of 2007 test takers. The data is found in Table 7.

Table 7. Correlation between overall LET score and teaching performance evaluation score across years

Sample Respondents	Scores	r	p-value
2007 (N= 105)	LET and Evaluation by Head	0.198*	0.043
	LET and Evaluation by Peer	0.278**	0.004
	LET and Evaluation by Self	0.001	0.989
	LET and Overall Teaching Performance	0.208*	0.033
2008 (N= 101)	LET and Evaluation by Head	0.130	0.194
	LET and Evaluation by Peer	0.150	0.136
	LET and Evaluation by Self	0.050	0.621
	LET and Overall Teaching Performance	0.145	0.151
2009 (N= 93)	LET and Evaluation by Head	0.101	0.334
	LET and Evaluation by Peer	-0.016	0.881
	LET and Evaluation by Self	0.171	0.110
	LET and Overall Teaching Performance	0.082	0.452
2010 (N= 120)	LET and Evaluation by Head	-0.118	0.200
	LET and Evaluation by Peer	-0.162	0.084
	LET and Evaluation by Self	-0.091	0.327
	LET and Overall Teaching Performance	-0.174	0.064

** significant at 0.05, **significant at 0.01*

For those who passed the LET in 2007, there was weak but significant positive correlation between the LET score and evaluation by head *(r=0.198, p=.043)*, by peer *(r=0.278, p=.004),* and Overall Teaching Performance *(r=0.208, p=.033)*.

In the second set, the Overall Teaching Performance was matched with Overall LET score and with each LET subcomponent. All correlation coefficients are found in Tables 8-10.

Table 8. Correlation between teaching performance and LET

	Scores	r	p-value
PNU graduates (N = 419)	Teaching Performance and Gen. Ed.	0.070	0.160
	Teaching Performance and Prof. Ed.	0.074	0.136
	Teaching Performance and Specialization	0.029	0.578
	Teaching Performance and Overall LET	0.067	0.176

The results revealed that there was negligible correlation between the scores of Overall Teaching Performance Evaluation and any of the LET components.

Table 9. Correlation between teaching performance and LET across colleges

Sample respondents	Scores	r	p-value
from CASS (N= 136)	Teaching Performance and Gen. Ed.	0.065	0.451
	Teaching Performance and Prof. Ed.	0.052	0.546
	Teaching Performance and Specialization	-0.098	0.255
	Teaching Performance and Overall LET	-0.006	0.941
from CED (N= 72)	Teaching Performance and Gen. Ed.	-0.010	0.937
	Teaching Performance and Prof. Ed.	0.019	0.873
	Teaching Performance and Specialization	-0.264	0.087
	Teaching Performance and Overall LET	0.009	0.940
from CLLL (N= 56)	Teaching Performance and Gen. Ed.	0.191	0.208
	Teaching Performance and Prof. Ed.	**0.402****	0.006
	Teaching Performance and Specialization	0.181	0.235
	Teaching Performance and Overall LET	**0.366***	0.013
from COS (N= 155)	Teaching Performance and Gen. Ed.	**0.282****	0.000
	Teaching Performance and Prof. Ed.	**0.194***	0.017
	Teaching Performance and Specialization	**0.192***	0.018
	Teaching Performance and Overall LET	**0.239****	0.003

** significant at 0.05, **significant at 0.01*

It can be inferred from Table 9 that among the CASS and CED respondents, all computed correlation coefficients were negligible.

In contrast, among CLLL respondents, there was a significant and positive correlation between Overall Teaching Performance Evaluation score and PE score *(r=0.402, p=.006)*, and Overall LET score *(r=0.366, p=.013*). This means that only about 16% of the Teaching Performance Evaluation score could be explained by the score in Professional Education LET subcomponent; or only about 13% of the Teaching Performance Evaluation score by the Overall LET score.

Among COS respondents, all coefficients of correlations computed were weak but significant. Hence, less than 9% of the Teaching Performance Evaluation score could be explained by the scores in LET or its sub-component.

When the respondents were grouped according to the year of examination, similar results ensured. The coefficients of correlations are reflected in Table 10.

Table 10. Correlation between teaching performance and LET across years

Sample respondents	Scores	r	p-value
2007 (N= 105)	Teaching Performance and Gen. Ed.	**0.281****	0.004
	Teaching Performance and Prof. Ed.	0.105	0.286
	Teaching Performance and Specialization	0.192	0.068
	Teaching Performance and Overall LET	**0.208***	0.033
2008 (N= 101)	Teaching Performance and Gen. Ed.	0.097	0.335
	Teaching Performance and Prof. Ed.	0.162	0.107
	Teaching Performance and Specialization	0.150	0.172
	Teaching Performance and Overall LET	0.145	0.151
2009 (N= 93)	Teaching Performance and Gen. Ed.	-0.056	0.609
	Teaching Performance and Prof. Ed.	0.190	0.079
	Teaching Performance and Specialization	-0.008	0.945
	Teaching Performance and Overall LET	-0.082	0.452
2010 (N= 120)	Teaching Performance and Gen. Ed.	-0.113	0.233
	Teaching Performance and Prof. Ed.	-0.135	0.152
	Teaching Performance and Specialization	-0.161	0.087
	Teaching Performance and Overall LET	-0.174	0.064

** significant at 0.05, **significant at 0.01*

Table 10 shows the results when the respondents were grouped according to the year of examination. Weak but significant correlations existed among the 2007 takers; between Overall Teaching Performance and General Education scores *(r=0.281, p=.004*), and Overall LET scores (*r=0.208, p=.033*). All other coefficients of correlations proved negligible. This means that, in the case of 2007 graduates, only about 8% of the Teaching Performance evaluation score could be explained by the GE score, while only 4% by the Overall LET score.

Teaching performance of the PNU top LET passers

The upper 10% of the total respondents based on the LET scores were considered in the analysis. The results are shown in Table 11.

Table 11. The teaching performance of PNU top LET passers

	Outstanding	Very Satisfactory	Satisfactory	Total
Evaluated by Head	33%	62%	5%	100%
Evaluated by Peer	49%	47%	4%	100%
Evaluated by Self	24%	76%	0	100%
Overall Teaching Performance	31%	69%	0	100%

The results show that 95% of the top LET passers received either a "Very Satisfactory" or an "Outstanding" rating from their heads or immediate supervisors; 96% received either a "Very Satisfactory" or an "Outstanding" rating from their peers; and all rated themselves as either "Outstanding" or a "Very Satisfactory." In general, all respondents had a rating of at least Very Satisfactory. This means that the PNU top LET passers are performing well in their jobs.

Relationship of LET performance and teaching performance of the top LET passers

In the case of top LET passers, when the coefficients of correlations were computed between the variables considered in this study, the results showed that there was a weak but significant positive correlation between the LET score and evaluation by peer *(r=0.259, p=.001)* and by self *(r=0.164, p=.043)*. The rest of the variables considered showed negligible correlation coefficients.

Further implications

What Gregorio (1978), Muson (1998) and Goldstein (2002) posited that feedback elicited in the evaluation serves as good basis for most appraisals in educational institutions was proven in this research. Figures 2, 3, 4 and 5 all reveal that the Teaching Performance of the respondents in all categories was generally "high." About 98% of the total respondents were rated at least Very Satisfactory, thereby giving an overall impression of competence among the teacher-respondents used in this study.

Still another important angle to note is the consideration that the respondents had an average of 2.6 years or less teaching experience. More than half of them had 2 years or less number of years teaching experience. Table 12 is thus presented:

Table 12. Length of teaching experience of the respondents

Length of teaching experience (years)	number of respondents	Percent
5	47	11.22
4	62	14.80
3	89	21.24
2	120	28.64
1	98	23.39
0.5	3	0.71
Total	419	100

While the literatures on factors that contribute to good teaching performance indicate that in-service training given to teachers have significant contribution to how they perform their jobs, the results of this study show that even teachers that have less or even lack in-service training may still demonstrate very satisfactory or outstanding teaching performance.

CONCLUSIONS AND RECOMMENDATIONS

The results of this research contribute in the growing discussion on predictors of success and good teaching performance among teachers.

While this study did not have the statistical results to claim that LET score predicts teaching performance, it does not either have the data to dispute this claim, since none of the respondents who passed the LET performed poorly as teachers. Even if, only weak but positive significant correlations between LET scores and teaching performance (as evaluated by either head, peer or self) were found in the case of CLLL, COS, 2007 examinees and top LET passers, one may still consider that the LET results may be used as a valid predictor of good teaching performance. The respondents in this study all passed the LET and were also rated generally as very satisfactory or outstanding.

Moreover, while the results of the study also reveal that there is no particular component of the LET which ultimately predicts a good teaching performance, the overall score and or results sum up the performance of the test takers. This was concurred by Ramos (2009) when he underscored how government examinations such as the LET

set a holistic view on test takers. Therefore, a positive result translates to a good 'holistic view' of the abilities of any test taker, in this case, of any teacher.

Moreover, given that the respondents were in their novice years in the teaching profession, there was no significant in-service training that could have contributed to their good teaching performance. Logically, the respondents were armed with only the knowledge, training, skills, and possibly vision (Rivkin, et al., 2005) from the years they took up Bachelors' degree (pre-service training). It can be generalized, therefore, that the temporal expertise they had from PNU that became their investment in passing the LET could be the same expertise they manifested in their early years as teachers.

It is recommended that an examination of the teaching performance of those who did not pass the LET in the same period be done to establish a concrete correlation between the LET scores and the teaching performance. Finally, to establish a very convincing generalization of LET as predictor of teaching performance in the case of PNU, data from the four regional campuses be included.

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TEACHERS AND LEARNERS' KNOWLEDGE, ATTITUDE AND CHALLENGES EXPERIENCED IN RELATION TO LARGE CLASS: INPUTS TO POLICY

Ma. Victoria C. Hermosisima
Educational Policy Research and Development Center
Philippine Normal University

ABSTRACT

This research aimed to provide empirical data as inputs to large class policy making. Specifically, it looked into the respondents' knowledge about large class before and after experiencing it, their attitude toward large class and large-class assignment, as well as challenges/difficulties experienced and coping strategies used. Specifically, the study took a stance on the regular implementation of the large-class program in the University, and recommended better teaching and learning experiences in such setup. Complete enumeration was used in selecting teacher-respondents, while 50% of the total number of students involved in large classes was surveyed. Data were gathered through a validated and pilot-tested questionnaire. Using the SPSS, descriptive statistics were generated for quantitative data, while qualitative analyses centered on recurring ideas/themes. The research results would serve the University and other teacher education institutions in the country in formulating policy/guidelines related to the offering of large classes.

Keywords: *large class, teaching/learning difficulties, teaching/learning coping strategies*

INTRODUCTION

Class size and its impact on undergraduate learning has been a topic of debate for at least 80 years (Messineo, Gaither, Bott & Ritchey, 2007). The literature provides conflicting evidences. While some studies revealed detrimental effects on student performance, especially

in achieving higher level learning objectives, as class size increases, other studies showed no significant relationship between class size and student performance (Australian Universities Teaching Committee, 2003).

Despite the equivocation in the literature, the evidences indicate that large class size creates particular challenges for teaching and learning. Some of these include: the impersonal and intimidating environment of large classes which can result in low levels of student engagement and interaction with students' apathy and distractedness; large classes perceived as impacting negatively on student learning (Hogan & Daniell, 2012); identifying and addressing the varied needs and preferences of a big diverse student population; implementing timely feedback (Messineo et al., 2007); delimited class discussions and giving of assignments (Longmore, Dunn, & Jarboe, 1996); and teacher-student interaction being restricted (Knapper, in Crull & & Collins, 2004). Also, time management and organization are critical issues in large-class instruction (Lewis, as cited in Crull & Collins, 2004). These very same issues hold on to a class of any size, but they appear to be magnified with large groups (Australian Universities Teaching Committee, 2003).

Well documented also in the literature are the advantages and disadvantages of large class environment. The benefits include decreased instructor costs, efficient use of faculty time and talent, and standardization of the learning experience (Mcleod, as cited in Jimakorn & Singharisi, 2006). In contrast, the drawbacks associated with large class are: increased faculty reliance on the lecture method; less active student involvement; reduced teacher-student interaction; reduced depth of student thinking inside the classroom; reduced breadth and depth of course objectives, assignments, and course-related learning strategies used by students outside the classroom; lower levels of academic achievement and performance; reduced overall course satisfaction with the learning experience; and lower student ratings of course instruction (Cuseo, 2007). Apparently, there are more negative than positive implications arising from "herding" students into huge classes.

To address the negative impact, pedagogy literature offers ways of improving teaching and learning processes and outcomes in large

class environment such as use of small groups (Bilgin et al., 2012; Persky and Pollack, 2010); use of computerized assessment technique (Mehta and Schlecht, 1998); and use of information technology in the instructional delivery of courses (Twigg, 2003 in Cuseo, 2007).

Despite the recognized problems and disadvantages, large classes continue to be a reality in higher education institutions worldwide. Universities, particularly public institutions, are often forced to resort into increasing class size as a cost-cutting strategy in coping with the rising enrollments and shrinking government subsidy.

In the Philippines, state universities and colleges (SUCs) also face funding constraints. State subsidy to SUCs is gradually being reduced "to push them toward becoming self-sufficient and financially independent...," as President Aquino said it himself in his budget message to Congress on August 24, 2010 (Crisostomo & Dado, 2010). In response to this budget cut, the Philippine Normal University (PNU), the National Center for Teacher Education, searched for cost-effective alternatives, one of which is the merged-classes program. The program is described as "an alternative and innovative instructional delivery of courses (General Education, Professional Education, undergraduate/graduate specialization) wherein two or more classes are merged to form a large class. Two or more professors may handle the class using a variety of teaching strategies and small group activities. Attached to the program is a research component to determine the effectiveness of the strategy/ies used and to serve as an avenue for developing innovative activities that fit large and small groups. The program's rationale/objectives are: to develop innovative teaching strategies and activities for large classes and small group; to provide faculty more time for research; to establish a pool of experts in their field of expertise; and to address limited budget without sacrificing quality of education" (PNU Office of the Vice President for Academics, 2011).

The merged-classes program was tried out in school year 2011-2012. Purposely, this paper seeks to provide the University Management empirical data as inputs to large class policy making. Specifically, this paper sheds light on the teachers' and learners' knowledge on and attitudes toward large class and large-class assignment; documents the challenges/difficulties experienced by the

respondents and the teaching and learning coping strategies used; identifies the general position of the faculty- and student-respondents with regard to the proposed regular implementation of large classes in the University; and recommends better ways of implementing the program, if the University governing board pushes for its institutionalization.

METHODOLOGY

Research method and respondents

Using the descriptive-survey method, the study targeted 29 faculty and 522 student-respondents. Thirty-seven faculty members were identified to have taught large classes, but three were not anymore connected with the University, and five participated in the tryout of the instrument. The student-sample consisted of second, third, and fourth year students. First year students were excluded since they were not part of the University yet when the large-class program had been tried out. For each year level, 50% of the total number of students involved in large classes was surveyed. Their sections and schedule were identified, and classes visited for the survey.

The response rate for faculty was 62%, while that for students, 91%: 18 faculty and 474 students completed and returned the questionnaire.

Of the 18 faculty, 10 (55.6%) were female and 8 (44.4%) male. Five (27.8%) had more than 15 years of teaching experience; another five (27.8%), 6-10 years; four (22.2%) teacher-respondents had 11-15 years; while two (11.1%) 1-5 years of teaching experience. Two teacher-respondents did not provide an answer. As to highest educational attainment, 11 (61.1%) were master degree holders, five (27.8%) doctorate, one (5.6%) was a bachelor degree holder, and one (5.6%) teacher-respondent did not answer the item.

As for the student-respondents, 358 (75.5%) were female, 110 (23.2%) male, and 6 (1.3%) did not indicate their gender. Two hundred thirty-two (48.9%) were sophomore students; 154 (32.5%), junior; and 88 (18.6%) graduating students. The biggest number (361 or 76.2%) of the students were BSE majors, 68 (14.4%) under the BS programs, 39

(8.2%) BECED students, and only three (0.6%) BEED majors. Three (0.6%) students did not indicate their course.

Instruments

Two forms of a self-administered questionnaire were developed for the study: Form A for the faculty and Form B for the students. Form A had 49 items, while Form B contained 39 items. The items in both forms were arranged into sections according to the variables of the study: knowledge, attitude, experiences, teaching/learning coping strategies, and position and recommendations regarding the regular implementation of large classes in the University. Some of the items in Form A were culled from the questionnaire utilized in the study of Jimakorn and Singharisi (2006).

The forms underwent revisions based on experts' comments and pilot testing results. The pilot group was composed of five faculty and 28 students.

Data analysis

Quantitative data were processed using the SPSS, with descriptive statistics (frequencies, percentages, and means) generated. Qualitatively, they were analyzed according to recurring ideas/themes.

RESULTS AND DISCUSSION

A. Faculty survey

Knowledge on and attitude toward large class and large-class-teaching assignment

When the teacher-respondents were asked about the ideas they had about a large class before actual experience of handling one, the biggest number of their responses (8 or 44.4%) was about the size of the class, followed by notions related to teacher practice aspects such as instructional time, classroom management, assessment, and teaching method (6 or 33.3%), then by considering the class size vis-à-vis availability of apt facilities such as big classrooms and equipment (4 or 22.2%). Three or 16.7% responses were about students having

different learning styles, abilities, and entry levels, as selected responses below show:

> *"A class of 70-90 students"*
> *"Classes with more than 50 students"*
> *"More than 60-70 students attending a class, composed of 2 sections"*
> *"It's a different mode of instruction."*
> *"Extensive management"*
> *"Essay exams will not be a means of testing."*
> *"Decreased instructional time due to management issues"*
> *"My primary idea was, of course, it is difficult to handle, especially because of the class size vs. logistics (size, facilities, equipment, etc.)."*
> *"I thought merged classes were fine as long as good support structures were in place such us good rooms, good audio & visuals, and good schedules."*
> *"Different learning styles, varied ability levels, if not entry levels/schemata"*

A big majority of the teacher-respondents (11 or 61.1%) said they had known they would be teaching large classes even before receiving copies of their teaching assignment for the semester. Sources of information were department heads (7 or 63.6%), followed by deans (3 or 27.3%), then the teacher him/herself being a member of the large-class committee (9.1%).

On knowledge about the program's rationale and objectives, eight teacher-respondents (44.4%) stated that they had already familiarized themselves with the rationale and objectives of the merged-classes program even before accepting their teaching assignment, seven (38.9%) said otherwise, while three (16.7%) teachers left the item unanswered. Specific sources of information (*note: multiple-response item*) were: the deans (4 or 44.4%); college, department, council of heads' meeting (2 or 22.2%); authorities in the university (1 or 11.1 %); the Vice President for Academics (1 or 11.1 %); department head (1 or 11.1 %); and the teacher him/herself as part of the committee (1 or 11.1 %).

Of the seven respondents who were unfamiliar with the program's rationale and objectives, three made attempts to learn about them by talking to their immediate supervisors and colleagues, or attending a meeting called by the dean. The remaining four teachers said initiating and pursuing actions towards getting familiar with the rationale and objectives became unnecessary, as their department heads explained the matter to them days later on. Also, to one respondent, knowing the program's rationale was unimportant.

On the affective aspect, a survey question asked about how the teachers felt upon learning they would be handling large classes. The verbatim responses were grouped into positive and negative emotions (Table 1). The numbers of positive and negative answers were almost equal, 10 and 9, respectively. Positively, some of the teacher-respondents felt *challenged* upon learning about their large-class teaching assignment; others got *excited*, felt *honored*, and *welcomed* the idea. Contrastingly, negative emotions waxed feeling *worried* and *pressured*, particularly on the availability/adequacy of facilities for large class and on teacher preparation, i.e., preparing and implementing different methods, strategies, and approaches, a finding consistent with that of Cleveland, as cited in Morabito & Bennet, 2006; Benbow, Mizrachi, Oliver & Said Moshiro, 2007; Carpenter, 2006; and UNESCO, 2004.

Table 1. Teacher-respondents' emotions upon learning about large-class teaching assignment

Positive Emotions f =10 (55.6%)	**Negative Emotions f= 9 (50.0%)**
Challenged - 5 (50.0%)	*A little apprehensive/worried/thought it would be difficult that the facilities could not support large classes* – 6 (66.7%)
Excited at the prospect that I can lecture like how I do it in seminars – 1 (10.0%)	*I felt that it would be taxing preparation to extensively use different and appropriate strategies in teaching the course./ I was pressured to really come up wiPth approaches relevant to the students' need because this was their first time to take the subject* -2 (22.2%)
I felt honored because the Department believed that I could handle such classes – 1 (10.0%)	Not fair – 1 (11.1%)
I welcomed the idea because it would help the Department address problems in teaching loads. We lacked teachers at the Department. – 1 (10.0%)	
Positive attitude because of my previous experience in the field – 1 (10.0%)	
I felt that handling a large class is manageable. – 1 (10.0%)	

Note: Multiple-response table.

To cap the section on knowledge of the teacher-respondents about large class and large-class teaching assignment, a survey question investigated on what the teacher-respondents learned about large classes after experiencing handling one. Comparing their ideas before and after having experienced teaching large classes, one noted a shift in ideas. If earlier they thought more of a large class in terms of its size, after exposure to large classes, they now viewed large-sized classes more in terms of teacher practice aspects such as assessment, use of instructional materials, and implementation of varied activities (55.6%). Also, some responses (28.0%) expressed negative views about large class, specifically about its difficulty and non-effectiveness due to the impersonal nature dominating the classroom environment and unachievable, differentiated instruction. Other responses dwelt on the lack of comfort and concentration of students in large classes, as selected responses below affirm:

"entails different set of IM's"
"different assessment"
"entails a lot of varied activities"
"A teacher must be responsive, innovative, energetic"
"It's not effective. The teacher could hardly recognize his/her students so as to cater to all their needs"
"students felt uncomfortable, lacked concentration on the given tasks"
"A large class needs a bigger venue. The University should have provision for classrooms intended for such."

Challenges/Teaching difficulties experienced and coping strategies employed

When asked if the subjects they handled under the large-class program were old teaching assignments, almost all of the respondents (16 or 88.9%) said *yes*. Only one (5.6%) respondent answered *no*, and another one respondent (5.6%) left the question unanswered.

