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Towards Quality Graduate Mathematics Teacher Education: A PNU CGSTER Tracer Study

ABSTRACT: *Tracer study is one way of evaluating curricular programs, especially in higher education institutions. For the purpose of quality assurance of course programs, higher education institutions can contribute meaningfully by applying the principles of tracer study to create sustainable learning empowerment environment for the continuous professional development of past students. Hence, tracer study can be used for the enhancement of quality course programs offered in higher education institutions to be able to meet the demands of changing educational, socio-economic, industrial and technological demands of the new century. This tracer study evaluated the graduate Mathematics education program in CGSTER PNU (College of Graduate Studies and Teacher Education Research, Philippine Normal University) in Manila, Philippines. The profile of the graduates of the program was described in terms of biographical characteristics, employment attributes, transition, and professional achievements. Likewise, a retrospective evaluation of the program was also done, which includes the satisfaction of the graduates with services, learning environment, and facilities of the university. The extent to which the graduate Mathematics education program contributed to the general and specific competencies of the graduates was also determined. Findings reveal that the graduates are satisfied with the services and facilities of the university. They find the trainings provided by the Mathematics education program adequate and relevant to the skills and competencies they need in their work.*
KEY WORD: *Quality Graduate; Mathematics Education Program; Tracer Study; Biographical Characteristics; Satisfaction of the Graduates.*

RESUME: *"Menuju Kualitas Pendidikan Guru Matematika Pascasarjana: Studi Pelacakan Alumni CGSTER PNU". Studi pelacakan alumni merupakan salah satu cara untuk mengevaluasi program kurikuler, terutama di perguruan tinggi. Untuk tujuan penjaminan mutu program studi, perguruan tinggi dapat berkontribusi secara bermakna dengan menerapkan prinsip studi pelacakan alumni untuk menciptakan lingkungan yang memberdayakan pembelajaran berkelanjutan bagi pengembangan profesional dengan masa lalu mahasiswa. Oleh karena itu, studi pelacakan alumni dapat digunakan untuk peningkatan program kursus berkualitas yang ditawarkan di perguruan tinggi agar dapat memenuhi tuntutan perubahan dalam bidang pendidikan, sosio-ekonomi, industri dan teknologi pada abad yang baru. Studi pelacakan alumni ini mengevaluasi program pendidikan Matematika pascasarjana di CGSTER PNU (Sekolah Pascasarjana Penelitian dan Kajian Pendidikan Guru, Universitas Pendidikan Filipina) di Manila, Filipina. Profil lulusan program ini dijelaskan dalam hal karakteristik biografi, atribut ketenagakerjaan, transisi, dan prestasi profesional. Demikian juga, evaluasi retrospektif terhadap program juga dilakukan, yang meliputi kepuasan lulusan dengan layanan, lingkungan belajar, dan fasilitas universitas. Sejauh mana program pendidikan Matematika pascasarjana memberikan kontribusi terhadap kompetensi umum dan spesifik lulusan juga ditentukan. Temuan mengungkapkan bahwa para lulusan merasa puas dengan pelayanan dan fasilitas universitas. Mereka menemukan bahwa pelatihan yang diberikan oleh program pendidikan Matematika memadai dan relevan dengan keterampilan dan kompetensi yang mereka butuhkan dalam pekerjaan mereka.*
KATA KUNCI: *Lulusan Berkualitas; Program Pendidikan Matematika; Studi Pelacakan Alumni; Karakteristik Biografi; Kepuasan Lulusan.*

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INTRODUCTION

Programs are evaluated basically, because administrative decisions have to be made and; and it is important to know and show that programs are good programs (Royce *et al*., 2001). Programs in the graduate school must be evaluated to find out if they are successful in achieving their vision, mission, goals, and objectives.

Tracer study is one way of evaluating curricular programs, especially in higher education institutions (*cf* Ugwounah & Omeje, 1998; Schomburg, 2003; Mancao, 2010; Gines, 2014; Ramirez, Cruz & Alcantara, 2014; and Pannogan & Ocampo, 2016). Tracer study can answer the questions, such as: (1) are the clients/ students being helped?; (2) are the clients/ students satisfied with the services received?; (3) has the program made any real difference?; (4) does the program deserve the amount of money spent on it?; and (5) how can the program be improved?