Of the 16 respondents who said *yes*, most of them (13 or 81.25%) indicated that they made changes (note: multiple-response item) to their instructional plan upon learning about their teaching assignment. The remaining three respondents did not point out the changes they made. Below are the changes made (frequency of responses in brackets):

- *Changes in assessment procedures, e.g. less homework, quizzes, and seatwork (6)*
- *Use of different strategies and techniques (5)*
- *Use of facilities like multi-media technology, big venue, sound system (5)*
- *A lot of changes in activities/tasks e.g. no students' oral presentation(4)*
- *Use of group dynamics (3)*
- *New instructional materials (2)*

To the question on whether the subjects they handled were appropriate to be taught in a large class, the majority (9 0r 50%) of the teacher-respondents replied negatively, six or 33.3% said yes, while three (16.7%) did not answer. Reasons (n=15) given pertained to: the nature of the subject, demonstrating the teachers' beliefs about a large class being appropriate for content-based subjects, but unfit for pedagogy courses (66.6%); classrooms being crowded where students are distracted (13.3%); students and teachers preferring a small class (13.3%); and not well-planned implementation of the program (6.7%).

When asked if it was difficult handling a large class, 14 or 77.8% respondents answered in the affirmative. Only one or 5.6% teacher-respondent had no difficulty, while the remaining three or 16.7% did not answer the question.

To examine the difficulties experienced by the teacher-respondents with large classes, a rating scale on the degree of difficulty of teaching aspects was provided in the questionnaire. Table 2 displays the obtained ratings.

Table 2. Degree of difficulty of the teaching aspects as experienced by the teacher-respondents

Teaching Aspects	Mean	Interpretation
1. Physical environment	**3.00**	Difficult
Being able to see the whole class	3.29	Difficult
Using the right level of voice	3.06	Difficult
Using audio-visual aids	2.53	Difficult
Making the classroom conducive to learning	3.18	Difficult
2. Teaching preparation	**2.56**	Difficult
Setting up goals for the lesson	2.29	Easy
Determining models and strategies of teaching	2.59	Difficult
Selecting instructional techniques of teaching	2.65	Difficult
Preparing handouts and other teaching materials	2.71	Difficult

Table 2. Degree of difficulty of the teaching aspects as experienced by the teacher-respondents (continued)

Teaching Aspects	Mean	Interpretation
3. Teaching management	**2.78**	Difficult
Timing the lesson	2.65	Difficult
Having students work in group in class	2.53	Difficult
Giving students equal share of class activities	3.12	Difficult
Providing students appropriate pace of lessons	2.88	Difficult
Managing class discipline	2.75	Difficult
4. Teaching procedures	**2.64**	Difficult
Reviewing lessons	2.56	Difficult
Implementing lessons as planned	2.53	Difficult
Giving homework and assignments	2.35	Easy
Checking homework and assignments	3.25	Difficult
Giving varied activities	2.59	Difficult
5. Monitoring	**3.06**	Difficult
Monitoring work	3.00	Difficult
Providing students timely feedback	3.13	Difficult
Giving support and advice to individual students	3.06	Difficult
6. Assessment	**2.78**	Difficult
Assessing students before instruction	3.00	Difficult
Assessing students during instruction	2.81	Difficult
Assessing students after instruction	2.82	Difficult
Determining methods of evaluating student outcomes	2.71	Difficult
Giving students opportunities to assess themselves	2.65	Difficult
Giving students opportunities to assess their peers	2.69	Difficult
Marking exams	2.81	Difficult
7. Learning development		
Developing the skills among students as stipulated in the course objectives	2.75	Difficult
8. Teacher-student relationship	**2.82**	Difficult
Creating a good relationship between the teacher and students	2.35	Difficult
Knowing students individually	3.29	Difficult
OVERALL	**2.78**	Difficult

Legend: 3.50-4.00-Very difficult; 2.50-3.49–Difficult; 1.50-2.49-Easy; 1.00-1.49-Very easy

The overall mean rating computed was 2.78 interpreted as *difficult*. The top five *difficult* teaching aspects covered: monitoring, physical environment, teacher-student relationship, teaching management, and assessment. Not one teaching aspect was rated *easy* or *very easy*.

A scrutiny of Table 2 yielded that no item was rated as *very difficult* or *very easy*. The items were largely rated as *difficult*, with only three items rated as *easy*: *setting up goals for the lesson* under teaching preparation (2.29); *giving homework and assignments* under teaching procedures (2.35), and *creating a good relationship between the teacher and students* under teacher-student relationship (2.35). Among the items rated as *difficult*, *being able to see the whole class* under the physical environment aspect and *knowing students individually* under the teacher-student relationship aspect garnered the highest mean of 3.29, interpreted as *difficult.* They were followed by*: checking homework and assignments* under the teaching procedures aspect (3.25); *making the classroom conducive to learning* under the physical environment aspect (3.18); *providing students timely feedback* under monitoring (3.13); and then *giving students equal share of class activities* under teaching management (3.12).

As to teaching difficulties the rating scale was supported by an open-ended question (note: multiple-response item) enough to gather concrete difficulties experienced by the teacher-implementers of large classes, especially the 14 respondents who divulged having had difficulty handling the class. The highest percentage (42.9%) of the difficulties (n=14) was in terms of class discipline such as managing noise, tardiness of students, and getting their attention in class followed by difficulties related to facilities (28.6%) considered inadequate to support the needs of the huge class, then by difficulty in terms of assessment, of teaching techniques/strategies, and of teacher preparation (14.3% each). The teacher-respondents reported having a hard time checking papers and providing timely feedback. On teacher preparation, they divulged that they were caught unprepared for the large class, as it was suddenly implemented; thus, it gave them difficulty in making adjustments to the activities and teaching techniques/strategies.

Other verbatim responses, with 7.1% each follow:

- *hard to know everyone by names*
- *It is impossible for the teacher to address all the students' individual needs.*
- *the ideal class size is 30*
- *I don't think I had met the expectation I set for myself. I know I could do more and give more if I had fewer students in class, especially in the methodology courses.*
- *I couldn't teach the way I did in regular classes with the same subject and time allotment.*

From the responses, both quantitative and qualitative, it is seen that the major problematic issues in teaching large classes, as reported by the teacher-respondents center on physical structures/environment, class discipline, and assessment. These findings conform with those of Jimakorn & Singharisi (2006) and Australian Universities Teaching Committee (2003).

In dealing with the difficulties, the teachers used these strategies (note: multiple-response item): using small group discussions (85.7), a strategy which also came out as one of the most successful strategies in the studies conducted by the Australian Universities Teaching Committee (2003) and Benbow et al. (2007); resorting to active learning strategies other than group discussion such as journal writing, project-based activities and outside-the-classroom activities (50.0); providing more comprehensive lectures (28.6); giving individual assignment (14.3); employing technology-mediated instruction (14.3); involving co-facilitators (7.1); pre-teaching (7.1); and conducting differentiated instruction (7.1).

Position on and recommendations for regularly implementing the large-class program

Two-thirds or 66.7% of the teacher-respondents did not favor the proposed regular implementation of the large-class program in the University, while only 27.8% favored it. One respondent (5.6%) chose not to give his/her position. Listed below were their recommendations (note: multiple-response item) for implementing the program regularly, if the University governing board pushes for such (percent in bracket):

- *Provide big conducive rooms for learning with proper ventilation, complete facilities and equipment such as LCD, TV, DVD players, PA speakers, microphone. (44.4%)*
- *Not all subjects must be taught in a large class. Allow departments to decide which subjects fit large classes. It can work in General Education/content courses, but not in method/pedagogy classes. (33.3%)*
- *Select faculty who could manage large classes effectively. Faculty with professor ranks and those acknowledged experts in the field might handle the content, while tutorials by instructors and lecturers. (22.2%)*

B. Student survey

Knowledge on large class and its experimental implementation in the University

As was done with the teacher-respondents, the students were likewise asked (Note: multiple-response item) about their ideas of a large class before experiencing it. A wide variety of views was given, but the most common response was about learning thought of to be ineffective when in a large class due to noise and other factors. Other more common views held: the size of the class; concern for teacher difficulty; and about students not receiving individualized attention, as indicated below:

- *Learning will not be effective due to noise, crowded classroom, discomfort, not hearing well the teacher, reduced student participation in class (244)*
- *Merging of two or more sections with only one teacher (67)*
- *Discomforting a big number (at least 50) of students (48)*
- *Difficult for teacher in terms of classroom management, monitoring, and assessment (31)*
- *Impersonal atmosphere/reduced individualized student attention by teacher (26)*
- *Fun to be meeting with more students (20)*
- *Not good if the physical structures are insufficient (17)*

- *Seminar-type held in big venues (9)*
- *Cost-cutting strategy of the University (9)*
- *Lecture-based/teacher-centered (4)*
- *Interactive (3)*
- *No idea at all (3)*

When asked if they had any inkling about the merging of their section with other classes before the semester started, 322 or 67.9% of the students said *no*, 148 or 31.2% said *yes*, while four or 0.8% did not provide an answer. Those who said *no* were queried about their reaction (note: multiple-response item) upon learning about it, and they responded dominantly negative. Most common among the negative responses was being *surprised and/or shocked* to see a huge number of students inside the classroom on the first day of classes—an answer noted to be consistently coupled with the response *disappointed*. The students explained that the disappointment was brought about by the knowledge that learning in large classes would be hard, and by unmet expectations. They neither expected that their University, a National Center of Teacher Education, to be cutting on costs by resorting to large classes in college, as they did not even experience it in high school. By contrast, being *excited* to experience large classes and getting to know students from other sections were the frequent positive reactions given. Listed below are the obtained responses with frequencies in brackets.

- *Surprised/shocked (132)*
- *Disappointed (70)*
- *Excited/just okay/happy (40)*
- *Did not like it/felt uncomfortable having too many students in the class (24)*
- *Worried as to how learning would take place (22)*
- *Unhappy/sad/felt bad (14)*
- *Annoyed/irritated (12)*
- *Confused as there was no pre-consultation (8)*
- *No reaction (8)*
- *Less motivated (1)*
- *Not applicable (23)*
- *No answer (14)*

On the rationale of the experimental implementation of the large-class program, about 7 out of 10 student-respondents (326 or 68.8%) revealed that they were not oriented about it, as opposed to 143 or 32.2% briefed, but five or 1.1% gave no answer. Those who affirmed it were asked this question: *If yes, what can you say about it?* Obtained was a vast array of responses categorized into: attitude toward the rationale; comprehension of the content of orientation; and opinion about the rationale. Under attitude, the students gave mostly negative answers, with *"I'm against it"* topping the list, as seen below (frequencies in brackets).

- *I'm against it.* (6)
- *I was shocked*. (3)
- *Happy to help my University.* (3)
- *It is irritating*. (2)
- *It is disappointing*. (2)
- *I'm excited about it*. (1)

Twenty-five statements were classified under comprehension, 19 of which expressed students' understanding that the large-class program was implemented due to lack of funds, insufficiency of teachers, and paucity of classrooms. Other sample responses were (frequencies in brackets):

- *It is part of the University research agenda for effective learning. (5)*
- *Orientation talked about the purpose/reasons for merged classes. (2)*

Under opinion, first in the list is a category of responses favorable to the program's rationale; however, if the negative responses were combined, it seems that the rationale was unacceptable to the students, as inferred from the data below.

- *Reasonable/okay (18)*
- *Not a reason for us to experience large class. Other solutions to the problem could have been thought of. (13)*
- *Irrational/bad idea. (12)*
- *It will not be effective. (10)*

- *Cuts costs, but learning will be compromised (8)*
- *We can't do anything except follow. (6)*

Those disoriented about the program's rationale were asked this question (note: multiple-response item): *If no, what then was in your mind as far as the reasons behind large class implementation is concerned?* Sample responses gathered follow:

- *Cost-cutting/lack of budget (128)*
- *Lack of teachers (75)*
- *Lack of classrooms/facilities (45)*
- *To conserve time of professors in teaching/energy (16)*
- *For research purposes (12)*

As a final question to the section on knowledge in the instrument, the students were asked about their ideas of a large class after experiencing being in one. Their ideas of a large class before and after experience were quite similar. In both, the most common views expressed/stressed learning being sacrificed, difficulties of teachers, and class size, as reported below (frequency in bracket):

- *Learning was sacrificed/large class not conducive to learning. (122)*
- *Difficult for teachers in managing class and attending to the needs of all students (64)*
- *Combining two or more sections of either the same or different majorships handled by one professor (47)*
- *Fun as you get to have new friends, to socialize, to gain new experience (37)*
- *Composed of many students, at least 50, crowding in a small classroom (33)*
- *Noisy (32)*
- *Not good/ineffective (28)*
- *A result of budget cut (20)*
- *Difficult to be in a large class (19)*
- *Will not work without appropriate support structures (15)*
- *Disorganized (14)*
- *Competition between sections (11)*
- *Boring (8)*

- *My idea of a large class is still the same before and after experiencing it. (7)*
- *Less assessment (6)*
- *Cost and time-efficient (5)*
- *Challenging (5)*
- *Learning things on your own (4)*

Attitude toward large class

Though the student sample generally had a neutral attitude toward large class, as evidenced by the overall mean score of 3.23, interpreted as n*either agree nor disagree* (Table 3), they agreed that *the nature of the course must be considered when planning which courses will be offered in large classes,* thereby disagreeing to the item *"large classes are better offered in higher levels*." Also, the students believed that *they did not learn much* in their large classes as *quality of learning was sacrificed* and *depth of thinking not cultivated.* Thus, their *academic experience overall was unsatisfying,* a finding similar to that of Carbone and Greenberg (1998) where students were overall generally dissatisfied about their learning experiences in large classes. They also considered *the large-class program as not an answer to the vast increase in the number of students.*

Table 3. Attitudinal means per item about large class

	Statements	Mean	Interpretation
1.	Despite the large class size, I still liked attending it.	3.34	Neither agree nor disagree
2.	In my large classes, I felt that my depth of thinking inside the classroom was not cultivated enough.	3.76	Agree
3.	I believe that the large-class-scheme is the answer to the vast increase in the number of students.	2.23	Disagree
4.	I feel that I did not learn much in my large classes.	3.66	Agree
5.	I believe quality of learning of the class was sacrificed due to the large class size.	4.23	Agree
6.	I believe that the nature of the courses must be considered when planning courses to be offered in large classes.	4.36	Agree
7.	I believe that deep understanding of the course was still promoted despite the large class setup.	3.05	Neither agree nor disagree
8.	I was bored in my large classes.	3.49	Neither agree nor disagree

Table 3. Attitudinal means per item about large class (continued)

	Statements	Mean	Interpretation
9.	It is better to offer large classes in higher levels (e.g. 3rd or 4th year).	2.24	Disagree
10.	I think that a large class would still allow for the teachers to employ varied teaching methods and techniques.	3.12	Neither agree nor disagree
11.	I believe that effective interaction (student-to-student; teacher-to-students) is still possible in large classes.	2.82	Neither agree nor disagree
12.	Overall, the academic experience I had in large classes was satisfying.	2.54	Disagree
OVERALL		**3.23**	**Neither agree nor disagree**

Legend:		
	4.60- 5.00	Strongly agree
	3.60- 4.50	Agree
	2.60- 3.50	Neither agree nor disagree
	1.60- 2.50	Disagree
	1.00-1.50	Strongly disagree

Learning experiences in a large class

An alternative-response table on learning experiences in large-sized classes was provided in the questionnaire for students to fill up. Results (Table 4) show that most of the students experienced: classrooms not conducive to learning, class discipline not managed effectively (both with 84.8%), and not receiving timely feedback on their performance (81.6%), though there was support/advice given to individual students (80.4%). Also, maintaining student interest during delivery of classes and motivating students to learn were not evident in their large classes as attested by 373 or 78.7% student-respondents. Noteworthy also is that 338 or 71.3% of the student sample indicated the lack of opportunities for effective interaction between teacher and students in their large classes as the lecture-based approach was dominantly used (72.6%). A big majority (63.3%) even reported that skills stipulated in the course objectives were not developed among them.

Table 4. Frequencies and percent distribution of student-respondents according to learning experiences

Statements IN MY LARGE CLASS….	Yes		No		Missing Data	
	f	%	f	%	f	%
1. There were opportunities for effective student-to-student interaction.	271	57.2	193	40.7	10	2.1
2. There were opportunities for effective interaction between teacher and students.	127	26.8	338	71.3	9	1.9
3. Different teaching methods and techniques were employed.	224	47.3	242	51.1	8	1.7
4. Students were provided with opportunities and tasks involving higher level thinking skills.	215	45.4	250	52.7	9	1.9
5. The classroom was made conducive to learning.	63	13.3	402	84.8	9	1.9
6. Varied learning activities were provided.	242	51.1	223	47.0	9	1.9
7. Class discipline was managed effectively.	63	13.3	402	84.8	9	1.9
8. Students were given timely feedback on their performance in class.	76	16.0	387	81.6	11	2.3
9. Student interest, especially during delivery of classes, was maintained.	91	19.2	373	78.7	10	2.1
10. The lecture-based approach was dominantly used.	344	72.6	118	24.9	12	2.5
11. Students were assessed frequently through tests rather than homework, tasks, or group projects.	230	48.5	236	49.8	8	1.7
12. Individual students were given support/advice.	83	17.5	381	80.4	10	2.1
13. Students were motivated to learn.	92	19.4	373	78.7	9	1.9
14. Skills stipulated in the course objectives were developed among the students.	162	34.2	300	63.3	12	2.5

When the alternative-response table on learning experiences was supported by an open-ended question (note: multiple-response), the study obtained predominantly negative (Table 5) responses. Though some students perceived their learning experience in large classes satisfying, their number was lesser than those who said otherwise. Poor facilities, noisy environment, boredom, and low motivation contributed to student difficulty in learning. In a positive

light, however, the students described their learning experience as fun as they were able to mingle and befriend students from other sections. Equally, they learned from the group work. These findings, indeed, echo the results obtained from the alternative-response statements.

Table 5. Learning experiences

Positive Responses	Neutral Responses	Negative Responses
Fine/satisfying (48)	Learning experiences neither good nor bad/sometimes fun; other times not depending on the teacher (7)	Poor/not good/unsatisfying learning experience (94)
It was fun to have many classmate-friends. (42)	Different from those experienced in small/regular classes (2)	Learning was hard due to learning environment factors, e.g., excessive noise, overcrowded room, insufficient ventilation (59)
Because of the groupings, I was able to interact and learn (15)		I did not learn much/no learning took place at all (56)
Challenging (5)		It was hard to learn in large classes (54)
I became responsible for my own learning (4)		Boring/no motivation (31)
I learned a lot (3)		Learning was difficult due to teacher behavior, e.g., spoke in very low tone, poor class management (21)
		There is competition among the merged sections (10)
		Lecture-based/no activities/no interaction (9)
		Less individual assessment and feedback (8)
		Because the merged sections had different schedules, accomplishment of group work was hard (3)

Challenges/Difficulties met and coping strategies

When asked if it was difficult learning in large-class settings, most of the student-respondents (387 or 81.6%) confirmed so. Most notable cited difficulties pertained to poor state of the facilities or the

lack of it and to noise. Such finding reinforced that noise levels were one of the major factors impacting student learning in large-class setting (Leufer, 2007; Cooper & Robinson, Wulff, Nyquist and Abbott, in Messineo et al., 2007). Teacher behaviors were also perceived to be a difficulty, particularly that of teachers inability to attend to the individual needs of the many students and to manage the class poorly. Detailed below are the cited difficulties with frequencies in brackets.

- **Learning Environment (395)**
- *Poor/Lack of facilities, e.g., small crowded classrooms, insufficient number of chairs, not-functioning air conditioners and electric fans, absence of audio system making it hard to hear the teacher (187)*
- *Excessive noise (132)*
- *No/low levels of student-teacher interaction (20)*
- *Conflict in schedules of the merged sections for group work (10)*
- *Boring (13)*
- *No chance to recite as there were many students (7)*
- *No motivation to study (6)*
- *Lack of time to finish activities (5)*
- *Less/no activities (4)*
- *Visuals difficult to see (4)*
- *Passive learning as lecture-based approach was used (3)*
- *Hard to understand the lesson clearly due to the noise (2)*
- *No time for assessment (1)*
- *Difficulties in responsibilities and tasks assigned (1)*

- **Teacher behaviors (79)**
- *Cannot attend to the individual needs of all the students (34)*
- *Poor class management/discipline (24)*
- *Learning not monitored (6)*
- *Teacher favoring the other section (6)*
- *Lessons not discussed well (4)*
- *Timely feedback not given (2)*
- *Insufficient class discussion and handout (1)*
- *Teacher attitude (2)*

- **Personal Characteristics (15)**
- *Fearful of speaking in front of a large group (15)*

- **Social Atmosphere (21)**

- *Uncooperative students from the other sections (10)*
- *Unhealthy competition between/among merged sections (9)*
- *Very competent classmates (1)*
- *Presence of Bullies (1)*

To cope with the difficulties, self-study, focus, attentive listening to lectures, and cooperating with classmates were the common learning strategies adopted by 57 respondents. The 330 respondents who had difficulty did not indicate any strategy whatsoever.

Table 6. Coping strategies of the students

Strategies	f
Self-studying	17
Keeping my focus/interest/motivating myself to learn	14
Attentive listening to the lectures	13
Cooperating/collaborating with classmates	10
Having guides with me, e.g., handouts, books	2
Having study buddies	1
Total	**57**

Position on/Recommendations for the proposed regular implementation of the large-class program

Almost all (93.9%) of the students were not in favor of the regular implementation of the large-class program in the University. Commonly, among the solicited recommendations (n=123) included providing conducive classrooms (55), assigning of quality teachers to large classes (15), and selecting subjects for merged classes (15). Other suggestions were:

- *Do not merge sections of different majorships/combine sections with compatible schedules (8)*
- *Limit number of students/only two sections should be merged (7)*
- *Don't implement it anymore (7)*
- *Train teachers to give balanced attention to the sections (7)*
- *Implement better strategies (7)*

- *Increase class time schedule (1)*
- *Provide more learning tasks (1)*
- *Provide better IMs (1)*
- *Hire additional teachers (1)*

CONCLUSIONS AND RECOMMENDATIONS

By and large, the findings of this study parallel what available literature on large classes says. Thus, the University and other TEIs may probably input the following guidelines for policy-making on large classes:

- In a time of decreasing government subsidy and cost-effective alternatives (such as institutionalizing large classes must be implemented), the trade-off between class size and quality of teaching and learning need to be very carefully considered. The study may not have been about providing evidences on the direct effect of class size to teacher and student performance, but it has definitely brought out into the fore teaching and learning difficulties encountered by the respondents and their (students, particularly) perception on the negative impact of large classroom to learning. Then the need to put in place necessary support structures before implementing large class policy is imperative. Ideally, the support system should focus on both the capacity building of teachers (training teachers how to teach in large classes) and systemic matters such as inadequate facilities.