This study aims to describe the profile of the Mathematics education graduates both in the Master's and Doctoral levels. Specifically, it describes the competitive edge of the graduates in terms of employment, career advancement, and opportunities. It also determines the extent to which the program contributes to the development of the competencies of the graduates (general and content-based competencies).

Education is the most important mechanism for the empowerment of people for their socio-economic, political, and technological development (Gronlund, 1981; Malan, 2000; and Ramirez, Cruz & Alcantara, 2014). Learning environments of higher education institutions must take cognizance of this in structuring their course programs.

For the purpose of quality assurance of course programs, higher education institutions can contribute meaningfully by applying the principles of tracer study to create sustainable learning empowerment environment for the continuous professional development of past students. Tracer study can be used for the enhancement of quality course programs offered in higher education institutions to be able to meet the demands of changing educational, socio-economic, industrial and technological demands of the new century (Ugwounah & Omeje, 1998; Schomburg, 2003; Mancao, 2010; Gines, 2014; Ramirez, Cruz & Alcantara, 2014; and Pannogan & Ocampo, 2016).

This study is very significant to the research priorities of the university, because the results of the study can serve as inputs to the improvement of the Mathematics education program in the graduate level in terms of curriculum and instruction.

Conceptual Framework. This study is anchored on the assumption that the quality of graduates is a product of curricular offerings and sound university environment that hone the competencies of graduates. Moreover, their employability and career advancement are clear indicators of their competitive edge. Finally, graduates who are gainfully employed and faced with various career opportunities are signs that they are contributory to economic development and social order (*cf* Schomburg, 2003; Mancao, 2010; Simeon, 2011; Paramasivama & Muthusamy, 2012; and Sarabia, 2012). See figure 1.

The study aims to evaluate the graduate Mathematics education program based on the perceptions of the graduates. Specifically, it aims to do the following: (1) Describe the profile of PNU or Philippine Normal University's Mathematics education graduates in terms of biographical characteristics, employment attributes, transition, and professional experiences; (2) Determine the extent to which the Mathematics education program contributes to the development of competencies of graduates in general competencies and content-based competencies; and (3) Propose reforms in the following areas: curriculum and research policies, and support services to students

METHODS

Research Design. The study employed the descriptive research design, specifically

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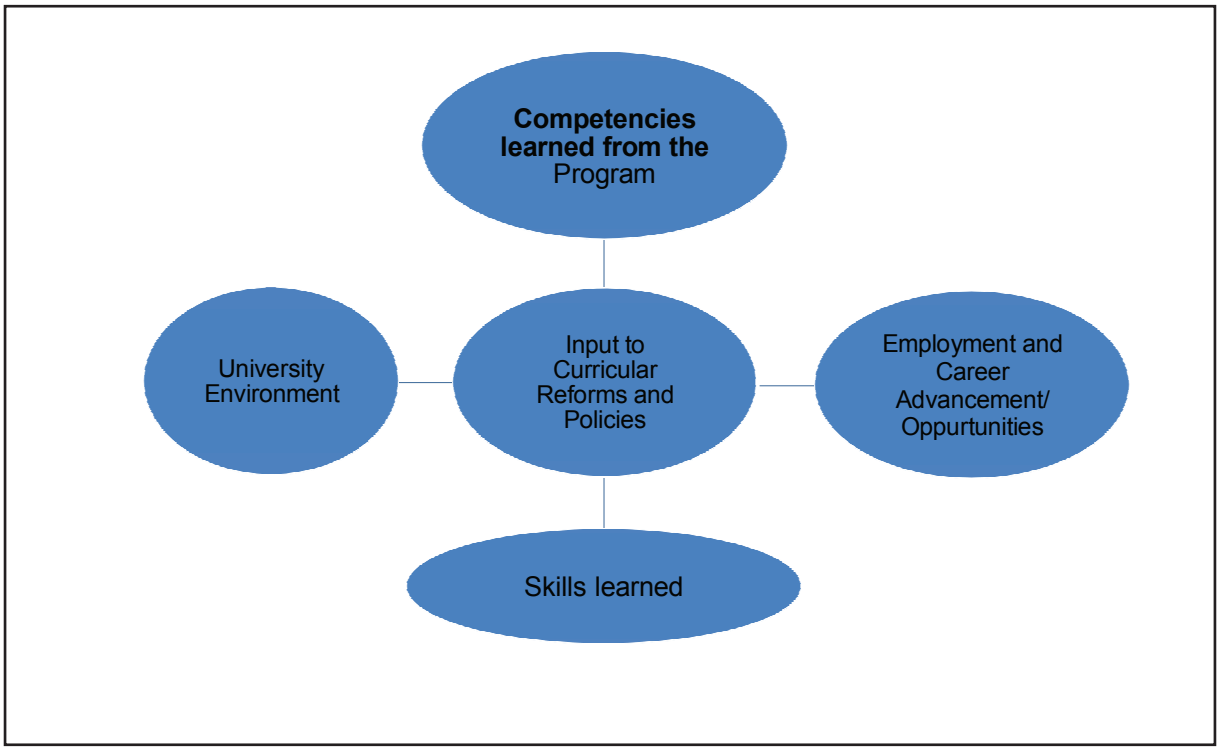

Figure 1:
Conceptual Framework

the survey method (Walpole, 1982; Bailey, 1987; and Ferguson, 1995). A questionnaire was developed and validated to capture the data needed to answer the research questions. The results of the survey were validated by interviews and focus group discussion with the participants (Bailey, 1987).

Participants of the Study. The participants of this study were graduates of Master of Arts in Education with Specialization in Mathematics Education and Doctor of Philosophy in Mathematics Education for the period 2000-2013. A total of 15 graduates of the Master of Arts in Education with Specialization in Mathematics Education and 2 Doctor of Philosophy in Mathematics Education for the period 2000-2013.

However, only 7 graduates from the Master's program and 2 graduates from the Doctoral program participated in the study. Some graduates cannot be located anymore and some did not return the questionnaire sent to them through e-mail.

Research Instruments. The study utilized the PNU (Philippine Normal University) questionnaire on tracer study. The instrument consists of two parts. The first part aims to identify the profile of the graduates in terms of personal data, employment characteristics, and professional achievement. The second part aims to determine the graduates' retrospective evaluation of the program which including their satisfaction with the services, learning environment, and facilities of the university.

It also assesses the adequacy and relevance of the curricular program in Mathematics education. This instrument was developed by the faculty of the College of Graduate Studies and Teacher Education Research. Its development went through a series of discussion among the faculty and it was content validated by experts on tracer study.

Data Gathering Procedure. The data were gathered following these stages. *Phase 1: Identifying and Locating the Graduates.* The first step in the gathering of data was the identification of the graduates for the

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Table 1:
Mean and Verbal Interpretation

Mean	Verbal Interpretation
3.51 – 4.00	To a great extent
2.51 – 3.50	To some extent
1.51 – 2.50	To a limited extent
1.00 – 1.50	To a very limited extent

Table 2:
Mean and Verbal Interpretation

Mean	Verbal Interpretation
3.51 – 4.00	Highly satisfied
2.51 – 3.50	Satisfied
1.51 – 2.50	Moderately satisfied
1.00 – 1.50	Not satisfied

Table 3:
Mean and Verbal Interpretation

Mean	Verbal Interpretation
3.51 – 4.00	Very adequate
2.51 – 3.50	Adequate
1.51 – 2.50	Moderately adequate
1.00 – 1.50	Not

Table 4:
Mean and Verbal Interpretation

Mean	Verbal Interpretation	Verbal Interpretation
3.51 – 4.00	Very adequate	Very relevant
2.51 – 3.50	Adequate	Relevant
1.51 – 2.50	Moderately adequate	Moderately relevant
1.00 – 1.50	Not adequate	Not relevant

period 2000–2013. This was done by looking at the data from the Office of the University Registrar. The home address, workplace, and contact numbers of the graduates were traced from the documents in the office, so that questionnaires can be mailed to the graduates.

Phase 2: Administering the Questionnaire. Various means were utilized to distribute the questionnaire to the graduates. Many of them were reached through social media networks, like facebook and e-mail. Some graduates were given the questionnaires personally. However, the retrieval of the questionnaires was not achieved totally. Only nine graduates were able to participate in the study.

Data Analysis Procedure. To analyze the data gathered from this study, the following statistical tools were used.

Mean. This was used to describe the level of adequacy and relevance of the curricular program of the graduate Mathematics education. To interpret the means on the extent of skills provided by the graduate Mathematics education program, the scale was used in table 1.