- Large class was perceived to work in general education/content courses, but not in method/pedagogy classes. Thus, policies on large class should clearly stipulate the subjects carefully selected for such setup.

- As large classroom seems to be an inevitable reality gripping tertiary institutions now and in the future, the University can propose and implement a pre- and in-service teacher training program that includes proper management of veritable large classroom instruction.

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FACTORS AFFECTING PERFORMANCE OF STUDENTS IN A CHEMISTRY COURSE

Rizalina E. Andamo
Our Lady of Fatima University

Vic Marie Camacho and Virgil Duad
Philippine Normal University

ABSTRACT

Admittedly, identifying the factors affecting academic performance that enhance retention rates and contribute to academic success, demands positive and timely intervention in the classroom. Also it ensures that the students are better prepared to face the challenges of a dynamic, growing, and ever-expanding workplace. In this study, five factors were identified to determine their effects on academic performance of first year nursing students of Our Lady of Fatima University. More pointedly, how they can predict academic success in studying a chemistry course. Results revealed that the vital factors affecting the students' academic performance were academic competence (AC), test competence (TC), and time management (TM). Test anxiety (TA) proved to be significant factor, while studying technique (ST) is insignificant; moreover, the study further revealed that time management (TM) best predicts students' academic performance.

Keywords*: academic performance, chemistry, nursing students*

INTRODUCTION

Poor performance and failure are major concerns to educators who are interested in the 'whys' and 'hows' of learning. Empirical data on the factors affecting this issue is expected to ultimately compel school administrators, faculty, and staff to seek alternative solutions or to prepare programs to remedy these problems. Our Lady of Fatima University (OLFU) is susceptible to such issues.

Nursing is one of the many health-based courses offered by the Our Lady of Fatima University (OLFU) known for its graduates' considerable performance in the government board examinations. In fact, over the past five to ten years, the school produced topnotchers in the nursing licensure examination and related fields as medicine, physical therapy, etc. As of the time of research, though, a big percentage of failure in different subjects among first year nursing students were observed including the introductory college chemistry courses.

Science subjects are fundamental part of all degree courses. One of which is Chemistry in nursing curriculum, although Chemistry courses vary greatly in content together with other sciences that seem to rest on top of the scientific hierarchy, chemistry has become most mathematical and abstract. Probably, this is one reason why it is apparent that most students taking up nursing dislike or show no interest in the course, resulting in poor performance or worse, failure.

In an attempt to explain the reason for the above-mentioned dislike and low interest in learning chemistry, this study was conceptualized to provide empirical basis. This study primarily focused on the five factors similar to Talib (2012) that are deemed relevant in academic success of first year nursing students that indirectly strengthens consciousness among students and educators on the realization of their significance.

Related studies

Local and foreign studies akin to the present research are noteworthy. Most of the factors affecting performance in academic achievement are focused on cognitive, behavioral, and environmental issues that surround the learner. For instance, Navarro (2003) noted that the first level in college is so crucial that it is usually characterized with doubt, fear, and confusion. Her study on the adjustment problems of 431 college freshman students from different college degree programs represents 25% of the total population of her institution using the Students' Needs Inventory of the University of the Philippines. Intervention program to help students make proper adjustment academically in their first year in college was recommended.

Sansgiry (2006) contends that academic competence has been shown to affect students' academic performance so that those with better academic competence would probably excel academically. Results in one of his studies on factors that affect academic performance on Pharmacy students revealed that test competence and academic competence were important factors associated with academic performance.

Javier (2001) studied high school students' IQ and analyzed its relation to academic performance. Results revealed that mental ability is not a good predictor of the academic achievement. In the same vein Randall (2006) reported that there was no correlation in the students' reading strategy and their approach to studying, but the latter was found to influence their academic success.

Through a quasi-experimental study, Zeegers (2001) examined the conditional and interaction effects of each of four dimensions of the epistemological beliefs of college students regarding the ability to learn, the speed of learning, the structure of knowledge, and the stability of knowledge on six measures of the motivational components of self-regulated learning strategies: (a) intrinsic goal orientations, (b) extrinsic goal orientation, (c) task value, (d) self-efficacy, (e) control of learning, and (f) test anxiety. Zeeger studied 36 nursing students and administered a 60-item customized examination. Results showed no significant difference between learning outcomes of nursing students when classroom instruction was utilized to deliver learning activity. There was a significant difference, though, when simulation or a combination of classroom simulation helped deliver learning activity.

To Pintrich (2001), teachers should have a good idea of the motivational beliefs that students bring into the classroom. It is important to be aware that students may have already formed favorable or unfavorable beliefs about a topic before they come into class. Knowledge about their motivational beliefs allows teachers to plan learning activities that make good use of students' favorable motivational beliefs and prompts them to reconsider unfavorable beliefs. Admittedly, though students are successful in hiding their thoughts and feelings that leads to misconceptions about their values, self-efficacy beliefs, and outcome expectations.

A study from the Chemistry Education and Practice (2006) yielded that self-efficacy and the value students place on science, as examined by correlational analysis, relate to Nursing students' academic performance. Such measures were all significantly related to overall academic performance in science, in general. For instance, students with high self-efficacy for science tasks and nursing academic areas achieve higher academic performance in their first year science courses. To be academically successful in a first year Bachelor of Nursing science course, students need strong self-efficacy, and value the relevance of science to their academic program.

For his part, Castigador (2000) noted that up until the 1980s, much of the college impact research indicated that the students' characteristics and family background were among the most important determinants of success in college. He assessed students' experiences in an institution of higher learning using the College Students Experiences Questionnaire (CSEQ), 1998 Edition and administered it to 200 Filipino and 20 foreign students of different colleges of his chosen institution. One of his significant findings revealed that college students generally have occasional experiences in curricular activities through culture and environment in the institution as a whole, while students' own perceptions, age, living conditions, and parents' educational attainment get great impact or effort on assessing their school experiences.

Comparably, Terso's (2004) study revealed that the environmental problems, problem related to teaching personnel, minimal school facilities and financial problem greatly contribute to the students' learning problems. These learning problems have a significant effect on their performance.

Grades can have strong influence on the students' self-image and relationship with other people. Even after graduation, academic grades can help them get good jobs or influence their desire to enroll in higher education. College students vary widely in many ways, but most are concerned about getting good grades and the pursuit of academic success. Considerable academic performance helps students "succeed"; poor academic performance, on the other hand, may threaten their subsequent success. Many student-related factors interact to determine students' actual academic performance, since it is not

based merely on students' capacities, but consider non-intellectual factors.

Figure 1 shows the conceptual framework of the study.

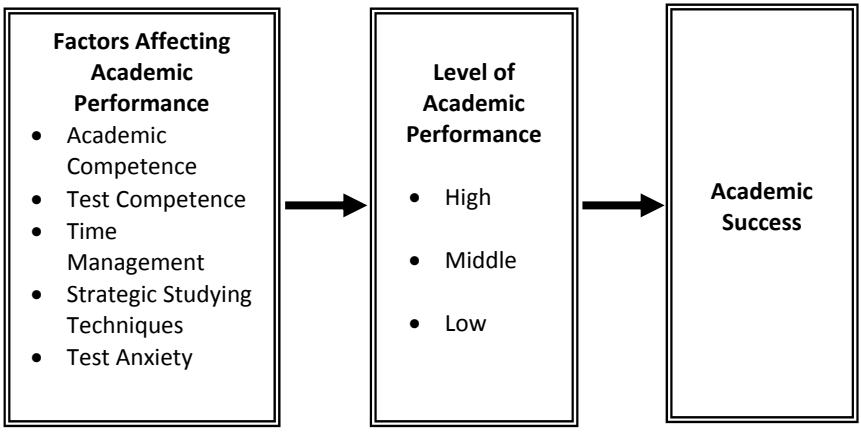

Figure 1. Conceptual framework

As shown above, the framework depicts clearly the predictors of good academic performance. While the first column spells out the variables that may affect academic performance—academic competence (AC), test competence (TC), time management (TM), studying techniques (ST) and test anxiety (TA), the second column relates the variables to the three levels of academic performance, the high, middle, and low that most likely and favorably impact on students' academic success.

Academic competence (AC) is dependent upon how well the student manages their course load described in their curriculum and is also indicative of the extent to which the curriculum is interesting for students to enjoy their classes. Test competence (TC) refers to the student's ability to deal with the amount of course material for examinations as well as on the difficulties associated with managing the study material. Time management (TM) is prioritizing which in turn is giving importance to more important matters by careful planning, scheduling and then following the plan as well as making conscious decisions actively in order to better manage the time available. Strategic studying techniques (SST) refer to knowledge and application of

effective study skills by student in different learning environments. Test anxiety (TA) is the reaction to stimuli that are associated with an individual's experience of testing or evaluating situations. Two principal components of test anxiety are cognition and emotion. Cognition refers to the mental activity thinking about consequences of failure, worrying a great deal about examinations, and showing lack of confidence in one's ability while emotion refers to the physiological component of test anxiety leading to tension, apprehension, and nervousness towards examinations.

Students' academic success gives an index of the quality of a school and its administrators. Their academic performance, equally serves as an index of teaching ability and success.

Focusing on the academic success of first year nursing students, the study hopefully may strengthen consciousness among students and educators in determining the factors affecting academic performance in the nursing curriculum.

METHODOLOGY

The study used the descriptive method involving a survey of a total of randomly selected 105 first year nursing students of Our Lady of Fatima University. Based on the students' first year college first semester's grade point averages (GPAs), 35 students with general average range 1 to 1.99 were picked and grouped as high ability (HA), 35 students with general average range 2 to 2.99 as middle ability (MA), and another 35 students with GPA range 3 and above as low ability (LA).

A questionnaire, developed and validated by Sansgiry (2006) was utilized, composing of five sets of questions, each set with five questions for each of the five independent variables. Readily, the respondents were informed of the significance of administering the questionnaire and that their response to each item would in no way affect their grades in the current semester. The obtained scores were tallied, one point being the highest and five point the lowest.

To evaluate the students' grade point average (GPA) and responses to questionnaire, percentage, mean, standard deviation, and coefficient of variation were utilized. Pearson product-moment coefficient of correlation, F-test using the ANOVA I procedure, Scheffe's

test, forward stepwise regression analysis were done, substantiated by statistical computations using the STATISTICA Versions 5.

RESULTS AND DISCUSSION

As cited earlier, the students' level of academic performance in terms of their GPA was grouped according to high ability students (GPA of 1.00 to 1.99), middle ability (GPA of 2.00 to 2.99) and low ability (GPA of 3.00 and above) groups (see Table 1).

Table 1. GPA of the students

Ability Group	Mean	Standard Deviation
High	1.69	0.22
Middle	2.37	0.13
Low	3.37	0.35
Overall	2.48	0.73

The middle ability group, the most homogeneous with a coefficient of variation 5.54%, and the high ability group, the most heterogeneous with a coefficient of variation 12.76%. The overall mean GPA was 2.48, their overall academic performance, therefore was average. They were also profiled in terms of the factors considered to affect their academic performance.

Academic Competence (AC). The academic competence of the high ability group was moderately positive with a mean of 1.60 and a standard deviation of 0.48, moderately positive of the middle ability with a mean of 1.99 and a standard deviation of 0.55, and another moderately positive of the low ability group with a mean of 1.95 and a standard deviation of 0.48. Since the three groups got the same remark, the overall academic competence of the students was also moderately positive, with an overall mean of 1.85 and a standard deviation of 0.53. However, the low ability group, with a coefficient of variation of 24.56% emerged the most homogeneous in terms of academic competence, while the high ability the most heterogeneous with a coefficient of variation of 30.70%. Table 2 shows the three groups of students' responses on the questionnaire on academic competence (AC).

Table 2. Students' responses on academic competence (AC)

Ability Group	Mean	Standard Deviation
High	1.60	0.48
Middle	1.99	0.55
Low	1.95	0.48
Overall	1.85	0.53

The standard deviation scores for high, middle, and low ability group of students on academic competence was lower than 1. This signifies that the scores of the three groups of students on academic competence were closely concentrated around the mean to imply that the majority of the respondents enrolled had positive academic competence in that they were able to understand and manage their course load.

Test Competence (TC). Table 3 shows how the groups of students' responded to the questionnaire on test competence (TC).

The high ability group had moderately positive test competence that got a mean of 2.35 and a standard deviation 0.58. Both the middle and low ability groups had positive test competence, with means of 2.78 and 2.77, and with standard deviations ranging from 0.46 to 0.62 respectively. The overall mean was 2.63, with a standard deviation of 0.59, making the overall test competence of the students positive. The middle group proved the most homogeneous, with a coefficient of variation 16.73% and the high ability group the most heterogeneous with a coefficient of variation 24.82%.

Table 3. Students' responses on test competence (TC)

Ability Group	Mean	Standard Deviation
High	2.35	0.58
Middle	2.78	0.46
Low	2.77	0.62
Overall	2.63	0.59

The high ability group had lower value of mean. Students of this group were more able to manage and handle materials for tests or examinations than the two other groups. However, the standard deviation scores for high, middle, and low ability group of students on test competence is lower than 1 to signify that the scores of the three groups of students on test competence were closely concentrated

around the mean. This implies that the majority of the respondents enrolled had positive test competence in that they could manage their test challenges. The GPA ceiling in the admission requirement of the university for nursing is acceptable as the students in this study were able to handle their test challenges well.

Time Management (TM). Table 4 shows the three groups of students' responses on the questionnaire on time management (TM).

Table 4. Students' responses on time management (TM)

Ability Group	Mean	Standard Deviation
High	2.38	0.74
Middle	2.93	0.61
Low	3.02	0.71
Overall	2.78	0.74

The high ability group had moderately positive time management with a mean of 2.38 and a standard deviation of 0.74. Time management of the middle and the low ability groups were both positive with means of 2.93 and 3.02, and standard deviations of 0.61 and 0.71 respectively. Equally, the overall time management of the students was positive with an overall mean of 2.78, and a standard deviation of 0.74. Among the three groups, the most intact was the middle ability group with a coefficient of variation 20.60%, while the high ability the least intact with a coefficient of variation 30.93%.

Interestingly, the results suggest that the high ability group of students managed time most efficiently with the highest score and the low ability group least efficiently. However, the standard deviation score which is less than 1 revealed that the scores were moderately concentrated around the mean.

Studying Techniques (ST). Table 5 shows the three groups of students' responses on the questionnaire on studying techniques (ST).

Table 5. Students' responses on studying techniques (ST)

Ability Group	Mean	Standard Deviation
High	2.10	0.71
Middle	2.35	0.44
Low	2.33	0.46
Overall	2.26	0.56

The studying techniques of the high ability group was moderately positive with a mean of 2.10 and a standard deviation of 0.71, moderately positive for the middle ability group with a mean of 2.35 and a standard deviation of 0.44, moderately positive as well for the low ability group with a mean 2.33 and a standard deviation of 0.46. Thus, with an overall mean of 2.26 and a standard deviation of 0.56, the majority of the students had moderately positive studying techniques. In terms of studying techniques the middle group was the most intact with a coefficient of variation of 18.86%, while the high ability the least intact with 33.63% coefficient of variation.

As expected, the high ability group got the highest score in ST which corroborates previous studies that these students have better studying techniques and strategies than the lower groups of students. Note that the standard deviation scores obtained by the high ability group of students digressed more from the mean, as compared with those of the middle and low ability groups of students. Admitting potential nursing students with high ability ensures continued high performance in class as well as in the licensure examination.

Test Anxiety (TA). Table 6 shows the three groups of students' responses on the questionnaire on test anxiety (TA).

Table 6. Students' responses on test anxiety (TA)

Ability Group	Mean	Standard Deviation
High	2.04	0.70
Middle	2.43	0.77
Low	2.45	0.81
Overall	2.30	0.78

As to test anxiety, the high ability group got a mean of 2.04, with a standard deviation of 0.70, the middle ability group a mean of 2.43, with a standard deviation of 0.77, and the low ability group a mean of 2.45, with a standard deviation of 0.81. All were interpreted as

moderately positive. Similar remarks of moderately positive imply that the majority of the students shared common feelings on test anxiety, though the middle ability group emerged the most homogeneous of the three ability groups with a coefficient of variation of 31.58%, and the high ability group the most heterogeneous with a coefficient of variation of 34.20%.

The high ability group got the highest score in test anxiety, a finding consistent with common perceptions that compared to lower ability groups, these high ability students were less anxious when taking tests or examinations.

In sum, the students had shown moderately positive academic competence (AC) with a mean of 1.85 and a standard deviation of 0.53, positive test competence (TC) with a mean of 2.63 and a standard deviation of 0.59, positive time management (TM) with a mean of 2.78 and a standard deviation of 0.74. The moderately positive studying techniques (ST) had a mean of 2.26 and a standard deviation of 0.56, and moderately positive remark on test anxiety (TA) obtained a mean of 2.30 and a standard deviation of 0.78. Students appeared most intact in terms of test competence (TC) with the lowest coefficient of variation of 22.35%, and least intact in terms of test anxiety (TA) with the highest coefficient of variation of 33.66%. (Refer to Table 7.)

Table 7. Summary of the students' grade point average (GPA), general Chemistry grade (GCG), and the factors affecting academic performance

Variable Valid	Mean	Standard Deviation
General Point Average	2. 48	0.73
General Chemistry Grade	3.02	1.35
Academic Competence	1.85	0.53
Test Competence	2.63	0.59
Time Management	2.78	0.74
Studying Techniques	2.26	0.56
Test Anxiety	2.30	0.78

The relationships among the Students' Academic Competence (AC), Test Competence (TC), Time Management (TM), Studying Techniques (ST) and Test Anxiety (TA) are tabulated in Table 8.

Table 8. Correlations between students' GPA and each of the independent variables AC, TC, TM, ST and TA

Pair of Variables	Pearson r	Probability(p)	Remark
GPA vs AC	0.32	0.0027	Low; Highly Significant
GPA vs TC	0.30	0.0021	Low; Highly Significant
GPA vs TM	0.40	0.0002	Moderate; Highly Significant
GPA vs ST	0.21	0.1065	Low; Not Significant
GPA vs TA	0.27	0.0420	Low; Significant

Except between ST and TA, the correlations among the independent variables used in this study ranged from low to marked substantial. Students with a positive remark in one variable tended to have a positive remark in the other variable, because tested at 0.05 level, a highly significant relationship exists between each of the paired variables, except between ST and TA where one does not affect the other.

The factors that affect the academic performance (GPA) of the Students revealed the following:

1. Except in the studying techniques (ST), differences in the four independent variables academic competence (AC), test competence (TC), time management (TM), and test anxiety (TA) emerged significant. Therefore, four of the five independent variables, had significant relationships with the GPA of the students. With ANOVA I procedure, 0.0027 was the obtained p for academic competence (AC), 0.0021 for test competence (TC), 0.0002 for time management (TM), 0.0420 for test anxiety (TA). In sum, the four independent variables are factors for GPA among the students.

2. Notably, only studying techniques (ST) did not correlate significantly with the academic performance (GPA), since the obtained p value was 0.1065. Independent variable studying techniques (ST), therefore, is *not* a factor for GPA among the students.

3. Scheffe's tests revealed significant differences in the AC, TC, TM and TA between the high ability (HA) and the middle ability (MA) groups, and between the high ability (HA) and the low ability (LA) groups. Differences in the AC, TC, TM and TA were not significant either between the middle ability (MA) and the low ability (LA) groups.

Summary of the correlations between students' academic performance (AP) and the independent variables AC, TC, TM, ST and TA

The four independent variables AC, TC, TM and TA had low to marked substantial correlations with the students' GPA.

Low correlation existed between GPA and AC with computed r value of 0.32, low correlation between GPA and TC with computed r value of 0.30, moderate correlation between GPA and TM with computed r value of 0.40 and another low correlation between GPA and TA with computed r value of 0.27. Tested at 0.05 level, significant relationships existed between the GPA of the students and the independent variables AC, TC, TM and TA, which means that the students' positive remark in any of the four independent variables results in a positive remark in their GPA.

All the five independent variables—academic competence (AC), test competence (TC), time management (TM), studying techniques (ST), and test anxiety (TA)—had positive potential influence or effect on the students' GPA, the measure of their academic performance. Using forward stepwise regression, time management (TM) came out to be the best predictor of academic performance. The regression model was identified with adjusted r^2 = 14.87%, which means that the variation in the academic performance of the students is explained by the independent variable time management (TM). The p value, 0.000029, was less than 0.01. Therefore, the model variable is significant.

As Navarro (2003) pointed out, the first year in college is crucial and characterized with doubt, fear and confusion. Because of the unstructured nature of college day, studying requires more initiative, self-discipline and effective time management strategies. Unfortunately

poor time management causes many first year college students to academically perform poorly.

All nursing programs demand energy and time from nursing students. Those without strong time management may have the tendency to fail and give up their ambition to become a nurse. After all, there is much pressure on students in any nursing school. Poor time management, a pitfall that affects many nursing students, results in poor performance among nursing students. Many issues on time management lead them to different career paths. Poor time management is. Being successful at a university level requires a more careful and effective use of time than the student has ever achieved before. The findings of this study, therefore, agree with those of Lakein (2001), in that effective time management, indeed, is a key to nursing students' academic success.

Implications to education

Admission Procedures. Incoming first year students' prerequisite requirements for aspiring nurses should include high school GPA and a thorough interview be done. University administrators should consider more strategic guidelines in creating heterogeneous or homogeneous classes/sections. In assigning students in their respective sections, first year students must be clustered on the basis of their GPA or score/performance in an entrance examination, so that they could be grouped accordingly. Teachers find it easier to manage their students and adjust to their common needs.

Guidance Counseling. Equally, guidance counselors must appraise study orientation of the first year students at the beginning of the school year and give a report to concerned teachers so that the necessary assistance is given to them at an earlier, propitious time. Intensive orientations on how to study efficiently and effectively should also be given to newly enrolled first year students. To this effect, the Guidance and Counseling Department must periodically give seminars and develop programs focusing on time management.

Curriculum Makers. Programs about the integration of lessons on how to study efficiently and effectively be given emphasis. Schools

with developed programs help students attain high academic performance.

Faculty. Instructors and professors be informed about the results of this study or similar studies through faculty seminars to realize how important their daily interaction with their students and the role they play in their academic success. A similar study be conducted to continually evaluate students' college academic performance using other relevant variables like motivation, satisfaction, self-rating and others.

CONCLUSIONS

The first year nursing students enrolled at the time of the study had an average level of academic performance, their profile in terms of academic competence (AC), studying techniques (ST) and test anxiety (TA) is moderately positive, and positive in terms of test competence (TC) and time management (TM). Except studying techniques (ST) and test anxiety (TA), all the independent variables treated in the study correlated with each other, ranging from low to marked substantial, and highly significant relationships.

Highly significant factors as well affect the students' academic performance, as shown the first year first semester's GPA on academic competence (AC), test competence (TC), and time management (TM), while test anxiety (TA) proved to be significant. Studying technique (ST) was not a significant factor in the academic performance of the students. The study revealed that time management (TM) is the best predictor of academic performance of students.

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A TRACER STUDY OF THE PNU GRADUATES OF THE BSMT AND BSE MATH PROGRAMS FROM 1985-2010

Gladys C. Nivera
Zharyh Mae Grace U. Toledo
Maria Fatima M. Sualibio
Zeddy P. Boral,
Queendy O. Asuncion
Philippine Normal University

ABSTRACT

The PNU graduates of the Bachelor of Secondary Education major in Mathematics (BSE Math) and Bachelor of Science in Mathematics for Teachers (BSMT) degrees from 1985 to 2010 were surveyed to determine their employment characteristics, the relevance of their training to their present tasks, and their retrospective evaluation of their academic programs. The findings revealed that the majority of the graduates were female, single, pursuing higher education, LET passers, and employed full-time in basic education private institutions. They found their training in PNU to be very relevant to their current work, especially the skills they developed in communication, human relations, and problem solving. They rated the content and methods of teaching they obtained, the libraries and classrooms, and the faculty and staff support and services as moderately adequate while the laboratories and availability of equipment as not quite adequate. They claimed to have personal fulfillment and job prestige in their current positions and they took pride in being graduates of PNU. For the program to be more responsive and globally competitive, the study recommended that the IT component of the curriculum be strengthened, the facilities and classrooms, especially the computer and science laboratories be improved, the resources and curriculum updated, the practicum and FS courses revisited, and more faculty with excellent and diverse qualifications hired.

Keywords: *tracer study, mathematics curriculum, teacher education*

INTRODUCTION

Any learning institution is only as good as its graduates. This truism impacts much more on the Philippine Normal University (PNU), being the National Center of Teacher Education (NCTE), the largest producer of teachers in the country and acknowledged as the leader in teacher education. It is, therefore, of primary importance for PNU to find out the eventual career pathways of its graduates through a tracer study.

A tracer study aims to assess, determine, identify, and trace what becomes of the students who undergo a certain program (Nicolas, 2010; Carreras and Durante, 2007; Sito, Alawas, Alvaro, Azupardo, Cawat, Parcasio, & Mina, 2007; Ursua & Monserate, 2007; Figueras, 2006; Simeon, 2005; Echaveria, Paclibar, Ohao, & Ambut, 2002). A graduate or an employer survey, give helpful information for evaluating a certain program of education in a specific institution (Scromburg, 2003). Its results can help assess the usefulness of the programs as well as the extent of their effectiveness, and eventually, determine their success or failure (Sito, Alawas, Alvaro, Azupardo, Cawat, Parcasio, & Mina, 2007). Consequently, the information obtained in a tracer study may be used for the development of curricular programs in the perspective of quality assurance (Schomburg, 2003).

This study sought to **review and evaluate** the BSMT and BSE Mathematics programs of PNU through a tracer study of its graduates from 1985–2010.

Specifically, the study was designed to:

1. establish the profile of PNU BSE Mathematics and BSMT graduates in terms of (a) location, (b) gender, (c) civil status, (d) performance in LET, (e) highest educational attainment, (f) source of educational support, and (f) employment characteristics;
2. determine the extent to which the BSE Mathematics and BSMT graduates used the following skills learned in school in their current work: (a) knowledge and technical skills; (b)

communication skills; (c) human relations skills; (d) leadership skills; (e) research skills; and (f) problem solving skills;

3. assess the degree of adequacy and applicability of the content and methods of teaching learned in PNU's BSE Mathematics and BSMT programs;
4. determine the graduates' level of satisfaction with their current position and professional success;
5. assess the graduates' level of satisfaction with the university's physical facilities and human resource services; and,
6. determine the graduates' perception of their academic experience in the university.

Figure 1 shows the conceptual framework of the study. Students get a variety of experiences in school as they prepare themselves to become productive citizens of the community after graduation. If PNU succeeds in developing the students' competencies and skills needed in the world of work, the students will be able to secure a good job and see the match between the competencies and skills developed by their undergraduate programs and those required in their jobs. Through this tracer study, PNU can get a systematic feedback from the students, which is particularly useful now that the world of work is rapidly changing. The outputs of the study include the demographic profile of the graduates, their employment characteristics and their retrospective assessment of their undergraduate programs. Such information could stimulate the curricular debate and prompt much-needed reforms.

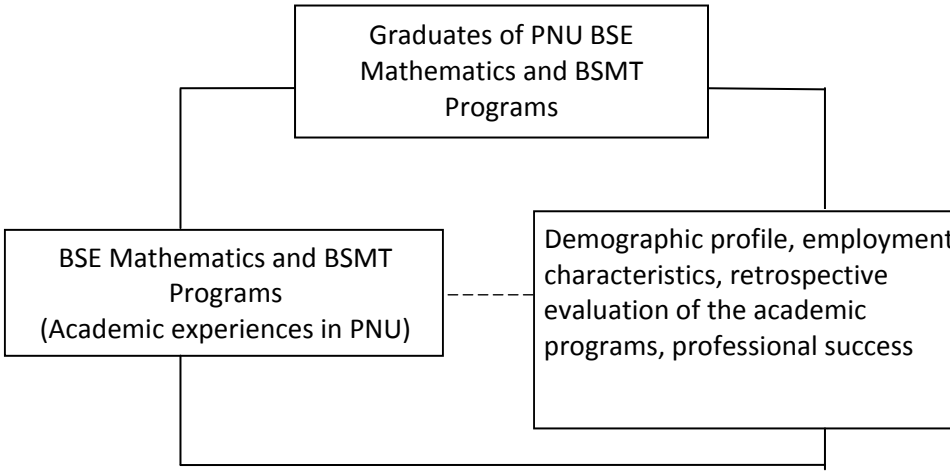

Figure 1. ***Conceptual framework of the study***

METHODOLOGY

Research design. The study used the descriptive survey design. It is, in part, a curriculum product evaluation that documents curriculum effectiveness, relevance and adequacy by determining how well the products (the graduates) have achieved the goals of their program.

Respondents. The study was designed to obtain data from the graduates of the BSE Mathematics and BSMT program from 1985 to 2010. Due to time and logistical constraints and the low response rate from respondents, systematic random sampling was not sustained. The study eventually had to employ snowball sampling to reach at least 100 respondents within the given time frame. Snowball sampling is a sampling technique where a respondent of the study leads the researchers to other possible respondents until a desired or adequate number of respondents is reached (Atkinson and Flint, 2001). Many of the respondents were traced through their Facebook accounts.

Instrument and data gathering procedure. To obtain quantitative and qualitative feedback from the graduates about their course-related skills and attitudes, employment, and retrospective evaluation of the programs, this study utilized a modified version of the questionnaire used in the tracer study conducted by Barrameda, Favila, Gines,

Liwanag, Mendiola, Peña, Reyes, Romero, Salmorin, Santos, and Tabbada (2005). Minor revisions to the original questionnaire were done to include only those items relevant to the present study. Hard copy and online versions of the questionnaire were prepared. The number of questions/items for each component of the questionnaire are as follows: biographical data, 11; employment characteristics, 11; retrospective evaluation of the program, 26; professional success, 8; and other information and suggestions, 6.

The revised questionnaire—both in hard copy and online version —was tried out to 10 alumni of PNU excluded from the study. The tryout revealed some ambiguities in the questionnaire's directions and questions. The respondents to the online tryout likewise suggested more buttons to a particular question. All suggestions and comments were considered in preparing the final version of the tracer questionnaire (see Appendix A). Approval to conduct the study was sought from PNU through the dean of the College of Science, head of the Mathematics Department, and coordinator of the COS Research Center.

Data analysis

Means and percentages were used to analyze the quantitative data. Qualitative data were coded and clustered thematically and presented in tables and graphs.

The rating scale below was used in interpreting results.

Range	Interpretation		
4.50 – 5. 00	To a great extent	Highly adequate	Highly adequate/applicable
3.50 – 4.49	To some extent	Moderately adequate	Moderately adequate/applicable
2.50 – 3.49	To a limited extent	Not quite adequate	Not quite adequate/applicable
1.50 – 1.59	To a very limited extent	Slightly adequate	Slightly adequate/applicable
1.49 – 1.00	Not at all	Not adequate at all	Not adequate/applicable at all

RESULTS AND DISCUSSION

The tracer study of graduates of the BSMT and BSE Math programs from 1985 to 2010 yielded 100 respondents only due to poor response rate and time constraints. Half of the respondents answered the questionnaire online while the rest responded using hard copies. Eighty-eight percent (88%) of the respondents completely answered the items in the questionnaire. The remaining 12% skipped one or more items in the questionnaire, particularly the questions on employment status, present annual income and some of the open-ended questions, which sought their recommendations/suggestions for the improvement of the programs.

Table 1 shows the personal data of the respondents, the majority of whom were single, female and living in Metro Manila. The data mimic the demographics of the student population in PNU. More than half of the respondents were within the 22-25 age range primarily because these young adults were more accessible through Facebook.

Table1. Demographic data of the respondents

Characteristics	Total (N=100)	%
Location		
Metro Manila	68	68
Provinces in the Philippines	28	28
USA	3	3
Italy	1	1
Age Range		
Less than 25	60	60
26 – 30	19	19
31 – 35	12	12
36 – 40	5	5
41 - 45	4	4
Gender		
Female	62	62
Male	38	38
Civil Status		
Single	84	84
Married	16	16

Table1. Demographic data of the respondents (continued)

Course		
BSMT	60	60
BSE Math	40	40
LET passers		
Yes	97	97
No answer	3	3

Expectedly, the majority of the respondents are BSMT graduates since PNU graduates about twice as many BSMT than BSE Math students every year. Almost all of the respondents (97%) reported to have passed the Licensure Examination for Teachers (LET). Again, this is consistent with the official LET results from PRC, which show high passing rates for the graduates of PNU Math programs. In fact, the BSMT and BSE Math programs consistently produce PNU's LET topnotchers, at least for the past five years.

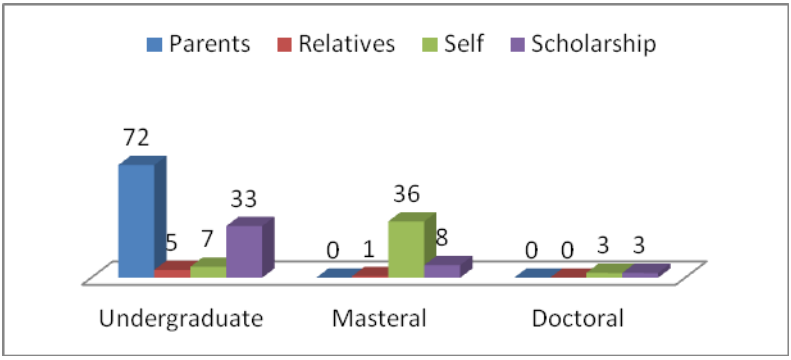

Figure 2. Respondents classified according to their source of educational support

Figure 2 shows that the undergraduate education of the majority of the respondents was supported by their parents. Most of the students pursuing a master's degree and half of those who have obtained or were currently pursuing a doctorate were supporting their own education. The data clearly shows that for their continuing education, graduates had to depend on scholarships or on their own efforts as parents no longer support their efforts to obtain a master's or doctorate.

Table 2. Employment characteristics of the respondents

Characteristics	N= 100	%
Status of Employment		
Permanent	51	51
Temporary	41	41
Self-employed	3	3
No answer	5	5
Position		
Middle Managers	8	8
Regular Employees	77	77
No answer	15	15
Able to use skills acquired from course to current work		
Yes	89	89
No	3	3
No answer	8	8

Table 2 shows the employment characteristics of the respondents, the majority of whom are permanently employed (51%). In terms of position at the workplace, most of them are regular employees (77%) and only 8% middle managers. This is not surprising considering that the majority of the respondents have less than 6 years of teaching experience. About 5% of the respondents did not reflect the status of their employment and it is likely that they are unemployed. Some 15% did not reflect their position at the workplace. One can surmise that this number includes the unemployed and the self-employed. The majority (89%) of the respondents claimed that the skills they acquired in their undergraduate programs were useful in their current work.

Figure 3 shows the respondents' present annual income.

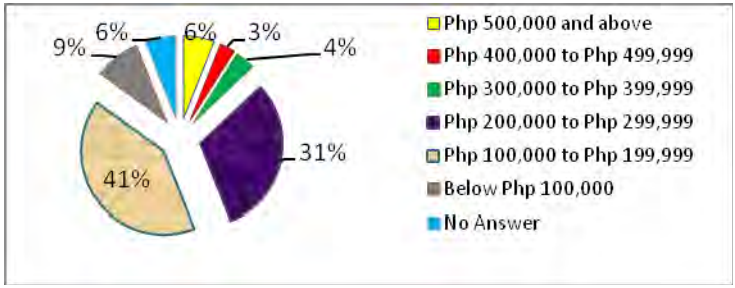

Figure 3. Present annual income of respondents

The majority of the respondents (81%) have an annual income of less than Php 300 000 while 13% earn more than that six percent (6%) of the respondents did not respond to the question. Again, it is likely that these are the unemployed.

In terms of the extent to which skills learned in school are used in their current work, Table 3 shows that communication, human relations, and problem solving skills are used by the respondents to a great extent, while knowledge/technical, research and leadership skills are used to some extent.

Table 3. Extent to which skills learned in school are used in current work

	(1) Not at all	(2) Very limited extent	(3) Limited extent	(4) To some extent	(5) To a great extent	Weighted Mean	Interpretation
Knowledge/ Technical Skills	0	2	10	24	59	4.47	To some extent
Communi-cation Skills	1	1	4	25	64	4.58	To a great extent
Human Relation Skills	1	0	6	17	71	4.65	To a great extent
Leadership Skills	0	3	9	28	54	4.41	To some extent
Research Skills	2	6	15	37	34	4.01	To some extent
Problem Solving Skills	0	4	6	17	68	4.57	To a great extent

One likely explanation for the lower ratings obtained by Leadership and Research skills compared to the other skills is the young demographics of the respondents. Most of them have been in the teaching profession for less than six years. One can expect that the demand on their research and leadership skills would increase as they stay longer in the profession and as they take on more leadership roles in their respective institutions.

Tables 4 and 5 show how the respondents rated the adequacy and applicability of the content taught to them in the general courses,

major courses and professional education courses. The content taught in all areas of the BSMT and BSE math programs were rated as moderately adequate for the requirements and demands of their work place.

Table 4. Adequacy of program content

Content	Adequacy					Weighted Mean	Interpretation
	1	2	3	4	5		
General Courses	1	3	17	37	37	4.12	Moderately Adequate
Major Courses	0	4	8	24	58	4.45	Moderately Adequate
Professional Education Courses	1	3	17	35	37	4.12	Moderately Adequate

The adequacy of the content in the major courses was rated quite highly compared with the content in the General and Professional Education courses. This finding suggests the need to review the General Education and Professional Education components of the BSMT and BSE Math programs.

Table 5 also shows that the content taught in all areas of the programs were rated as moderately applicable to the requirements and demands in the workplace of the respondents.

Table 5. Applicability of program content

Content	Applicability					Weighted Mean	Interpretation
	1	2	3	4	5		
General Courses	0	6	15	38	34	4.08	Moderately Applicable
Major Courses	0	5	5	30	52	4.40	Moderately Applicable
Professional Education Courses	2	3	14	35	38	4.13	Moderately Applicable

With respect to the adequacy and applicability of the teaching methods and strategies taught to the respondents during their four-

year stay in PNU. Table 6 shows that these were found to be moderately adequate and applicable to their current work. In fact, the respondents claimed that they learned enough strategies for them to be equipped in teaching Mathematics across different grade levels.

Table 6. Adequacy and applicability of the teaching methods taught in PNU

Method	Weighted Mean of Adequacy	Weighted Mean of Applicability	Interpretation
Pedagogy	4.16	4.23	Moderately Adequate and Applicable
Lecture	4.06	4.13	Moderately Adequate and Applicable
Oral Presentation	4.12	4.28	Moderately Adequate and Applicable
Project Work	3.88	4.04	Moderately Adequate and Applicable
Research Review and Critiquing	3.88	3.97	Moderately Adequate and Applicable
Small-group/Panel Discussion	3.88	3.96	Moderately Adequate and Applicable
Modular	3.60	3.71	Moderately Adequate and Applicable
Contract Assignment	3.54	3.72	Moderately Adequate and Applicable
Independent Study	3.87	3.92	Moderately Adequate and Applicable
Field Trips	3.53	3.51	Moderately Adequate and Applicable

It is noteworthy that among the teaching methods used in the Mathematics programs, the respondents rated field trips as least adequate and applicable. This finding justifies the current practice of discouraging the use of field trips in mathematics courses as these are not seen to be integral to the attainment of course objectives. Modular and contract assignment also received low ratings in terms of adequacy and applicability. This suggests that in mathematics classes, students still prefer constant face-to-face interaction with their teachers over individualized or blended learning approach such as those provided by the modular approach and contract assignment.

With respect to the adequacy of the University's facilities during the time the respondents were pursuing their undergraduate programs at PNU, they claimed that the library and classrooms were moderately adequate for their needs, while the laboratory and equipment were not quite adequate. The respondents called for the upgrading of the laboratory, equipment, library and classrooms to ensure that graduates of the program were provided with the latest innovations and development in their disciplines. Now that PNU is the National Center for Teacher Education, the demand on the University to provide excellent facilities and equipment to the students is even greater.

Table 7. Assessment of the physical facilities in PNU

Physical Facilities	Weighted Mean	Interpretation
Library	3.89	Moderately Adequate
Laboratory	3.13	Not Quite Adequate
Equipment	3.34	Not Quite Adequate
Classroom	3.69	Moderately Adequate

Table 8 shows the perceptions of the respondents about the administrators, faculty and support staff during the time they were pursuing their undergraduate programs. They claimed that the manner by which the administrators, faculty and support staff addressed their needs was moderately adequate. Of the three, the respondents rated the services and expertise of the faculty most highly.

Table 8. Assessment of the human resource services in PNU

Human Resource Services	Adequacy					Weighted Mean	Interpretation
	1	2	3	4	5		
Administrator	2	3	29	46	15	3.73	Moderately Adequate
Faculty	2	2	12	46	33	4.12	Moderately Adequate
Support Staff	1	8	23	46	17	3.74	Moderately Adequate

With respect to the respondents' level of satisfaction in their respective work, Table 9 shows that they are satisfied with their current employment, in particular, in terms of their position and personal fulfillment on the job, and opportunities to attend training. They are least satisfied with the awards, recognitions and fringe benefits given in their schools.

Table 9. Satisfaction with current profession

	1	2	3	4	5	Weighted Mean	Interpretation
Position	1	4	16	41	33	4.06	To some extent
Salary	1	7	19	48	20	3.83	To some extent
Fringe Benefits	1	6	30	35	23	3.77	To some extent
Job Security	2	5	22	31	34	3.96	To some extent
Awards and recognition	2	6	31	38	18	3.67	To some extent
Opportunity for training	1	6	16	39	32	4.01	To some extent
Personal fulfillment	2	3	17	36	37	4.08	To some extent
Job prestige	3	2	18	34	37	4.06	To some extent

Figure 4 shows that most of the respondents (80%) find their current position appropriate to their degree, which suggests that they are not underemployed.

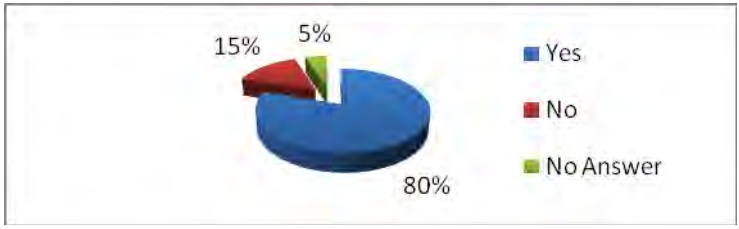

Figure 4. Appropriateness of current position to level of education

Figure 5 shows the reasons of 15% of the respondents who claimed that their current positions are not appropriate to their degrees.

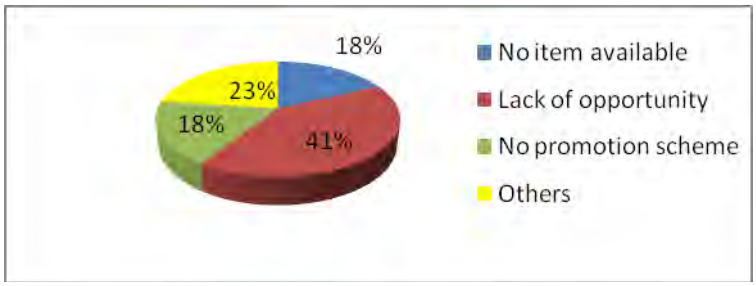

Figure 5. Reasons that current position is not appropriate to level of education

The other reasons given by four respondents who claimed that their current professions were not appropriate to their levels of education were as follows: (a) unemployed as family took priority; (b) teaching in elementary or college instead of high school; and (c) not in the teaching profession.

Figure 6 shows that the majority (81%) of the graduates were satisfied or very much satisfied with their professional career at present. 12% were quite satisfied while 7% did not respond to the question.

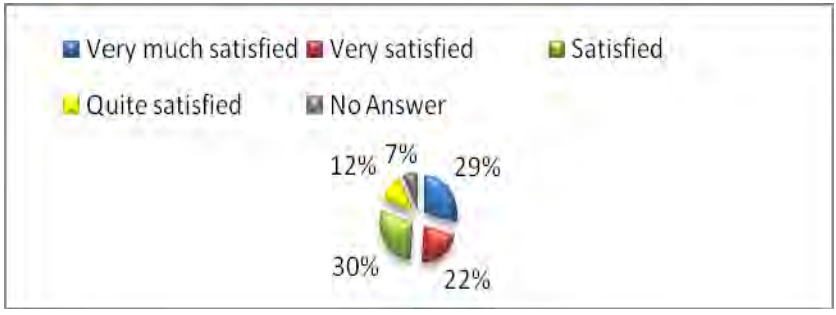

Figure 6. Satisfaction level with professional career

When asked how they felt about being an alumna/alumnus of PNU, almost all of them (95%) responded that they felt great, proud, privileged, blessed, confident, and honored to be graduates of the top teaching institution in the Philippines. They believed that being an alumni of PNU gave them an edge over the other applicants when they were applying for a job. Some respondents claimed that it carried with it a certain responsibility of continuing PNU's tradition of excellence.