To interpret the means on level of satisfaction of the graduates with the services and learning environment, the scale was used in table 2.

To interpret the means on level of

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Table 5:
Profile of Graduates

		Number of Graduates	Percent
Bachelor's Degree	Education	7	78%
	Non-education	2	22%
Honors Received	With honors	4	44%
	Without honors	5	56%
Employment Status	Permanent	9	100%
	Temporary	0	0%
Administrative Position	With position	4	44%
	Without position	5	56%

Table 6:
Reasons for Enrolling at PNU

Reasons	Number of Graduates	Percent
1. School location	0	0%
2. Personal prestige of being at PNU	3	33%
3. Fulfilment of dream to study at PNU	7	78%
4. Prospect for better employment	2	22%
5. Prospect for career advancement	9	100%
6. Availability of scholarship	0	0%
7. Affordable tuition fee	9	100%

Table 7:
Skills Used in the Current Work

Skills	Extent of Use	
	Mean	Verbal Interpretation
1. Knowledge and Technical Skills	3.68	To a great extent
2. Communication Skills	3.59	To a great extent
3. Human Relations Skills	3.43	To some extent
4. Leadership Skills	3.25	To some extent
5. Research Skills	3.42	To some extent
6. Problem-Solving Skills	3.76	To a great extent
7. Information Technology Skills	3.47	To some extent
Overall	**3.51**	**To a great extent**

adequacy of the skills provided by the graduate Mathematics education program, the scale was used in table 3.

To interpret the adequacy and relevance of the curricular program in Mathematics education, the scale was used in table 4.

RESULTS AND DISCUSSION

Table 5 shows the profile of the respondents of the study. It can be seen from the table that most graduates are have baccalaureate degrees in education and many of them graduated with honors. Moreover, all of them have permanent status in their workplace and almost half of them occupy administrative position.

It can be inferred that the graduate degrees that they obtained could be one of the reasons for having given administrative position in their work. It is interesting to note that all graduates are presently in the teaching profession.

Table 6 shows the reasons of graduates for enrolling at PNU (Philippine Normal University). It can be viewed from the table that the foremost reasons for enrolling in PNU are because of affordable tuition fee and prospect for career advancement. Most students enrol in PNU, because they believe that PNU offers good education but

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Table 8:
Professional Achievements

		Number of Graduates	Percent
LET	Passer	9	100%
	Non-passer	0	0%
Training	With training	8	89%
	Without training	1	11%
Publication	With publication	2	22%
	Without publication	7	78%
Professional Awards	With award	1	11%
	Without award	8	89%

Table 9:
Length of Time to be Promoted After Graduation

	Number of Graduates	Percent
Right after graduation	6	67%
Less than a year	2	22%
More than a year	1	11%

Table 10:
Mode of Obtaining Promotion

	Number of Graduates	Percent
By application	1	11%
Policy of the school	8	89%
Political appointment	0	0%

low tuition fee compared to other graduate schools.

School location and availability of scholarship are not reasons for studying at PNU (Philippine Normal University). Many students in PNU are from far provinces in the country; in fact, all respondents of this study are from provinces outside of Manila. Moreover, nobody from the respondents are scholars, when they studied in PNU (interview with Respondent A, 2/9/2013; interview with Respondent B, 2/9/2013; interview with Respondent C, 2/9/2013; interview with Respondent D, 9/9/2013; and interview with Respondent H, 16/9/2013).

Table 7 shows the skills used by the graduates in the current work provided by PNU. It is evident from the table that problem solving skills are used to the greatest extent by the graduates used in their current work. This may be due to the fact that they are Mathematics majors. However, leadership skills are used to the least extent by the graduates, probably because most of them do not occupy top management positions in their job.

Among the graduates, many said, that they use other skills and qualifications in their present job which are not related to their graduate degree. Moreover, they said that the trainings that they received in the graduate program are very much related to their present tasks (interview with Respondent E, 9/9/2013; interview with Respondent F, 9/9/2013; interview with Respondent G, 16/9/2013; interview with Respondent I, 16/9/2013).

Table 8 shows the professional achievements of the graduates. All graduates are LET (Licensure Examination for Teachers) passers, because most of them are already teaching for a number of years. It can be noted that only two graduates have publication, while only one has received an award. Most respondents are teaching in the basic education level; thus, publication may not be required to them.