As to whether they would convince their colleagues, friends, or relatives to take undergraduate studies at PNU, all respondents said YES, provided that the prospective student has a heart for teaching. PNU's title as the National Center for Teacher Education had made its alumni prouder of their **alma mater** and more eager to promote it among high school students. They were convinced that PNU provides the best teacher training in the country.

To further improve and strengthen the BSMT and BSE Math programs, the respondents proposed the following: (1) revisit the FS program and increase the number of hours of practicum to better prepare the pre-service teachers for the real world of teaching; (2) increase the number of technical/computer course or units in all majors and provide more computers; (3) include project based learning and more content-specific pedagogies for BSMT; (4) make online journals and other references/learning resources available; (5) update programs based on current global trends in curriculum to make them more dynamic, and (6) include leadership programs for students.

Some respondents (8%) suggested that more mathematics subjects should be included in the BSMT and BSE Math programs and opportunities to develop the students' leadership and teaching skills should be provided.

On the question on how the undergraduate program can be improved to address the needs in the professional market, some respondents proposed the use of technology in teaching mathematics since the world is rapidly changing. To wit:

"Since we are approaching the computer age and fast-paced technology innovations, it is really imperative that the graduates of PNU will be fully equipped with this knowledge and experience."

"More computer classes/laboratories in order for the PNUans to collaborate/incorporate the technology with traditional teaching."

"More technological facilities like free borrowing of graphics calculator since not everyone can afford it."

Some respondents (5%) also proposed the continuous hiring of faculty in mathematics with highly competitive and diverse qualifications.

Finally, the respondents were very thankful and felt very blessed to have obtained their degree in PNU. They believed that the PNU BSE Math and BSMT program adequately prepared them for their teaching career in mathematics.

CONCLUSIONS AND IMPLICATIONS

The results of the tracer study, specifically the demographic data of the respondents, is an evidence showing graduates of a program most accessible for tracer study—rendering a special sample that gave valued information related to the quality of program offered them in the pre-service teacher education. The special sample is composed of those located nearest to the center of research, presently employed, relatively young in their profession, and those either supporting their own continuing education or enjoying scholarship programs. These are, therefore, viewed to be characteristics of graduates who are willing and eager to inform their **alma mater** how well placed they are in the respective workplace through a tracer study.

The implication of having a special sample, however valuable the inputs are, is that there is the other equally significant information left out representing the other graduates of a different set of demographic characteristics. There is a need to trace the other groups of graduates and add to the information initially yielded by the present tracer.

As regards the undergraduate training offered, the competencies developed for BSMT and BSE Math through the major courses, professional education and general education courses as well as skills in communication, human relations, and problem solving, knowledge/technical, leadership and research proved to be very useful for the graduates and applicable in their current work. This finding advances the relevance and quality of the BSMT and BSE Math programs.

While the physical facilities and equipment of PNU were found to be wanting in many respects, the human resources support provided were adequate.

The BSMT and BSE Math programs succeeded in preparing the graduates adequately for the world of work and in instilling in them love for their profession and their **alma mater**. The majority of the respondents were satisfied with their position, salary, fringe benefits, job security, personal fulfillment and job prestige in their current profession. They were proud and honored to be graduates of PNU.

The tracer study yields initial evidences indicating the strength of the programs and may be strengthened further by making the program adapt to current global trends in education and technology, by providing better facilities, resources and equipment, and by hiring additional faculty in mathematics with highly competitive and diverse qualifications.

RECOMMENDATIONS

In the light of the findings of the study, the following recommendations are offered for consideration:

1. Expand the tracer study to include the groups of BSMT and BSE math graduates with a different set of demographic characteristics and add the information to the results yielded by the present tracer.
2. Improve physical facilities in PNU such as classrooms, laboratories and libraries, and provide necessary computers, teaching devices, books and other resources to both the faculty and students.
3. Sustain emphasis on communication, human relations, and problem solving skills, which are used in the workplace to a great extent, in the various courses under the BSMT and BSE Math programs.
4. Review and improve the BSMT and BSE Math programs, in particular, the the FS and Practicum courses, and promote more

ICT integration so that the programs will be responsive to the demands of the modern world.

5. Provide more scholarship grants to students in both the undergraduate and graduate levels.

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INITIAL STEPS IN THE DEVELOPMENT AND VALIDATION OF AN INSTRUMENT TO MEASURE FILM LITERACY

Enrico "Omael Khalil Sharif B. Garcia
Rene R. Belecina
Philippine Normal University

ABSTRACT

In an initial attempt to measure film literacy among collegiate Social Science students, an instrument was developed, based on the indicators of film literacy: apperception, appreciation and aptitude levels. This was later content and face validated by a noted film scholar and curriculum expert. To establish the reliability coefficient and divergent validation, the Likert Scale was administered among college students specializing in the Social Sciences. The study recommends further use and validation of the instrument, follow up observations and interviews to counter check the students' response. The construction of another instrument to measure film literacy in the natural sciences and the humanities could be an off-shoot of this study.

Keywords: *film literacy, film apperception, appreciation and aptitude levels*

INTRODUCTION

With the advent of the third millennium, the world has witnessed the emergence of more comprehensive types of literacies such as film literacy, visual literacy, 'new' literacies, scientific literacy, numeracy, literate environments, political literacy, etc. (Black, et al., 2004). According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), these emerging "literacies" are off-shoots of the traditional notion of literacy as mere ability to read and write. The international organization has redefined literacy as more encompassing and competency-laden "***ability to identify, understand, interpret, create, communicate, compute, and use printed and written***

materials associated with varying contexts. Literacy involves a continuum of learning in enabling learners to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society (Black et al., 2004). Such new definition of literacy bears the impact of education, not just for empowering the person but also in transforming the social milieu.

Global educators are claiming the effectiveness of films as strategy in teaching concepts, honing skills and imbibing values among learners. The cinema invented in the late 1800s has become more personal in use when viewed inside the classrooms or in the privacy of homes. No wonder that the cinema has become the most popular art form since the 20th century. When viewing films in social studies, humanities class, or science subject, the learner is expected to "read" visual texts and "construct" meanings as signs of film literacy. The interest and curiosity of the researchers were triggered after attending a national conference "Cinema for Education Program." The conference director challenged the researchers to pursue their interest in creating an instrument to gauge film awareness and its indicators. But how does one measure film literacy/awareness? What are the indicators of a film/cinema literate learners? These questions need answers, hence, this study.

Conceptual framework

The present research is anchored on the conceptual framework that a film literate college student manifests indicators /levels of film literacy: Apperception level, Appreciation level and Aptitude level (see figure 1 below).

The researchers through survey and review of literature created a scale that measures film literacy which may be determined by three indicators. **Apperception level** in general refers to the cognitive competencies as developed by learners through introspection and perception in terms of previous filmic experience. **Appreciation level** touches on the affective domain competencies enhanced by the use of films, while **Aptitude level** explores the psychomotor domain or acquired ability as a result of filmic exposures of students. A Likert Scale of 1-4 accompanies each.

Deocampo (2008) in his book, **SINEGabay: A Film Study Guide**, simply defined literacy as the art of acquiring knowledge and values through the use of movies. He further added that a film that serves this purpose promotes literacy be it a feature film, documentary, animation, short film, digital video, television program, or interactive media.

In more academic sense, a website defined **film literacy** as a convergence of the interdisciplinary practices of literacy and media studies which both concentrate on analyzing significance in all manner of text: visual and written. It guides the students toward a more open notion of literacy discourse and practice. Critical media pedagogy begins with the assumption that visual images, songs, advertisements, and films are inherently ideological and political. The media enacts, as John Berger frames it (in Black et al., 2004), "ways of seeing" that can effectively produce and determine the meanings and outcomes of discourse itself and which, therefore, shape our cultural contexts. **Film literacy** is also being used interchangeably with **'visual literacy'** which means the ability to 'read' visual texts (in specific, film) as a social construction**.**

Not too many researches on measuring film literacy had been conducted in the past although the use of films as a strategy in teaching has been a practice for decades.

Cuevas (1995) in her masteral thesis sought to determine whether the use of films as aids in teaching enhances students' higher levels of cognitive learning and their attitude toward the subject in comparison with the use of conventional method of teaching. The study revealed that there is no significant relationship between the cognitive level of learning and the use of films as aid in teaching, while the improvement of students' attitude toward the subject when film teaching was used is insignificant. In a related research, Borra (2004) sought to determine whether Fyre's and Barthes' literary framework can be used to teach the analysis of the film narrative in the context of liberal education. The main question was formulated as: "How can literary framework be used to teach Film Appreciation in the context of liberal education?" His study revealed that the two chosen literary approaches are not compatible with one another in analyzing literary texts, due to their radically different conceptions of myth. However, both Frye's and Barthes' approaches may have shared areas of

consensus with one another in analyzing the film narrative. This oddity can be explained by the nature of the film form, which is both aesthetic and commercial. Despite this affinity in analyzing the film narrative, Frye's literary framework may be applied to liberal education. His conception of myth and the hero's power of action are consistent with the philosophical and curricular goals of liberal education, after all.

Decoding the role image of Filipino women in films as social and gender constructs is the main objective of Cabatuando's (2004) and Agbayani's (2001) masteral theses. Both studies revealed a positive image of Filipinas as having professions and being assertive individuals. But still, negative images of women in films are evident—being pessimistic human beings as brought about by the absence of romantic love, being hopeless romantics and emotional beings, and not being portrayed as leaders.

In a more recent study by Casela (2013), she attempted to determine the processing strategies used by learners with films (nonlinear digital narratives), as input to developing a visual literacy model for the 21st century learners. The study revealed that learners processed the narrative elements of nonlinear digital narrative: dialogue, setting, plot, character, theme, virtual reality relating to do salient points of science fiction and utopic fantasy stories. It contended viewing involves recognizing and processing the visual codes, as well as audio codes. Moreover, nonlinear digital narratives activate and generate learners' critical viewing, processing and responding to the complex narrative structure, visual and audio codes; thus, nonlinear digital narratives must be treated like narrative texts in print that activate schema and enhance higher order thinking and processing skills. Casela's study further developed a Visual Literacy Model (3DVis Lit) which involves concurrent viewing, processing and responding.

The foregoing conceptual literature and researches relate to the present investigation dealing with film literacy as primary variable. Cuevas's (1995) study focused on the use of films as a strategy in teaching, while studies of Borra (2004), Cabatuando (2004), and Agbayani (2001) underscored the importance of film analyses in developing students' film awareness.

Statement of purpose

Primarily, the study sought to develop and validate an instrument to measure the level of film literacy/awareness of Social Science students at PNU during the academic year 2011-2012.

Specifically, it aimed to accomplish the following:

1. Identify the indicators of film literacy.
2. Develop items based on the identified indicators of film literacy.
3. Establish the validity of the instrument through
    3.1 Face and content validity, and
    3.2 Construct validity using divergent validation.
4. Determine the reliability of the instrument by computing the internal consistency of items per subtests.
5. Utilize the instrument to measure level of film literacy among Social Science students.

This investigation is deemed relevant because it is one of the few initial attempts in developing and validating an instrument that measures the film literacy of Social Science students.

Equally important is the fact that this research reaffirms the value of cinema/film as a strategy in teaching concepts, honing skills, and imbibing values among learners. The film, in a way, is one of the most powerful forms of art and medium in effecting change and bringing about social transformation.

This investigation might be of interest to the **Film Literacy Advocacy Group (FLAG)** and its members led by the movie director and film scholar, Nick Deocampo. The FLAG was established in 2011 as an initiative to raise the consciousness of students about the impact of films in educating for self-renewal and societal transformation.

Other educators and researchers may want to venture into a parallel study in other course/fields such as pure sciences, humanities and the arts.

This study involved 38 students in the Social Science majorship during the first semester of the academic year 2011-2012 at the

Philippine Normal University. It aimed to identify the indicators of film literacy that lead to the development and validation of an instrument.

While other authorities might classify other levels of filmic competencies, the present research covered three levels of film literacy as developed by the investigators—Apperception, Appreciation and Aptitude levels.

METHODOLOGY

Research design

The study made use of descriptive and quantitative method of research. The descriptive method helped establish and discuss the indicators of film literacy. The quantitative method, on the other hand, measured and classified the respondent's film literacy level.

Participants of the study

Thirty-eight Social Science students enrolled during the first semester of academic year 2011-2012 comprised the research population. Some 13 male and 25 female college students served as respondents, their age ranging from 18-23 years old with 32 years as the extreme age. The instrument was administered to the research population to establish validity and estimate the reliability of the instrument (see Appendix A for the list of participants).

Procedures

To establish the indicators, the researchers reviewed the literature and conducted a survey among faculty members, graduate students, and undergraduate students in March 2011. Items were developed based on the three sets of indicators in a form of a Likert Scale. Two professors did the face and content validation of the instrument. For more refinement and additional validation, the scale was administered to the students excluded from the study's population. Garcia's (1997) Environmental Awareness Scale (EAS) was used to establish the validity of the instrument using divergent validation. Internal consistency was employed to estimate the reliability of the instrument during the first semester AY 2011-2012, with the final

research report and manual of administration written and completed from October 2011 to May 2012.

Statistical treatment

To estimate the reliability of the scale, the Cronbach Alpha Reliability Coefficient was used, and the Pearson Product Moment-Correlation to establish the construct validity of the instrument. The frequency, mean, and standard deviation were computed to determine the level of film literacy of the students. The interpretation of the mean scores of the students on the Film Literacy Scale was based on the table below:

Table 1. Table of interpretation of the mean scores on the film literacy scale

	Level I	Level II	Level III
3.50-4.00	Fully aware	Fully appreciated	High ability
2.50-3.49	Fairly aware	Fairly appreciated	Moderate ability
1.50-2.49	Slightly aware	Slightly appreciated	Slight ability
0.50-1.49	Not aware/unaware	Not appreciated	No ability / unable

RESULTS AND DISCUSSION

Determining the indicators of film literacy

This phase of the research—one of its most crucial parts—actually helped determine the indicators of film literacy. Toward this end, the researchers reviewed related literature and studies and surveyed faculty members, graduate students and undergraduate students. Discussed below are the indicators and competencies which emerged from the study.

Film apperception level

In this cognitive level of apperception, the students are introspective, and self-conscious, as they undergo a process of understanding something perceived in terms of previous filmic experiences. Specifically, the students can: deconstruct the film with symbolisms, identify whether the film is factual or fictional, absorb much from filmic experiences, relate the film to personal experiences in

real life/ world, point out some techniques used in the movie (e.g. montage, flashbacks and other considerations of technical aspect). They can write in-depth analysis about the film, manifest keen observation and evaluation, use standards when viewing a film, read beyond the dialogues or scripts. Equally, they can relate the film with other disciplines in the Social Sciences, differentiate a meaningful film from an irrelevant one, enumerate basic concepts about films, summarize and synthesize the movie, analyze the film using philosophical and theoretical viewpoints, categorize various film genres, distinguish different personalities, artists, directors and producers involved in the film making process. More so, they can identify the important elements of the film, manifest inclinations or interests in show business, compare and contrast local and foreign films, be aware of classical films and award-winning masterpieces, pick-up non-verbal communications in the film, research the background and theme of the film that is about to be screened, possess some scheme on the different types of film endings and decide on the appropriateness of the endings in films. Finally, they have attained language mastery of the film, cite notable examples of each film genre, comprehend and decode meanings of audiovisual texts, be a film buff, show awareness on the original sources like novels and plays when translated to films, just as they can mark the discrepancies between historical facts and cinematic representations, and use a scheme or framework when viewing a film.

Film appreciation level

In this affective level, the students see the movies as a 'file-changing' filmic experience because of their ability to evaluate the worth, to greatly admire, to recognize with gratitude or to judge with heightened perception or understanding. The students also have an eye for a good movie that can teach values in life. They can appreciate the artistry in the film, analyze and create their own judgment using different approaches, show enthusiasm when it comes to decoding the hidden meanings in a film and consider films as source of social information and not just source of entertainment. The viewees are also expected to look into the implication of the film in our society, appreciate short films, alternative, experimental, documentary and independent films, articulate the importance of the film to the society, and value the liberating effect of films in the real world. They need to be free from biases and not be 'star-conscious' when watching films.

Films may be used for stress management and film reviews are not taken as 'gospel truth'. The film literate in the appreciation level further possesses qualities of discernment, tolerance and appreciation for the artistry in films no matter how vague, ordinary, or exotic films can be. Passionate about movies, s/he looks forward to filmic experience as not just incidental, but planned and scheduled. Moreover, s/he internalizes the values worth imbibing from films like: love of country, respect for gender orientations and human dignity, appreciation for diversity, and respect for human rights, and above all develops pride in the artistry of the Filipinos as film creators.

Film aptitude level

In this level, the students have the capacity to learn and acquire abilities from filmic experiences, what Deocampo (2008) aptly described as being able "to use media for personal or social development rather than to be merely used or manipulated by media." Under this level the students manifest creativeness and may even perhaps produce their own shots of films like short films from personal camera, quote memorable lines/dialogues from films and use them in appropriate situations. They can relay the film to other people and convince them to watch such film. Moreover, the students can suggest/recommend that the film be improved, possess background knowledge in the film production process, use film or documentaries in reporting, teaching or other academic purposes, and use practical lessons from films to real life situations. The film literate student with good aptitude level has the ability to craft one with vital elements, participate in cause-oriented advocacies for the film and utilize high technology/equipment in making films. S/he shows desire in creating a collection of personal/short films with different genre for future use, shows interests in joining interest clubs/organizations concerned with film archiving and preservation, film literacy, and popularizing the use of films, and often attends lectures, seminars, special screenings/gala, symposium and conferences on film education and literacy.

Developing items of instrument based on indicators of film literacy

An instrument was constructed and developed based on the previously identified indicators of film literacy. Part I of the scale is about the **Film Apperception Level** attuned to the students' cognitive

knowledge on elements, different genres, philosophical or theoretical schema, relating films on actual life situations. Part II deals with the **Film Appreciation Level** which refers to the affective knowledge of respondents on movies particularly on moral values and themes found in the stories. This level also entails recognizing non-mainstream kinds of films, considering their educative and liberating effects, using films in managing stress and conflict, developing tolerance for *avant garde* films, planning ahead for film screening and not purely incidental filmic experience, internalizing values like love of country and respecting human rights and dignity as imbibed by films, and showing pride for Filipinos who won accolades here and abroad for their film artistry. Part III is on **Film Aptitude Level** that focuses on the respondents' acquired abilities as a result of their media or filmic experiences. Such skills relate to manipulating cameras and other technologies, using films as references and other academic requirements, applying practical lesson from films to real life situations, collecting films of different genres for future use, joining film advocacy clubs and organizations, and attending forum or lectures on film education and literacy.

Each film literacy level consists of 10 items in the form of statements with responses framed in a Likert Scale format.

Each item was constructed to measure the level of film literacy of Social Science students. Because of the absence of right or wrong answers in the survey, it stressed literacy or non-literacy on specific film knowledge, values, and skills (see Table 3, 4, and 5 for complete instrument/scale).

Summary of the levels of film literacy and the corresponding indicators

Film Apperception Level	Film Appreciation Level	Film Aptitude Level
• students are introspective, and self-conscious • process of understanding something perceived in terms of previous filmic experiences • student can specifically :deconstruct the film with symbolisms • identifies whether the film is factual or fictional, absorbs much from filmic experiences • relates the film to his /her experiences in real life/world • identifies some techniques used in the movie, like montage, flashbacks and other considerations of technical aspect • writes in-depth analysis about the film, manifests keen observation and evaluation • uses standards when viewing a film, has the ability to read beyond the dialogues or scripts, relates the film with other disciplines in the Social Sciences • differentiates a meaningful film from	• student sees the movies as a 'file-changing' filmic experience • has the ability to evaluate the worth, to greatly admire • recognizes with gratitude or judges with heightened perception or understanding, has an eye for a good movie that can teach values in life • appreciates the artistry in the film, • analyzes and creates his/her own judgment using different approaches • shows enthusiasm when it comes to decoding the hidden meanings in a film • considers films as source of social information, not just source of entertainment, looks into the implication of the film in our society • appreciates short films, alternative, experimental, documentary and independent films • articulates the importance of the film to the society, values the liberating effect of films in the real	• student has the capacity to learn and acquire abilities from filmic experiences • manifests creativeness and may even perhaps produce his/her own shots of films like short films from his/her camera, quotes memorable lines/dialogues from films and use them in appropriate situations • relays the film to other people and convinces them to watch the said film, suggests/ recommends that the film be improved • has schema in the film production process • uses film or documentaries in reporting, teaching or other academic purposes • uses practical lessons from films to real life situations • has the ability to craft one using important elements, participates in cause-oriented advocacies for the film • unafraid in using high technology/ equipment in making

an irrelevant one, knows basic concepts about films • has the ability to summarize and synthesize the movie, analyzes the film using philosophical and theoretical viewpoints • categorizes various film genres, knows different personalities, artists, directors and producers who are involved in film making process, identifies the important elements of the film, has inclinations or interests in show business • compares and contrasts local and foreign films, has awareness of classical films and award-winning masterpieces • pick-ups non-verbal communications in the film, researches the background and theme of the film that's about to be screened • has a background on the different types of film endings / decides on the appropriateness of the endings in films, has the language mastery of the film	world, free from biases and is not 'star-conscious' when watching films, uses film for stress management, doesn't take film reviews as 'gospel truth' rather views the film for himself • possesses qualities of discernment, tolerance and appreciation for the artistry in films no matter how vague, ordinary, or exotic films can be • shows passion about movies, looks forward to filmic experience as not just incidental but planned and scheduled • internalizes the values that can be imbibed from films like: love of country, respect for gender orientations and human dignity, appreciation for diversity, and respect for human rights, and • develops pride in the artistry of the Filipinos as film creators	films • shows desire in creating a collection of personal/short films with different genre for future utilization • shows interests in joining interest clubs/organizations concerned with film archiving and preservation, film literacy, popularizing the use of films, and • attends lectures, seminars, special screenings/gala, symposium and conferences on film education and literacy

• cites notable examples of each film genre • has ability to comprehend and decode meanings of audiovisual texts, is a film buff • has awareness on the original sources like novels and plays when they are translated to films • marks discrepancies between historical facts and cinematic representations, and • uses a scheme or framework when viewing a film		

Establishing the validity of the instrument

Face and content validity

The initial version of the instrument was content and face validated by two professors—one University of the Philippines Professor and Fulbright Film Scholar and another expert on Curriculum from PNU. Both validators commended the researcher for the initiative in coming up with a research on film literacy evaluation. The PNU Professor-validator commented that the items matched the competencies and the items in the scale more or less covered what need to be measured by the instrument. For his part, the UP Professor suggested that the researcher refrain from using "**value-laden words,"** adjectives e.g **not worth-watching**, changing the word "see" to "try to look for," and separating the word "artistic" from "commercial" films to imply entertainment value. He also suggested that "avant-garde" be defined as non-mainstream films. Most of the items in the instrument were retained and some revised. Not a single item in the scale was judged consistently as "unsuitable" or "needs to be discarded."

The **Film Literacy Scale (FLS)** was initially tried out among twenty (20) randomly selected PNU college students uninvolved in the subjects of the study to determine the language suitability of the items and to find out whether the directions of the instrument are clear and easily understood. Within 10 minutes the average length of time to finish the test, the students were instructed to raise their hands if the statements or words proved difficult to understand. Some words that they encircled in the instrument considered high-sounding or difficult to grasp such as **'flawed," "integrative," "discrepancies," "avant-garde," "accolades," "in-depth-review,"** and **"enthusiast."** The researchers decided to replace or qualify these with simpler words.

Construct validity using divergent validation

The researchers correlated the test scores in the final tryout of the Film Literacy Scale with the test scores in Garcia's (1997) Environmental Awareness Scale (EAS). The results showed no evidence of correlation (**r = 0.272, p-value = 0.099)** . This indicates an evidence of divergent validity. More pointedly, it shows that the students' film awareness has nothing to do with their environmental awareness.

Estimating the reliability of the instrument

To estimate the reliability of the instrument, the Cronbach Alpha Coefficient was computed per subtest. Table 2 shows the reliability coefficient for each subtest as well as the reliability of the whole instrument.

Table 2. Reliability coefficient of the film literacy scale

Topic	No. of Items	Cronbach's Alpha	Verbal interpretation
1. Film Apperception Level (Subtest I)	10	0.80	high reliability
2. Film Appreciation Level (Subtest II)	10	0.80	high reliability
3. Film Aptitude Level (Subtest III)	10	0.78	high reliability
Overall	**30**	**0.88**	**high reliability**

The table reveals that each subtest yielded an alpha coefficient higher than 0.40 to mean that each subtest has high reliability. Notably also, the instrument as a whole has high reliability with a coefficient of

0.88, making all the items in the FLS acceptable and internally consistent.

Measuring the level of film literacy of social science majors

Tables 3, 4, and 6 in the succeeding discussions show the frequency of responses, mean, standard deviation and overall rating obtained for each item in the subtests/levels 1, 2, and 3 respectively.

Film apperception level

Table 3 shows the knowledge of Social Science students in Level I or **Film Apperception Level.** The results revealed that the participants were rated as **Fairly aware** in nine (9) items: # 2, 3, 4, 5, 6, 7, 8, 9, 10 while rated as **Fully aware** in # 1. Interestingly, the students are **fully aware** of the codes, symbols, meanings, and audiovisual texts that need to be read and decoded, perhaps due to the nature of film as an art form that conveys meanings. The obtained mean was **3.03** which signified that the students seemed to be **Fairly aware** of the indicators of film awareness in Level I.

Table 3. Responses to subtest I/Level I film apperception level (N=38)

Competencies / Indicators	Mean	SD	Verbal Interpretation
1. Films are rich with codes, symbolisms, meanings, and audiovisual texts that need to be read and decoded.	3.63	0.54	Fully aware
2. I am particular with the elements like: cinematography, editing, shot, sound, music, direction, acting, script whenever I watch a film.	3.05	0.70	Fairly aware
3. I can relate (my) film experiences to real life / real world situations.	3.42	0.68	Fairly aware
4. Some classical and award winning films are well crafted, while some mediocre films flawed or have defects.	3.15	0.72	Fairly aware
5. I try to look for the integrative or holistic and interdisciplinary nature of the social sciences like politics, economics when I watch a movie.	3.21	0.62	Fairly aware
6. I try to analyze, compare, summarize, synthesize or even write an in-depth or comprehensive review of films I see.	2.82	0.77	Fairly aware

Table 3. Responses to subtest I/Level I film apperception level (N=38) (continued)

7. The films in a way, need to be viewed using philosophical, theoretical schema or framework/spectrum or perspectives.	2.76	0.88	Fairly aware
8. I can categorize films according to different genres and cite notable examples.	2.71	0.84	Fairly aware
9. As a film enthusiast or advocate, I can name personalities, artists, directors, producers et.al. involved in the film making process.	2.65	0.91	Fairly aware
10. When I view films, I observe that there are discrepancies or big differences when translated from original material like novels, plays and musical into films.	2.89	0.95	Fairly aware
Total	**3.03**	**0.46**	**Fairly aware**

Film appreciation level

Table 4 below shows that in items 1 and 9 the population's rating was interpreted as **"fully appreciated."** The moral values, themes, lessons in the films, and imbibed values are acknowledged. The subjects also seemed to appreciate fully the Filipino filmmakers and movies that won awards, citations and accolades here and abroad. While the students' responses in items 2, 3, 4, 5, 6, 7, 8, and 10 are interpreted as **"fairly appreciated"** with the resulting mean of **3.25**. This is perhaps due to their previous filmic experiences. Effective films in the long run, are the ones that evoke feelings of happiness, hope, loneliness, fun, etc. The students seemed to be **moved** by wonderful life-changing movies. In literature and social studies subjects, lessons or themes are always underscored and students are trained to look for such elements in a film.

Table 4. Responses to subtest II/Level II film appreciation level (N=38)

Competencies / Indicators	Mean	SD	Verbal Interpretation
1. Movies or films are filled with moral values, themes, lessons, and concepts meaningful in life.	3.63	0.49	Fully appreciated
2. I am very interested in viewing, analyzing and evaluating the artistic, commercial, and entertainment values of films.	3.18	0.77	Fairly appreciated
3. I like watching unorthodox or non-mainstream kind of films like short films, indie film, alternative films, experimental, documentaries, etc.	2.95	0.90	Fairly appreciated
4. I value the educative, enlightening and liberating effects of films.	3.28	0.69	Fairly appreciated

Table 4. Responses to subtest II/Level II film appreciation level (N=38) (continued)

5. I value films for all their worth, and not being dependent on popular actors, directors and critics reviews.	3.23	0.75	Fairly appreciated
6. Films have soothing relaxing effects on me and on my well-being, especially when I'm filled with stress and problems.	3.37	0.67	Fairly appreciated
7. I develop openness and tolerance for exotic, radical, life-changing, avant-garde / highly advanced, artistic films.	3.16	0.75	Fairly appreciated
8. I plan ahead, not purely incidental, my schedule of viewing the films I'm interested in.	2.74	0.98	Fairly appreciated
9. Films help me internalize such values as: love of country, tolerance for gender differences/diversity, and respect for human rights and human dignity.	3.55	0.64	Fully appreciated
10. I am proud of films created by Filipinos who won accolades, citations, awards for their films here and abroad.	3.44	0.72	Fairly appreciated
Total	**3.25**	**0.44**	**Fairly appreciated**

Film aptitude level

Response to Subtest III or Level III presented the **Film Aptitude Level** of the respondents as shown in Table 5. The students were rated as **"moderate"** in items 2, 3, 4, 5 and 6, and rated as **"slight"** in items 1, 7, 8, 9 and 10. They are **"moderate"** in terms of creating their short films, quoting memorable lines, recommending films to others, enhancing academic duties by using films, and applying practical lessons from films to real life situations.

Table 5. Responses to subtest III/Level III film aptitude level (N=38)

Competencies / Indicators	Mean	SD	Verbal Interpretation
1. I can shoot or create short films with my handy camera or cellular phone.	2.32	0.84	Slight ability
2. I can quote memorable lines or dialogues or script from famous films.	3.00	0.77	Moderate ability
3. I recommend films to other people and can greatly influence them to watch such films.	3.42	0.64	Moderate ability
4. My teaching and reporting duties are greatly enhanced by the short films and documentaries that I watch and use.	2.92	0.91	Moderate ability
5. I use films as references in academic papers and other course requirements.	2.89	0.79	Moderate ability

Table 5. Responses to subtest III/Level III film aptitude level (N=38) (continued)

6. I apply the practical lessons from films to real life situations	3.03	0.85	Moderate ability
7. I can operate simple and high-tech gadgets or facilities in making short films and documentaries without supervision.	2.21	1.02	Slight ability
8. It is my habit to collect films of different genres for future endeavors or use.	2.37	1.03	Slight ability
9. I join interest clubs, organizations, fan page for net site with advocacy on film archiving and preservation, film screenings, film literacy and popularizing use of films.	1.89	0.83	Slight ability
10. I attend lectures, seminars, symposium, conferences, special film screenings on film education and literacy.	2.16	0.89	Slight ability
Total	**2.62**	**0.50**	**Moderate ability**

The obtained weighted mean of **2.62** shows that the majority of the respondents seemed to **moderately** perform the indicators in Level III of film literacy. They also **moderately** utilize films as references in academic papers, operate simple and high-tech gadgets in making short films, collect films of different genres, join interest clubs and advocacy on film literacy, and attend lectures and seminars on film education. It is perhaps due to their socio-economic status and limited resources which prevent them from performing the aforesaid tasks.

Table 6 below summarizes the film literacy of the Social Science students in the three (3) levels of Film Literacy Scale by Garcia and Belecina (2012).

Table 6. Summary of ratings in the FLIS

Level	Rating	Verbal Interpretation
I. Apperception	3.03	Fairly Aware
II. Appreciation	3.25	Fairly Appreciated
III. Aptitude	2.62	Moderate Ability

Table 7 shows the comparison between the film literacy of male and female respondents.

Table 7. Comparison between film literacy of the respondents according to gender

	Gender	Mean	Standard Deviation	Mean Difference	df	t-value	p-value	Interpretation
Apperception	Female	3.04	0.44	0.04	36	0.25	0.80	Not significant
	Male	3.00	0.52					
Appreciation	Female	3.19	0.43	0.23	36	1.47	0.15	Not significant
	Male	3.43	0.45					
Aptitude	Female	2.60	0.48	0.08	36	0.43	0.67	Not significant
	Male	2.68	0.58					
Overall	Female	2.94	0.38	0.09	36	0.66	0.52	Not significant
	Male	3.04	0.38					

The table indicates that no significant differences were found between film literacy of male and female respondents.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The following findings were drawn from the study

1. The indicators or levels of film literacy—Level I – Film Apperception Level, Level II – Film Appreciation Level and Level III – Film Aptitude Level were identified as a result of review of existing literature and studies, and conducting a survey among faculty members, graduate and undergraduate students.

2. A 30 item instrument in a form of Likert Scale was created based on the identified indicators. Each level consisted of 10 items.

3. The construct validity of the instrument was established using divergent validation. After using Garcia's (1997) Environmental Awareness Scale, the computation resulted in an r of **.272** which established the evidence of divergent validity. The content and face validity were established after seeking help from UP and PNU professors who critiqued the instrument. To further strengthen the instrument's validity, an initial tryout among 20 randomly selected students, not part of the study, was conducted and assessed for language suitability.

4. The Cronbach's Alpha reliability coefficient of 0.775 (high reliability) in Level I, 0.796 (high reliability) in Level II, and 0.784 (high reliability) in Level III have established internal consistency

of the instrument. The overall reliability coefficient is 0.879 (high reliability).

5. After utilizing the instrument (FLS) to measure the level of Film Awareness of the Social Science students, the results revealed that the respondents are rated as: **Fairly Aware** (3.03) in Level I, **Fairly Appreciated** (3.25) in Level II, and have **moderate ability** (2.62) in Level III.

6. Notably, no significant differences emerged between film literacy of male and female respondents.

In light of these findings these **conclusions** were arrived at.

1. The indicators of the Film Literate college students were determined after a meticulous process of reviewing existing literature and studies, and of conducting a survey.

2. The 30 item instrument was based on the indicators/ competencies identified by the researchers.

3. The instrument is found **valid** after undergoing the processes of divergent/construct, content, and face validations.

4. The instrument (FLS) is found to be reliable based on Cronbach's Alpha Coefficient.

5. The population of the study seemed to be **fairly aware, fairly appreciative,** and have **moderate ability,** after utilizing the FLS.

These **recommendations** are being offered.

1. That the developed and validated Film Literacy Scale be administered not only at PNU but in other universities and colleges as well.

2. Another set of items relating to the different levels of FLS be developed, based on the Film Literacy Scale as a sample and a guide.

3. Other methodologies of construct validation be utilized in the succeeding research.

4. Another way of making follow-up to countercheck the students' responses in Subtest III/Level III be done in forms of observations, interviews, and tasking.

5. Other instruments to measure film literacy be constructed for other subjects/courses like Natural Science and the Humanities.

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COMMON RESPIRATORY PROBLEMS, HEALTH PROFILE, AND LEVEL OF AWARENESS AMONG PNU STUDENTS: BASIS FOR DESIGNING A PRIMARY PREVENTIVE HEALTH CARE PROGRAM

Ayuste, T.O. D., Belmi, R. M., Butron, B. R., Duad, V., Evangelista, E.V., Evangelista, L.T. Fernandez, E. V. M., Garcia, G. S., Lamorena, M. B., Limson, B. M., Tondo, J. E.
Philippine Normal University

ABSTRACT

This study focused on assessing the level of awareness and health profile of the PNUans as regards common respiratory diseases. With the basic objective of complementing the university's health services by proposing a primary preventive respiratory healthcare program (PPRHP), the faculty researchers from the Department of Biological Sciences conducted this study. From 318 respondents coming from the first year to fourth year level of the College of Arts and Social Sciences (CASS) and College of Science (COS) (second semester, SY 2011-2012), the data gathered were subjected to a descriptive normative method of research. The possible correlations of the respondents' demographic and health profile with their knowledge of the disease were also determined. Statistical treatments such as Product Moment correlation, regression analysis, percentage, ranking, and average weighted mean were employed. Findings revealed that PNUans are very aware of the common respiratory diseases. The health profile suggested a relatively good status with very minimal pulmonary tuberculosis cases. Furthermore, statistical analyses showed that the students' level of awareness and their demographic profile are negligibly correlated; however, the negligible correlations between awareness and the variables BMI and majorship are significant at p – levels of 0.067 and 0.031 respectively.

Keywords: *common respiratory problems, health profile, PPRHP (Primary Preventive Respiratory Healthcare Program)*

INTRODUCTION

Every breath provides the body with oxygen gas used by the cell for various metabolic processes. However, breathing may be impaired due to various problems related to heredity or environment affecting the respiratory system. Respiratory problems restrict activities and limit longevity so that lost lives have serious economic consequences for those in the productive age groups and families.

Today three in ten leading causes of death of Filipinos are diseases of the respiratory system. Tuberculosis (TB) is the sixth leading cause of illness and the sixth leading cause of death among Filipinos. Notably, most TB patients belong to the economically productive age-group range of 15-54 years old (Legarda, 2010).

The Department of Health (DOH) reports pneumonia, tuberculosis and Chronic Obstructive Pulmonary Disease (COPD) as the fifth, sixth and seventh leading causes of death in 2001-2005, respectively (DOH, 2011). Pneumonia also ranked first as the leading cause of child mortality in 2009 (DOH, 2013). These respiratory diseases are among the common health problems of the Philippines, attributed mainly to poor living conditions—effects of insufficient income that could hardly provide better housing, sanitation, and health services. The education of the young members of the household is usually sacrificed as the food is given the utmost priority. As a result, their health is continually compromised as they are deprived of proper sanitation, housing, and education that can improve their understanding on how to care for their well-being.

PNU was declared as the National Center for Teacher Education (NCTE) by virtue of Republic Act 9647 on June 30, 2008 (URL 1). Its main purpose is to develop empowered teachers and educators. Included in its mission is to produce teachers who have good health and physical fitness. Because of the quality education it provides, students from all over the Philippines far as it may seem, go out of their way to enroll at PNU Manila to get the best teacher training. Since they are not regular inhabitants of the city, they either rent a place around the University or temporarily stay with their relatives who live nearby.

Oxiño's studies on the profile of PNU freshmen applicants in 2010 revealed that the majority of them belong to families categorized below the poverty line. Similarly reported was that 91.9% of the PNU students would pursue a teaching career after graduation. Based on a direct interview conducted by the University Clinic from SY 2009-10 to SY 2011-2012, some 49 pulmonary tuberculosis cases from among the entrant have been recorded. It is alarming to note that these future teachers run the risk of developing infectious diseases since they may not have the correct rudimentary knowledge of infectious respiratory problems which can easily be contracted or transmitted. Improvement in health, increasing awareness on proper hygiene and pathogenesis can be means to alleviate the problem.

Conceptual and theoretical framework

Awareness, as defined in the Oxford dictionary, is the concern about and well informed interest in a particular situation or development. In this study, the researchers tried to assess the PNUans' level of awareness on respiratory health problems. Sigmund Freud (Schultz, 1990) originally divided the personality into three levels: the *conscious*, the *pre-conscious*, and the *unconscious*. The *conscious* includes all the sensations and experiences of which a person is aware at any given moment, no matter how limited in scope. He used the metaphor of the tip of an iceberg for this purpose. By contrast, the *unconscious* acts as the driving force behind behavior, a sort of repository of invisible or uncontrollable power. Between these two levels of consciousness lies the *preconscious* (or foreconscious) that serves as "the storehouse of all memories, perceptions thoughts, and the like of which we are not consciously aware at the moment, but that we can easily bring into consciousness." Much later, Freud revised this notion and introduced three basic structures in the anatomy of personality: the *id*, the *ego*, and the *superego*.

The study sought to determine the range of students awareness of their health status. It is not enough that they are intellectually capable of assimilating knowledge, but PNU would also like to see to it that they are healthy enough both to cope with and sustain the rigorous training that the University gives them. In doing so, the institution can be assured of producing employable healthy graduates who can deliver and impart knowledge adequately.

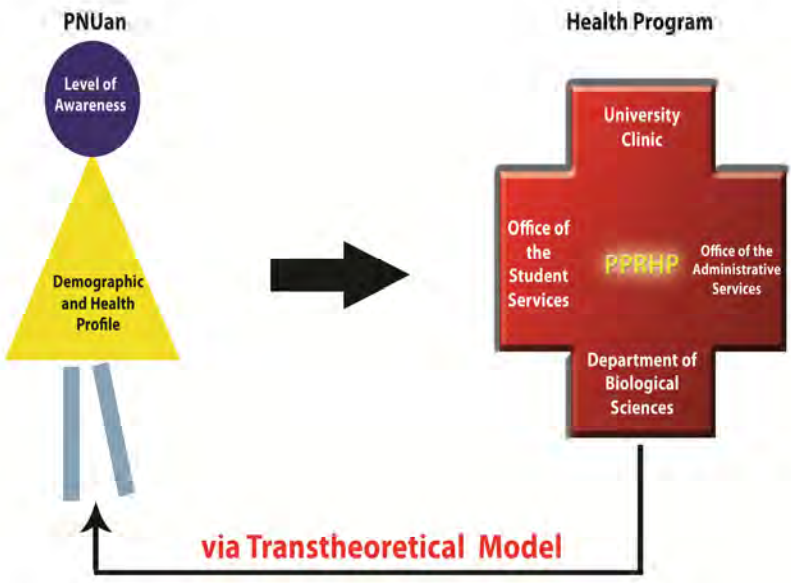

Figure 1. Conceptual model of the study

This study is also anchored on the precept that people are driven by their needs. Every person raises his/her awareness to the conscious level once a particular situation compels him/her to act. The Drive Reduction Theory states: "We all have needs which lead to internal stimuli prodding us into action, driving us to reduce those stimuli by satisfying the relevant needs" (Hull, 1943). By looking into the students' health and demographic profile, this study hoped to fully grasp the relevant situations the PNUans are into so as to make important correlations between their level of awareness and health profile. It is presumed then that the students' profile can serve as stimuli to help them acquire some knowledge about common respiratory health problems.

Analyzing the results of this study, the proponents designed a Primary Preventive Respiratory Healthcare Program (PPRHP) to improve and maintain a healthy status among PNUans. Basing its program upon the Transtheoretical Model, the proposed program specifically aims to effect a change in behavior among the students from showing apathy about their health to having a complete sense of well-being and consequently sustain it. They will also be informed through various university-wide activities as to the benefits derived from involving

themselves actively. According to Prochaska & DiClemente (1983); Prochaska, DiClemente, & Norcross (1992); Prochaska & Elicer (1997) as cited in Elicer, et al., (1998), the Stages of Change Model (Transtheoretical Model) is an integrative model of behavior change which has been a basis for developing effective interventions to promote health behavior change. This study hopes to eliminate the barriers that hinder their right attitude toward health; moreover, it holds that behavior changes occur in six stages:

1. *Pre-contemplation* – no intention to change behavior; not aware of risk.
2. *Contemplation* – the person recognizes behavior but puts him at risk and is thinking about changing it, but not committed to behavioral change.
3. *Preparation* – the person intends to change the behavior sometime soon and is actively preparing.
4. *Action* – the person has changed risky behavior recently (within the past six months).
5. *Maintenance* – the person has maintained behavior change for a period longer than six months.
6. *Termination* – the individual is presumed to have no intention to relapse and possess a complete sense of self-efficacy on the ability to maintain healthy behavior.

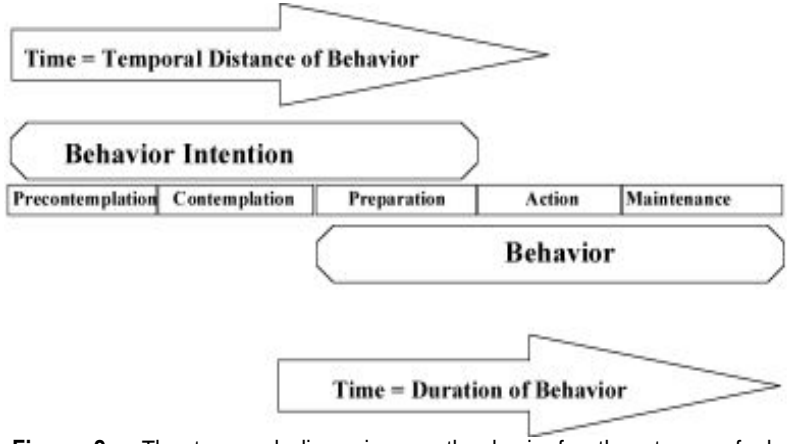

Figure 2. The temporal dimension as the basis for the stages of change (Theoretical model of the health program by Elicer, Prochaska, Fava, Norman, & Redding, 1998)

Statement of the problem

It has been established that one of the major problems in health being faced by Filipinos involves the respiratory system, making it imperative to improve their health status. A study on the students' level of awareness of the common respiratory problems in aid of creating a preventive respiratory health program was conducted by the faculty researchers of the Department of Biological Sciences. The research focused mainly on the common respiratory problems and level of awareness in respiratory health and diseases of PNU students. Findings of the study served as bases for developing a Primary Preventive Respiratory Health Program (PPRHP) to improve the students' perspective on respiratory health and diseases.