Table 9 shows the length of time to be promoted in the workplace after

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Table 11:
Level of Satisfaction on Services

Services	Mean	Verbal Interpretation
1. Administrative support:		
1.1. *Accounting*	2.46	Moderately satisfied
1.2. *Cashier*	2.45	Moderately satisfied
1.3. *Admissions*	2.34	Moderately satisfied
1.4. *Registrar*	2.45	Moderately satisfied
2. Faculty support	3.04	Satisfied
3. Staff	3.12	Satisfied
4. Academic advising	3.02	Satisfied
5. Research mentoring	2.69	Satisfied
6. Guidance and counselling	2.35	Moderately satisfied
7. Accommodation	2.26.	Moderately satisfied
8. Food services	2.25	Moderately satisfied
9. Library services	2.14	Moderately satisfied
10. Extension outreach/community involvement	1.45	Not satisfied
11. Extra-curricular activities	1.48	Not satisfied
12. Co-curricular activities	2.36	Moderately satisfied
13. Security	3.67	Highly satisfied
Overall	**2.82**	**Satisfied**

Table 12:
Level of Satisfaction on Learning Environment/Climate

Learning Environment	Mean	Verbal Interpretation
1. Teaching Staff:		
1.1. Knowledge of content	3.67	Highly satisfied
1.2. Interaction with students	3.45	Satisfied
1.3. Creativity in teaching	3.56	Highly satisfied
1.4. Delivery skills/teaching methods	3.63	Highly satisfied
2. Instructional materials	3.34	Satisfied
3. Respect for students	3.06	Satisfied
Overall	**3.45**	**Satisfied**

graduation. Most graduates were promoted in their work right after graduation. According to them, this is the immediate benefit that they enjoyed after graduation. In fact, most students want to finish their graduate degrees, because they want to be promoted. However, the challenge that they encountered after graduation is the assignment of administrative work that the school gave them as well as the expectation from them being a masters' or a doctorate graduate (interview with Respondent A, 2/9/2013; interview with Respondent B, 2/9/2013; interview with Respondent C, 2/9/2013; interview with Respondent D, 9/9/2013; and interview with Respondent H, 16/9/2013).

Table 10 shows the mode of obtaining their promotion. It can be seen that most of the graduates were promoted, because it is the policy of the school to promote teachers who obtained their graduate degrees.

Satisfaction with Services, Learning Environment, and Facilities. The level of satisfaction of graduates on services is shown in table 11. It can be viewed in the table that among the services in the university, the graduates are highly satisfied with the security. Perhaps, the graduates did not experience any untoward incidents in the university.

It can be noticed from the table that the graduates are satisfied with the academic services provided by the faculty, while

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Table 13:
Level of Satisfaction on Facilities

Learning Environment	Mean	Verbal Interpretation
1. Library	2.47	Moderately satisfied
2. Science Laboratories	2.34	Moderately satisfied
3. Computer Laboratories	2.24	Not satisfied
4. Equipment	2.34	Moderately satisfied
5. Classroom	3.45	Satisfied
6. Clinic	3.52	Highly satisfied
7. Canteen/Food Stalls	2.46	Moderately satisfied
8. Recreational Facilities	1.48	Not satisfied
9. Audio-Visual Room	2.36	Moderately satisfied
10. Auditorium	2.45	Moderately satisfied
11. Communication Facilities	2.43	Moderately satisfied
12. General conditions of buildings and grounds	3.17	Satisfied
Overall	**2.56**	**Satisfied**

Table 14:
Adequacy of Skills Learned

Skills	Mean	Verbal Interpretation
1. Communication skills	2.12	Moderately adequate
2. Human relations skills	3.34	Adequate
3. Leadership skills	2.45	Moderately adequate
4. Problem-solving skills	3.57	Very adequate
5. Research skills	3.49	Adequate
6. Critical thinking skills	3.54	Very adequate
7. Information and communications technology skills	2.45	Moderately adequate
8. Instructional and assessment skills	3.64	Very adequate
9. Content-based skills	3.74	Very adequate
Overall	**3.14**	**Adequate**

they are moderately satisfied provided by the administrative staff. Interestingly, they are not satisfied with extension outreach, community involvement, and extra-curricular activities (interview with Respondent E, 9/9/2013; interview with Respondent F, 9/9/2013; interview with Respondent G, 16/9/2013; interview with Respondent I, 16/9/2013).