Specifically, it sought to answers the following questions:

1. What is the profile of the respondents in terms of the following demographic variables, namely:

   1.1 Sex
   1.2 Age
   1.3 Family size
   1.4 Family Income
   1.5 Curricular Year level
   1.6 Majorship

2. What is the perceived respiratory health status of the PNU students?
3. What is the respondents' overall level of awareness of common respiratory problems?
4. Is there a significant relationship between the respondents' level of awareness of common respiratory problems and their demographic profile?
5. Which among the personal profile serves as the best predictor of awareness?
6. What doable activities can be incorporated in a Primary Preventive Respiratory Healthcare Program to complement the PNU Health Services Program?

The literature and studies done by experts focused on the correlation of several factors to respiratory health. Included in such factors are gender, socio-economic status, body mass index, and health status. Though gender is not conclusive in the association with respiratory health, the other factors include, especially a person's socio-economic status (SES), which literature asserts directly affects health status and body mass index. To Hedlund et al. (2006) the relationship of respiratory health with socio-economic status showed that low SES was a risk factor for the development of asthma, symptoms common in asthma, and chronic productive cough. Primarily, SES affects the last two factors mentioned, health status and body mass index. Since SES covers the income threshold, this will indicate the capability of a family to afford certain types of food and other activities pertinent to maintaining a good respiratory health. Unfortunately, for the developing countries like the Philippines, these needs are not met as UNICEF (2000) accounts for 2.1 million deaths from acute lower respiratory tract infections related to malnutrition to be about 40% for children.

Though the DOH has been launching programs to increase awareness in respiratory health, especially infectious tuberculosis, it has been documented by the National Statistics Office through the National Demographic Health Survey (NSO, 2008) that many Filipinos still have misconceptions on how these infectious respiratory diseases are acquired. The survey further states that smoking, alcohol drinking, and fatigue are the top three causes of tuberculosis.

On the one hand, this study parallels the previous researches in determining the level of awareness of students at PNU regarding respiratory diseases, as well as in identifying factors directly affecting their respiratory health status. On the other hand, a distinction of the present study from others is the proposed design of a respiratory health program targeting identified academic departments to increase their level of awareness and to address the need for proper hygienic practices.

METHODOLOGY

Using the descriptive normative research design, the study involved gathering, analyzing, classifying, and tabulating data about prevailing conditions, practices, beliefs, processes, trends and cause-and-effect relationships. It was followed by making an accurate, adequate interpretation of such data with the aid of statistical methods to determine the PNUans' level of awareness of their health status, specifically on common respiratory problems.

The research was conducted at the PNU main campus with a total population of about 4,179 (at the time the study was conducted), distributed to four colleges, the College of Education (CED, the College of Arts and Social Sciences (CASS), the College of Science (COS), and the College of Languages, Linguistics and Literature (CLLL).

1. The respondents of the study were Freshmen students of the second semester, SY 2011-2012. A total of 318 students from first year to fourth year levels were conveniently sampled, based on their availability and willingness to participate in the conduct of research. Coming from a total population of 1,656, the sample size constituted about 19.20% of the two colleges namely, CASS and COS. Using Slovin's formula a population of N=1656 would reflect a sample population of 322.18. The study actually sampled more than 322 students. However, in the course of tallying the data, some respondent survey forms were not considered due to incomplete data entry thus, reducing the total valid respondents to 318.

The expert-validated researcher-made survey questionnaire is composed of three parts—demographic profile, health profile, and awareness scale. The personal data included the year level and majorship, age, body mass index, sex, parents' monthly family income and family size. For the second part, questions answerable by a yes or no gathered information on the sources of students' knowledge about common respiratory diseases, the incidence of having contracted respiratory diseases, and approach to addressing the health problem. The awareness level component covered the perceptions/beliefs, practices and attitude toward common respiratory diseases measured using a four-point Likert Scale.

Necessary permission and correspondence were done to facilitate administering the questionnaire to the student-respondents across departments. The instrument was distributed in February 2012. The Department of Biological Sciences professors gathered, collated, tallied and subjected the data to statistical treatments.

RESULTS AND DISCUSSION

The demographic profile shows that the majority of the respondents were female, about 18 years old, mostly in their freshmen years. The present population of PNU, as represented by the respondents of the study, reflects some national statistics. *The CIA World Fact Book* (2012) yields that the Philippines has more male than female among groups from birth to age 65. However, most school populations would register otherwise; that is, there were more registered female students than male. More specifically, the 2009 Functional Literacy, Education and Mass Media Survey (FLEMMS) shows that in the school year 2008-2009, 89.58% of the public elementary school teachers are female and only 10.42 % male, as found in the public secondary schools.

The data gathered also reflected that most of the respondents were 18 years old, but were identified as freshmen and non-biology majors for the researchers made use of a convenient sampling method wherein at the time of the survey, the freshmen emerged the ones most available. Ideally, the entry age of first year students should be 16 years old, but apparently, they only constitute 13.5% of the respondents. The trend can be explained by the fact that a considerable number of entrants in PNU are either returnees much less have delayed college education due to financial constraints of their families to send them to the University. This statistics is supported by the 2009-2010 PNU profile gathered by Mancao (2009) where 50.35% of the freshman applicants fall within the 16 years old bracket, about 25% of them belonged to the 17-20 years old and up group. The same source, considering majorship, revealed that PNUans favor English as their major, while Biology registered only 6.89% as their choice of specialization to further suggest that about 93.19% of the 2009-2010 population are non-Biology majors.

Most of the respondents' families comprise about 5-6 members who are earning on the average as a whole. To illustrate, for a

minimum average wage range of Php 419.00 – Php 456.00 across NCR (DOLE, 2013) a family with an average income would more or less earn Php 10,000.00 shared among the 5-6 members of the family as shown in the respondents' profile that could hardly support basic needs including education. For this reason, student respondents could barely afford private education and, therefore, end up enrolling in state universities like PNU. This finding can be strengthened by the same survey conducted by Mancao (2009) where the majority of the college applicants' parents have income below Php 10,000.00 categorized under the minimum wage or even below.

About 49% registered an average body mass index (BMI) to suggest that students somehow afford to eat three square meals a day but not necessarily avail themselves of good nutrition. The same finding was noted in the study of Rodriguez (2012), confirming that first year students of SY 2011-2012 had normal body mass index status but suffered prevalence of malnutrition. By good nutrition is meant that other than the right amount of food taken regularly, the food eaten contains the daily dose requirements of vitamins, minerals and other nutrients necessary for proper body function.

The data also revealed that the majority of the respondents or 43% were underweight. Many factors contribute to low Body Mass Index (BMI). Corollary to the family income presented in the same table, next in rank are respondents whose family income averaged from low to minimum income (below Php 5,000.00 to Php 9,000.00) . Therefore, it can be deduced that the said families would not have enough financial capabilities to provide adequate food for all its members, let alone primarily consider, the quality of food.

To date, however, based on a number of studies, two prevailing correlations between BMI and Socio-Economic Status (SES) occur—one is in the case of developing countries and the other with developed countries. With the first scenario, different studies suggest a positive and strong correlation with SES and BMI (correlated to obesity), that is, the higher the SES, the higher the BMI, the more obese a person gets (Bunker et al., 1992; Gilberts et al., 1994). Consequently, the lower the SES, the lower the BMI, as shown by the case of the respondents in this study.

Table 1 presents the respondents' overall respiratory health profile.

Table 1. Respiratory health profile of the students

Facet	Response	f	%
What sources of information have you obtained your knowledge about respiratory disorders?	School	90	28.3
	Television	69	21.7
	Internet	48	15.1
	Magazine	40	12.3
	Newspaper	39	12.6
	Others	32	10.0
Have you had any of the following respiratory ailments?	Dry cough	89	28.0
	Congested/runny nose	44	13.8
	Sore throat	40	12.6
	Recurring cough with green phlegm	37	11.6
	Allergic rhinitis	34	10.7
	Asthma	30	9.4
	Breathing difficulty	22	6.9
	Cough with blood stained phlegm	15	4.7
	Pneumonia	7	2.2
Do you get cough and colds when you are exposed to dust, cigarette smoke toxic fumes or pollutants?	Yes	188	59.1
	No	130	40.9
Do you experience runny nose accompanied by continuous sneezing every morning or every time you are exposed to dust cigarette smoke, toxic fumes or pollutants?	Yes	176	55.3
	No	142	44.7
Have you consulted a doctor or gone for a check up for any respiratory ailment?	Yes	191	60.1
	No	127	40.0
Were you ever prescribed with medicines by your doctor for respiratory ailments?	Yes	130	40.9
	No	188	59.1

Table 1. Respiratory Health Profile of the Students (continued)

If yes, did you buy all the medicines required for the entire treatment process?	Yes	117	36.8
	No	201	63.2
Do you go to your doctor for follow-up check up?	Yes	90	28.4
	No	228	71.6
If you don't see the doctor for check-up what ways or means have you done to treat your ailment?	Suggested medicines by friends, neighbor, parents	115	36.2
	Self-medicate	80	25.2
	Home remedy	57	17.9
	Herbal medications	53	16.7
	Others	13	4.1

Data reveal that the majority of the students get their information about respiratory disorders from school. This is understandable because most of them have some knowledge in Biology and must have discussed the topic of respiratory system in class. Another source of information next to school is the television (TV). It has long been proven that TV is, indeed, a very influential medium of communication and source of information for all ages even for a toddler. This fact can be further confirmed by some recent studies cited in this paper such as those of Li, Li Huang & Sun (2012), and Todesco & Bocconi (2002, trans. Walker) where it was noted that from among the surveyed college students, an overwhelming majority get information from television. The DOH capitalizes the popularity of TV in advertising campaigns for its health programs where we can even watch the Department Secretary himself dancing to market them. Running third in the rank is the internet signifying that although not so many PNU students would have a personal computer at home still they manage to be technology—enabled by making use of electronic sources even perhaps by visiting internet cafes. Similarly, Head and Eisenberg (2009) in their studies revealed that students often visit Google and Wikipedia for their course-related and everyday life researches.

As to encountering common respiratory problems, students cited dry cough, congested/runny nose and sore throat respectively. The enumerated cases are not very alarming since they are not part of the top three serious respiratory diseases in the Philippines namely lower respiratory tract infection (LRTI) and pneumonia, bronchitis/

bronchiolitis, and acute water diarrhea (based on the top ten causes of morbidity in the Philippines from WHO, 2005). These three noted illnesses in the study are basically symptomatic responses of the respiratory system, when exposed to allergens normally coming from the outside environment. Judging from the kind of pollution the Philippines has and the very location of the PNU itself, we note that these pose contributory factors in the likeliness of acquiring such health problems, contention equally presented in Leonarte, Tenias and Ballester's research (2008).

The answers revealed in questions 5 to 9, from the above table reflects interrelated scenarios. These include the findings that: a little more than half of the respondents consulted a doctor for their illness, probably because they do not have extra finances to pay for the professional fee all the more for follow up sessions. Related findings by Widayati, Suryawati, Crespigny et al. (2011) and Al Serouri, Balabanova & Al Hibshi, (2002) were cited in this study. For those who opted not to consult a doctor, some advice from elders and friends were considered over a free medical counsel, since it does not interfere with their busy schedule.

Table 2 yields that the gathered data for the overall mean suggest that the respondents are very much aware of the intricacies of respiratory diseases. Again this may be due to the fact that almost one-third of the respondents are Biology majors' who are more learned in the topics of body systems along with the diseases involved. The greater majority of this sample population, although belonging to the first year level, were given lessons about human body systems to imply that lessons address well students' need. However, this study does not disregard the fact that Biology majors constitute only a minor percentage of the entire population of PNU students; ergo it does not follow that all of the PNUans are very much aware of such health issues. Most recent student demographics from Mancao (2009) reported that the 2009 Biology major students represent only 6.89% of the University population.

Table 2. Awareness of respondents on respiratory disease

Item	VA	A	NA	VU	Mean	SD	Remark	Rank*
	%	%	%	%				
I am aware that smoking destroys the lungs	89.3	10	0.3	0.0	3.89	0.323	Very Aware	1
I cover my nose or mouth every time I cough or sneeze.	88.1	12	0	0.0	3.88	0.325	Very Aware	2
I am aware that smoking and alcoholic drinking increases the risk of respiratory diseases	85.8	14	0.3	0.0	3.86	0.361	Very Aware	3
Eating the right food like fruits and vegetables will keep the immune system stronger and more resistant to respiratory illnesses	84	14	1.9	0.0	3.82	0.431	Very Aware	4
I wash my hands properly to prevent respiratory diseases.	78.9	20	1.2	0.0	3.78	0.446	Very Aware	5
I am aware that tuberculosis is a respiratory illness	73.6	23	3.8	0.0	3.7	0.536	Very Aware	6
I am aware that pneumonia, if left untreated, may lead to serious respiratory problems like Tuberculosis	70.8	27	2.2	0.0	3.69	0.51	Very Aware	7

Table 2. Awareness of respondents on respiratory disease (continued)

Item	VA	A	NA	VU	Mean	SD	Remar	Rank*
	%	%	%	%				
People with respiratory diseases should wear a face mask to protect themselves from getting further infections	67.6	31	1.9	0.0	3.66	0.514	Very Aware	8
I am aware that lack of sleep could lower down the immune system, if not lead to respiratory disease	64.5	33	2.5	0.0	3.62	0.536	Very Aware	9
I am aware that bacteria causing respiratory illnesses may be acquired by inhalation	63.8	31	4.7	0.0	3.6	0.581	Very Aware	10
Persistent cough is a sign that I may have a respiratory problem	62.3	35	2.5	0.3	3.59	0.558	Very Aware	11
I am aware that difficulty in breathing is one of the signs of respiratory problems	56.6	40	3.1	0.0	3.53	0.56	Very Aware	12
I am aware that having regular check-ups decreases the risk of respiratory diseases	56.9	38	5.3	0.0	3.52	0.598	Very Aware	13

Table 2. Awareness of respondents on respiratory disease (continued)

Item	VA	A	NA	VU	Mean	SD	Remai	Rank*
	%	%	%	%				
Exercise can help me keep my respiratory system free from diseases	55.3	40	44	0.0	3.51	0.582	Very Aware	14.5
I could get infected with respiratory ailments if a co-passenger in an enclosed public transportation exhales by coughing	56.3	38.4	5.3	0.0	3.51	0.600	Very Aware	14.5
I am aware that congested area increases the risk of respiratory diseases	51.2	47	1.6	0.0	3.5	0.531	Aware	16
I am aware that lack of exercise increases the risk of respiratory diseases	52.2	41	6.9	0.3	3.45	0.637	Aware	17.5
I am aware that respiratory diseases could be recurrent	46.5	51.6	1.9	0.0	3.45	0.534	Aware	17.5
It bothers me every time I have respiratory diseases	48.4	44	7.9	0.0	3.41	0.632	Aware	19
Use of mass decreases the spread of respiratory diseases	48	44	8.2	0.0	3.4	0.642	Aware	20

Table 2. Awareness of respondents on respiratory disease (continued)

Item	VA	A	NA	VU	Mean	SD	Remark	Rank*
	%	%	%	%				
I am aware that stress or exhaustion could lead to respiratory illnesses	45.6	48	6.3	0.0	3.39	0.604	Aware	21
I am aware that respiratory disease are highly contagious	43.4	52	4.7	0.3	3.38	0.592	Aware	22
I am aware that respiratory illnesses can be acquired by sharing utensils	44	48	7.9	0.3	3.35	0.652	Aware	23
I am aware that respiratory disorders may be hereditary	45.9	43	8.8	1.9	3.33	0.716	Aware	24
The recovery period for people severely affected with respiratory illnesses may take about 3-6 months	44	41	14.2	1.2	3.27	0.748	Aware	25
I am aware that body fatigue, fever and weight loss for more than a month is one of the signs and symptoms of respiratory illness	40.6	45	14.2	0.0	3.26	0.692	Aware	26
I am aware that being underweight makes it hard for the body to fight respiratory diseases	42.1	40	17.9	0.0	3.24	0.737	Aware	27

Table 2. Awareness of respondents on respiratory disease (continued)

Item	VA	A	NA	VU	Mean	SD	Remark	Rank*
	%	%	%	%				
I am aware that weight loss for more than a month is one of the signs of respiratory illnesses	38.7	42	18.6	1.2	3.18	0.77	Aware	28
I am aware that the older the person is, the more he or she is prone to respiratory diseases	37.1	43	17	2.8	3.14	0.797	Aware	29
Overall	50.6	49	0.0	0.0	3.51*	0.288	Very Aware	

* based on raw score

Details of the findings reflect that most of the respondents are knowledgeable of the fact that smoking and alcohol drinking are high risk factors in acquiring respiratory/lung diseases. The findings hold true with those of the National Demographic Health Survey in 2003. As far as awareness on what needs to be done to maintain healthy respiratory system, the respondents' answer of eating fruits and healthy diet has been affirmed by many studies, including those done by Hinders (n.d.), Smit (2001) and McKeever & Britton (2004).

On the contrary, although significantly aware, the respondents registered the least knowledge as far as recovery period from respiratory disease, and weight loss and age as determinants of the same diseases are concerned. These deficiencies in awareness along with the rest of the top 10 least indicators served as bases for the primary health care program intervention that this study proposes.

Table 3 presents the statistical correlation results made between the students' level of awareness and their demographic profile.

Table 3. Correlation between awareness and personal variables (Pearson and Point Biserial)

Variable	Coefficients	t	p-level	Remark
Sex	-0.046 (r_{pb})	-0.824	0.411	Negligible negative correlation; Not significant
Age	0.020	0.0364	0.716	Negligible positive rectilinear correlation; Not significant
Family Size	-0.012	-0.211	0.833	Negligible negative rectilinear correlation; Not significant
Income	0.035	0.617	0.538	Negligible positive rectilinear correlation; Not significant
Body / Mass Index	-0.103	-1.841	0.067	Negligible negative rectilinear correlation; Marginally significant
Curricular Year	0.080	1.432	0.153	Negligible positive rectilinear correlation; Not significant
Majorship	0.120 (r_{pb})	2.149	0.031	Negligible positive correlation; significant

Table 3 reveals that all computed r values fall within the range of 0.00 to 0.20 which are all verbally interpreted as negligible correlation and therefore, insignificant in relation to demographics with the level of awareness. However, a very minimal exception of the BMI values found to be marginally significant was observed.

Such finding may be due to the fact that all the respondents are learned and are exposed to various sources of information. Despite the difference in gender, both male and female received the same kind of teaching and information and have equal opportunity to gather facts on the campus. The ages of the respondents, though found within the range of 16-20 years old, may not be significantly affecting the extent of information, since they more or less belonged to the same year level, as much as taught the same concepts. Family size and income could have affected their level of awareness indirectly as a consequence of access to education. That is, the population of this study is expected to have low level of awareness since they belong to the minimum to low income group or bigger family size which assumingly cannot support higher education for their children. However, since the respondents are all obtaining college education, then factors of family income and size are already ruled out.

As to the year level, since a greater percentage of the population are non-Biology majors, then it is most likely that they only have gained more or less the basic information about respiratory diseases during their freshmen in PNU and that they have been exposed to more or less similar situations and environment. This can be supported by a trend in the previous profile records of PNU as reflected in the study of Mancao (2009) citing that the majority of the PNUans live in Metro Manila where the problem of pollution and congestion is evident.

Considering BMI, a marginally significant correlation suggesting relationship with awareness is noted. Although there is hardly any study to support this finding, it can be implied that generally from experience, people tend to get heavy or turn lighter in weight, seemingly bothered let alone anxious to know what causes the increase or decrease in their weight, thus resorting to seek information and consequently be aware.

SUMMARY OF FINDINGS

From the data gathered, the following findings are summarized:

1. The sample population of the study were mostly females, 18 years of age, freshmen and non-Biology majors. The majority of the families of the respondents had 5-6 members with average family income estimated at about PHP10,000 – PHP15,000.00. Forty-nine percent of the students had average body mass index and tailing close was the underweight group of about 43%.

2. As to the respondents' health profiles, they were reported to have encountered common respiratory problems such as dry cough, congested/runny nose and sore throat respectively. A little more than 50% of the respondents had consulted the doctor about the experienced problems. Those who opted not to go to a doctor went to seek advice from elders and friends. Part of the questionnaire asked about where the respondents got their knowledge of respiratory diseases and the majority answered school as their first source, followed by television.

3. The overall mean of the data gathered revealed that the students were very much aware of the respiratory diseases, their basic symptoms, precautionary measures to avoid in contracting such, as well as some of the risk factors that may contribute to having the disease. However, they had been found to be least knowledgeable about the fact that weight loss and age makes a person more prone to contract respiratory disease. Besides, they were unfamiliar about the different recovery periods a particular respiratory disease requires.

4. The respondents' personal variables were tested for possible correlation with degree of awareness. Pearson r values computed reflected negligible correlation with awareness, except for body mass index which registered marginally significant on a negligible negative correlation.

5. With the use of regression analysis, computed F value at 7, 310 degrees of freedom, registered 1.514 with a p-level value of 0.162 greater than 0.05. Thus, results suggest that the null hypothesis is accepted. The net regression coefficients yielded all zero which implies that there was insufficient prediction equation for awareness in terms of the seven personal variables.

6. Since, regression analysis presented a very weak correlation between awareness and the variables, this study holds that doable activities must still be set to strengthen students' health awareness thus, the need for PPRHP.

CONCLUSIONS

From the above findings, the following conclusions are drawn:

1. While it may be true that about half of the respondents were included in the safe zone of having an average BMI, it is equally alarming that almost one-half of the population was found to be underweight—a risk factor for contracting any respiratory disease.

2. Respiratory health profile of the respondents is not something to be bothered about at the moment. However, considering that a lot of them are underweight and experience dry cough, congested/runny nose and sore throat may lead to a far worse respiratory health condition, if BMI will not be resumed to normal much less body resistance to diseases worsened. Furthermore, not consulting doctors to seek medical advice may aggravate the situation, if early diagnosis is neither done. On a happier note, it is interesting to learn that PNUans value the information they obtain from the school and somehow retain them for practical life applications.

3. Students are conscious of their health since they know much about the disease. It follows that if something is valuable/important, one tends to know as much information and keep abreast about it. However, since they have not come to experience the worst of such diseases, they least bother exploring their intricacies. Young as they are, knowing something is enough as long as they get indirectly affected.

4. Statistical findings reveal that the demographics of age, gender, family income and number of family members, year level, and majorship are not determinants of degree of awareness except for BMI but on a very slight confirmation. Most likely, other factors that contribute to it can be looked into. Since BMI posted a negative negligible relationship with awareness, it can be deduced that personal experience of being underweight poses a threat to the individual, so as to force him/her to learn about the health problems he/she is into.

5. With zero net regression coefficients, this study confirms that for the population, none of the personal variables is useful in explaining awareness. Therefore, the personal and health profiles of the population are not predictors of their awareness.

6. The very weak correlation (as established by the regression analysis done) between awareness and considered variables in this study suggest that the relationship holds true for the respondents of this study, but does not apply to the population

to which the samples belong. Thus, the doable activities presented in the proposed Primary Preventive Respiratory Healthcare Program (see appendices) is being endorsed by the research proponents, for approval by the administration.

RECOMMENDATIONS

1. For the DBS to help the University Clinic monitor the condition of those students falling in the underweight category by informing those concerned about the risk they are into, by conducting a seminar or lecture on the topic during freshmen orientation. Details of the monitoring activity may be found in the proposed Primary Health Program of this study readily identified as direct implications of the result of the survey.

2. To increase awareness of the risk factors of respiratory diseases, activities like poster campaigns, observance of health care day and other related/meaningful drives may be initiated by the department.

3. The DBS can submit a concrete Primary Health Program to the Office of the Administrative Services, Office of the Student Services and University Clinic for possible implementation.

4. The DBS must ensure full delivery of lessons on the topic of respiratory system, specifically noting health implications of the diseases related to the body system.

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BOOK REVIEWS • SURING BASA

Reviewed by V.L. Mendiola

It's High time We Placed Back "Higher" in Education
Andrew Hacker and Claudia Dreifus. **2010. Higher Education? How Colleges are Wasting Our Money and Failing Our Kids and What We Can Do about It).** New York: Henry Holt and Co., 271 pp.

Why the unsettling question mark in the book title? Precisely, much closer to the bone, so to speak, so unashamedly expressed is the book's premise in parenthesis. The authors—one sociology professor at Queens College, the other from Columbia University's School of International Public Affairs respectively – know the vantage point where they speak of, as their findings, data, pronouncements are sourced from conducted surveys, interviews, school visits, congressional hearings, painstaking research, school records, alumni weeklies, directories, reports of learned societies, quarterlies, reputable dailies, university press to empirical data culled from no less than the *American Association of University Professors* and the *Chronicle of Higher Education*.

So pervasive is the 'indictment' that not even the Ivy League (read: the 'Golden Dozen' – high profile schools go unscathed from the umbrage—Harvard, Yale, Princeton, Dartmouth Brown, Columbia, Cornell, Penn, Northwestern, Wesleyan, Swarthmore, MIT—for that matter. After all, US Higher Education (as of 2010) picks up at the tab for an annual $420 billion business. Truth to tell, school administrators, faculty, staff, football coaches (their ubiquitous presence serves as a come-on to increase enrollment and augment university coffers sort of creative financing? parents who foot their children's bill, lawyers defending litigants in university scandals, (un)generous alumni and other stakeholders put their hands in the slice of the academic pie (un) wittingly, as students bear the whole brunt of meeting mounting expenses spent on campus amenities, gyms swimming pools, tennis teams, other frills, while university officials (un)convincingly try to defend their very existence.

Moreover, the book deconstructs, let alone questions the time-honored, revered, at times, abused educational *mantras* such as academic freedom, athletic incubus, tenure, the world of the professoriate (in form of adjunct instructors, lecturers, visiting professors, teaching fellows, graduate assistants—all sort of euphemism for professors who disdain teaching introductory courses, composition, freshman math). Meanwhile, these academic underlings get low, indecent pay of $8.65 per hour in exchange of free tuition in the graduate school in sharp contrast to the full-fledged, tenured, untouchable professors getting as much as $116,000 for six classes taught over nine months—$ 17,000 per course. To compound the problem for undergraduate students, tuition raises unreachably high so that those in dire need to obtain a bachelor's degree resort to school loans payable till kingdom come, as their unpaid loans chalk up to six digits. Many students complain, however, that they suffer short shrift from tenured professors who engage in midterm research, enjoy paid sabbaticals, attend national and global fora to read their papers, write or publish. A few universities even hire publishing editors, consultants to help them package their books—all expenses paid for through raising student hard earned tuition.

The book denounces the overused, malpracticed, exploited publish-or-perish-syndrome, as the student welfare is sacrificed on the altar of research. "Admittedly, instead of reinforcing teaching and scholarship (or research), they adversely affect one another," as Postdam College (in New York) pioneering program in teaching undergraduate math contends. Indeed, this book raises the hornet nest, let alone invites parents, citizens and parties concerned to take a firm stand in reconciling conflicting issues that beset the academe; in turn, cause students to receive shorter shrift from the university; prioritizing research and publication, arrogant, intimidating professors, abysmal teaching, plagiarism—even among indolent professors or dilatory students, "decanting" content or misdirecting quest for theory (e.g. Aristotle, Dickens, Locke are left out, Althusser, Derrida, Lacan in), "constrictions" in the curriculum, as shown in "narrowing of visions by those committed to the teaching of the liberal arts… or in the encroachment of training upon learning," as in offering of vocational programs like ornamental horticulture or pastry arts (cf. in the Philippine setting, think of the courses now – culinary art, hotel and tourism management, caregiving, etc.). The authors, therefore, pose

the question, should not universities cultivate the life of the mind among students to make them better citizens and participate actively in a democracy?

Better yet, consider the philosophic vision, mission of (Marist) Notre Dame – "the Catholic Harvard" so-termed:

> "The University seeks to cultivate in its students not only an appreciation for the great achievements of human beings, but also a disciplined sensibility to the poverty, injustice, and oppressions that burden the lives of so many…"

Shades of the incumbent Pope Francis ideology instilled in him by his Jesuit orientation.

Interestingly, the reader might be in for a surprise for the inclusion of the top ten list of schools the authors recommend to parents to (re) consider (see pp. 218-235) in enrolling their children, just as Hacker and Dreifus in the book's coda offer twelve outright proposals "to set things right" among schools that have side-tracked their original basic mission:

1. The purpose of higher education is *education* so that extraneous activities that impede teaching and learning be done away with.
2. Stop relying on student loan to prevent graduates from being indebted till adulthood.
3. Professors make an effort to reach their students.
4. Make students use their minds to liberate their *imagination*, much more stretch their intellect.
5. The quest for tenure subverts rather than enhances academic freedom.
6. Fewer (paid) sabbaticals, less research.
7. End exploitation of adjuncts, teaching fellows and graduate assistants.
8. Demand that the overrated "golden dozen" deliver.
9. People who choose higher education should view it as public service, hence college or university presidents should serve as public servants.
10. Spin off medical schools and research centers or institution situated on their campuses.

11. To improve classroom, consider techno-teaching.
12. Alumni pick colleges other than their **alma mater**, especially the affluent schools, to donate to for better use of funds.

No *Moby Dick* of a treatise either, but certainly, the engaging, controversial, informative book demystifies our (Filipino) notion that the Western 'grove of academe' remains unassailable, and therefore, beyond reproach. Tertiary schools—public and private, sectarian and non-sectarian—stand to benefit considerably from it so as to look into their own institutional practices, that is, if they honestly want to mend their ways to reform the system. *Touche!*

Of Educational Reconnections and Governance Reforms

Juan Miguel Luz. 2011. *Brigada Eskwela*/**Essays on Philippine Educations**. Manila: Anvil Pub., Inc., 168 pp.

The back cover sums up the querries raised in this timely book: "1) Why has the entire system failed to deliver on the promise of quality education? 2) Despite the lion share in government funds, do we spend as much for education as we must? 3) Why do good teachers and good school do not translate into system-wide solutions? 4) How do they—good teachers and good schools—succeed in an unsupportive milieu? Finally, 5) Why is excellence an elusive goal in Philippine Education?"

To answer these pressing issues, the book is conveniently parceled into four sections—the first traces the system's poor performance through the years, while the second scrutinizes educational reforms and related matters. The third part ponders the more feasible ways of managing reforms; lastly, the emphasis on the stakeholders putting in an extra mile.

The book offers perceptive insights into the state-of-the-art in the country's education, and the author does not talk through his hat either—Luz once had served as DepEd undersecretary in charge of finance and administrator from 2002 to 2006. The empirical data he provides in his essays were obtained from DepEd statistics, survey reports from NSO (National Statistics Office), NISME (National Institute of Science and Math Education), DBM (Department of Budget and Management), local school boards, NNC (National Nutrition Council),

IMC (Instructional Materials Corporation), FAPE (Fund for Assistance to Private Education), among others.

To Luz, Philippine education has to seriously address five disconnects. First and foremost, our country has a two-class education system—the elite private school education has 12 to 14 years of schooling, the other in both public and non-elite private schools a 10-year program. Now such a dichotomy has been settled once and for all with the introduction and implementation of the K-12 educational plan in 2013 henceforth. Second, teachers subsidize public and private education with their low pay (in the 1960s elementary school teachers received a monthly, measly income of P183.00). At this writing the present salary of a starting teacher in the grade school amounts to P18,000 per month—expectedly, such a rate should be at par with constant (rising) inflation; third, Filipino children begin school rather late leading to high dropout much later; therefore, Luz suggests that 6 years were just right and to lessen school leavers quitting schools had better initiate feeding program (not rice distribution) – happily a move an incumbent lady senator has filed a bill for (let's keep our fingers crossed). Fourth, Filipinos are fast becoming a nation of male underachievers, as statistics yield that 10% more girls graduate from high school than boys. Fifth, Muslim-Filipino children only get half the education other Filipino children are getting. His proposal? Keep boys in school via such interventions as sports and technical-vocational education. Finally, increase investment in a competence-based *Madaris* education.

Perennial school problems also take center stage in the book's dealing with harsher realities—classroom shortage, promoting multi-lingualism: English, Filipino, and the local language or mother tongue—a program that has gradually taken off in the early grades, poor quality textbooks, just as he contends that a "strong private school system strengthens its counterpart in the public school." Equally, Luz approved of the concept of mobilizing the *Brigada Eskwela* (hence the title of his book) for more pronounced school autonomy, better yet, self reliance, as parents, concerned citizens, the private sector—all stakeholders volunteer their *bayanihan* spirit in repairing or building schools before classes formally begin. To catch the elusive Olympic medals, Luz recommends coming up with a functioning grassroots sports programs by way of institutionalizing health and proper nutrition, physical fitness

at world norms, identifying and nurturing sports talent; above all, ridding of (political) presidential nominees to reform Philippine sports.

As to governance reforms he thinks aloud about the wisdom of designating the Secretary of Education every time a new dispensation takes over, as it disrupts the goals set by the previous secretary to the utter disadvantage of school children and the system itself. Specifically, the author proposes that the two levels of key management be strengthened by empowering principals who ironically have risen from the ranks so their leadership style is that of a classroom—not a school manager or administrator. Instead of making local decision, for instance, they wait for national department directives irrelevant, at times, to conditions obtaining in the community. Similarly, Luz notes that the regional superintendents' role be "reengineered from that of the administrator to strategist and business leader to create the enabling environment to effectively operate schools in their jurisdiction."

Notably, the book, though limited to analyzing the flaws and strength of basic education in the primary and secondary levels, is replete with observations, value formation, feasible solution to upgrade mediocre school performance in far-flung provinces; hence, the vision and wisdom of striving for excellence beginning with those who govern the system and the governed—the teacher, the school manager, the local school boards and local officials. Restated, stakeholders – all have distinct roles to play in making the system work – their extra effort all redound to the rosier future of the incoming generations.

Certainly, as illumination shines forth in Luz's opus, to read him is to get enlightened.

Papaano Naangat ang Ating Pagkamulat ng Aklat?
Rhod V. Nuncio. 2012. 100 **Aklat sa Aking Pagkamulat.** Manila: C and E Pub., Inc. 100 pp.

Hindi masasabing ambisyoso ang aklat na maabot ang matayog nitong adhika; manapa ipinagdiriwang ng may-akda ang masidhing damdamin/kaisipan ng walang patid na pakikipagniig sa pagsalunga sa

buhay. Masasabi pa nga, kung minsan, na ang sulatin (nakaimprenta) ay binabalanse ang dagok ng pakikipagtunggali sa mga daluyong ng buhay, gawa man ito o hindi ng tao, kalikasan o iba pang pwersa labas sa ating kaloob-looban. Dahil dito, malawak ang kadluan o pinaggagalingan ng pagtataas ng ating kamalayan.

Nahahati, kung gayon, ang aklat sa 8 (walong) bahagi – mga aklat na tumatalakay o humihimay sa a) kasaysayan, b) nobela, c) maikling kwento at kwentong pambata, d) malikhaing sanaysay, tula at dula, e) wika, lipunan at kultura, f) manunulat at pagsulat, g) kritika, at h) midya, teknolohiya, at pag-unlad. Mahihinuha (o masasapo?) na ang nagkonsepto ng nilalaman ng aklat ay interdisiplinaryo ang pagdulog sa hangaring maabot ang layuning maantig ang *interest* o kawilihan ng mambabasa. At sino naman ang di mahihikayat na malantad sa mga seryo, malikhain, nagtatanong, humahamon, nakakawili, kung ikukumpara sa mababaw, tumatakas sa katotohanan, tumatanggap lamang, umiiwas sa halip harapin ang mga problema o hilahil sa pagbuno sa kalagayan ng tao.

Kung nabasa ni Nuncio ang 100 aklat na sinuring pahalaw o padaglat sa kanyang aklat, nangangailangang ang prayoridad niya'y higit na mapayabong ang kaisipan – yaong tinutukoy ni Heidegger, isang Alemang pilosopo (ng eksistensyalismo) na "masidhing damdaming mabatid" – isang konseptong dapat yakapin ng mag-aaral habang buhay, lalo't pagkatapos niyang sunugin ang kilay sa akademya. Sa bilis ng takbo ng makabagong sibilisasyon ang paggugol ng ilang sandali sa pagbabasa ay halos hindi na kinagisnan ng mga tao sa kasalukuyan, sapagkat abala sila sa trabaho upang idugtong ang kaluluwa sa hininga, nakakaligtaang tuloy ang patuloy na paglinang sa buhay panloob – nariyan ang mapanuksong telebisyon, ang *cellphone,* at *instagram,* maging *facebook* na ipinangangalandakan ang imahen ng sarili dahil raw sa *social networking.*

Para marating ang mayoryang kliyenteng mga guro at mag-aaral (o pangkaraniwang sibilyan), sanay maapuhap – basahin: iluklok ng mga kolehiyo at unibersidad – ang aklat na ito. Higit sa lahat, pinapahalagahan ng aklat na maging Filipino "sa isip, sa salita, lalo na sa gawa."

THE CONTRIBUTORS

WILMA S. REYES earned her Ph.D. in Curriculum and Instruction/Multicultural Education and Master of Arts in Education from Flinders University of South Australia under the AusAID scholarship program; Master of Arts in Education (Values Education) (1994) PNU, Manila; Bachelor of Arts in Psychology (1987), PNU, Manila (magna cum laude). She is the incumbent director of the Educational Policy Research and Development Centre (EPRDC) of Philippine Normal University with email address at reyes.ws@pnu.edu.ph.

RAMER V. OXIÑO, a full-time faculty-researcher at the Educational Policy Research and Development Center (EPRDC) and an affiliate faculty of the Faculty of Arts and Languages (FAL), College of Teacher Development, finished his bachelor's degree (BSE English) at Capiz State University. He earned his master's degree (MAT ELA) from the Philippine Normal University.

RITA BUMANGLAG-RUSCOE is currently the head of the University Curriculum and Instructional Materials office and full professor at the Faculty of Behavioral and Social Sciences (FBESS). She obtained her master's degree in Curriculum and Instruction under Fullbright Haye Scholarship from University of Minnesota, USA, a Ph.D. candidate in curriculum and instruction at the Philippine Normal University, Manila.

LUCILLA R. FETALVERO has a master's degree in Education with specialization in Educational Measurement and Evaluation and units in Doctor of Education from the Philippine Normal University. She has been teaching Research, Statistics, and Assessment courses in both the graduate and undergraduate programs at the Philippine Normal University since 1993. She is currently a full-time faculty researcher assigned at the Educational Policy Research and Development Center.

FELIECE I. YEBAN is full professor of human rights education and currently the associate dean of the Faculty of Behavioral and Social Sciences. She was the education consultant of the government panel training local government units on the Comprehensive Agreement on Human Rights and International Humanitarian Law between the government and the National Democratic Front. She is also an internationally known human rights educator, having been among the pioneers of human rights education in the world. She was deputy

chair of Amnesty International Pilipinas in the 1990's. She was consultant to the Jimmy Carter Center to train teachers in Liberia on educating for human rights and democracy seven months after the end of civil war in Liberia. She was a consultant to the United Nations in drafting the global human rights education agenda, as well as international government and non government organizations on human rights education.

ROSEMARIEVIC VILLENA-DIAZ is currently the director of the Institute of Knowledge Management, and the concurrent deputy dean of the College of Flexible Learning and E-PNU of the Philippine Normal University, Manila, where she has been teaching since 1991. She also served the University as dean of the College of Science (2011-2013). She is also the president of the Philippine Council of Mathematics Teachers Educators, Inc. (MATHTED), a professional organization of mathematics educators in the country. She has been awarded "Natividad Galang Fajardo Professorial Chair in Math Education" in 2005.

MA. VICTORIA C. HERMOSISIMA is a faculty-researcher of the Educational Policy Research and Development Center, Philippine Normal University. She has a master's degree in Education with specialization in Measurement and Evaluation from PNU and units in Ph.D. Educational Psychology from De La Salle University, Manila. In 1989, she finished a Bachelor of Arts in Communication at the University of the Philippines, Diliman, Quezon City.

RIZALINA E. ANDAMO currently works as Teacher I at Maysan National High School, Valenzuela City, but was a faculty of the Chemistry Department of Our Lady of Fatima University, Valenzuela City. She holds a Master of Arts in Science Education degree with specialization in Chemistry at the Philippine Normal University.

VIC MARIE I. CAMACHO is an Assistant Professor I at the PNU, teaching Chemistry courses and advising researchers in the undergraduate and graduate levels. Besides teaching, she has served in various capacities from College of Science faculty secretary to senior program manager, Research Center for Teacher Quality, PNU. Her research interests focus on assessment in science education, pedagogy, and the application of internet technology in science teaching and learning, phytochemistry, and related topics.

VIRGIL DUAD, Ed.D., a Professor II at the Philippine Normal University, has expertise in science teaching with emphasis on innovative approaches and culture/environment-based learning. He teaches Physical Science, Earth and Environmental Science, Physics and advises researchers in the undergraduate and graduate level.

THADDEUS OWEN D. AYUSTE, MEd, is an instructor in the Faculty of Science, Technology and Mathematics at the Philippine Normal University, Taft Avenue, Manila with email address ayuste.tod@pnu.edu.ph. His research interest is science education and community extension.

ROSARIO M. BELMI, MAT General Science, is a professor in the Faculty of Science, Technology and Mathematics at the Philippine Normal University, Taft Avenue, Manila with email address at belmi.rm@pnu.edu.ph. Her research interests are in environmental management and science education and leadership.

BENILDA R. BUTRON, MAEd BioSci, is an instructor in the Faculty of Science, Technology and Mathematics at the Philippine Normal University, Taft Avenue, Manila, with email address at benildaramos@yahoo.com. Her research interests are in various biological sciences, specifically Genetics, Botany and Microbiology.

EDEN V. EVANGELISTA, PhD, is a professor at the College of Graduate Studies and Teacher Education Research at the Philippine Normal University, Manila, Philippines with email address at edenevangelista@yahoo.com. Her research interests are in plant and animal taxonomy and marine biology. She is also into textbook writing.

LUISITO T. EVANGELISTA, PhD, is a part-time faculty of the College of Graduate Studies and Teacher Education Research and a full-time employee of the Philippine National Museum where he is a curator. His research interests are Plant Physiology and Marine Biology particularly phytoplanktons. He is currently the president of the Association of Systematic Biologists of the Philippine (ASBP), and an active member of the scientific organizations. His email address is luisitoevangelista@yahoo.com.

EISHA VIENNA M. FERNANDEZ is an instructor in the Faculty of Science, Technology and Mathematics at the Philippine Normal University, Taft Avenue, Manila. Her email address is eishafernandez@yahoo.com. Her research interests are Ecology and Molecular Sciences including Cell Biology, Immunology, Genetics, and Biotechnology.

GENELITA S. GARCIA, MS Biology, is a professor in the Faculty of Science Technology and Mathematics at the Philippine Normal University. Her research interests are in Genetics and Molecular Biology. Her email address is gen_garcia777@yahoo.com.ph.

MELCHORA B. LAMORENA, MA/MS, is a Biology professor in the College of Science at the Philippine Normal University. Her subject specializations are Embryology, Radiation Biology and Research. Her email address is melchoralamorena@yahoo.com.

BRIAN M. LIMSON, MD, is a faculty in Faculty of Science, Technology and Mathematics and the head of the Science Technology and Society Center (STSC) at the Philippine Normal University. His research interests are in the Medical Sciences and Human Behavior. His email is brian_limson@yahoo.com.

JOSEPHINE E. TONDO is a full-time faculty in the Faculty of Science, Technology and Mathematics at the Philippine Normal University, Taft Avenue, Manila with email address joswilshen25@yahoo.com. Her research interests are in the fields of ecology, environmental science, environmental biology, and science education.

V. LÁZARO MENDIOLA, first dean of the College of Arts and Sciences, PNU, has retired from government service after 43 years of teaching. With a doctorate in literature, **meritissimus,** from the University of Santo Tomas, he still actively engages in writing—a preoccupation that gives him a sense of fulfillment.

GLADYS C. NIVERA is currently the associate dean of the Faculty of Science, Technology and Mathematics of the Philippine Normal University. She specialized in Mathematics for her Ph.D. in Science Education at De La Salle University-Manila. Her email is nivera.gc@pnu.edu.ph.