Table 12 shows the level of satisfaction of graduates on learning environment.

It is clear from the table 12 that the graduates expressed high satisfaction provided by the teaching staff in terms of knowledge of content, creativity in teaching, and teaching methods. The lowest rating given by the graduates is on respect for the students.

Table 13 summarizes the level of satisfaction of graduates on facilities. It can be viewed from the table that the graduates highly satisfied on the clinic. They are satisfied on the classroom and the general conditions of the buildings and ground.

They are moderately satisfied with the other facilities in the university. On the contrary, they are not satisfied on the recreational facilities. The overall mean rating given to the facilities is 2.56, which means that they are satisfied on the facilities of the university.

Adequacy of Skills Learned from the Program. Table 14 reflects the level of adequacy of skills learned from the program as perceived by the graduates.

It can be viewed from the table 14 that the graduates perceived that they learned content-based skills, instructional and assessment skills, and problem-solving skills very adequately. This means that the curricular program puts premium and emphasis on the content-based skills

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Table 15:
Adequacy and Relevance of Curricular Program

Competencies	Adequacy		Relevance	
	Mean	Verbal Interpretation	Mean	Verbal Interpretation
1. Develop better understanding of Mathematics and its teaching and learning.	3.63	Very adequate	3.72	Very relevant
2. Deepen subject matter knowledge in different areas of Basic Mathematics Curriculum.	3.67	Very adequate	3.68	Very relevant
3. Develop instructional expertise in teaching Mathematics.	3.78	Very adequate	3.83	Very relevant
4. Develop broader foundation in advanced Mathematics courses.	3.82	Very adequate	3.84	Very relevant
5. Develop strong pedagogical content knowledge as it relates to teaching Mathematics.	3.45	Adequate	3.78	Very relevant
6. Develop deepened awareness in current research and theories about Mathematics learning and teaching.	3.48	Adequate	3.53	Very relevant
7. Demonstrate analytical and critical thinking grounded on sound principles of Mathematics as a discipline.	3.57	Adequate	3.64	Very relevant
8. Develop research-based models that are useful in planning instruction and assessment in Mathematics.	3.08	Adequate	3.53	Very relevant
9. Apply theoretical knowledge and results in practical setting such as Mathematics instruction, evaluation, and assessment, curricular development, and technology development.	3.42	Adequate	3.54	Very relevant
10. Propose curricular reforms in Mathematics relevant to the emerging thrusts and demands both in the national and international levels.	3.37	Adequate	3.45	Relevant
11. Demonstrate understanding of research results and research methods appropriate for the development of studies that will contribute to the new theoretical insights and practical approaches to Mathematics education.	3.28	Adequate	3.56	Very relevant
12. Demonstrate confidence in presenting own position in various critical issues in the field of Mathematics teaching and learning.	3.24	Adequate	3.35	Relevant
13. Develop a sound philosophy as a Mathematics teacher.	3.05	Adequate	2.48	Moderately relevant
Overall	**3.45**	**Adequate**	**3.53**	**Very relevant**

because it got the highest rating.

It can be noted that communication skills has the lowest rating. This implies that this is skill which was least learned by the graduates from the program. The overall mean rating is 3.14, which means that the skills learned by the graduates form the program is adequate.

Adequacy and Relevance of Curricular Program. Table 15 shows the level of adequacy and relevance of curricular programs in Mathematics education. Among the competencies developed by the curricular program, item number 4 was rated as the most adequate and most relevant. This implies that the graduate Mathematics education program provided very adequate and very relevant foundation in advanced mathematics courses.

The overall rating of the graduates on the curricular program is adequate and very relevant. They find the curricular program useful and contributory to the development of their competencies and to their professional advancement.

The responses of the graduates to the open-ended questions reveal that all of them are teaching their specialization. Majority of the graduates said that the content-based courses that they received

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from the program are the most sufficient and useful for them. On the other hand, the pedagogy courses were a little insufficient. Most graduates agree that Modern Geometry and Projective Geometry are the least useful content subjects in the program (interview with Respondent A, 2/9/2013; interview with Respondent B, 2/9/2013; interview with Respondent C, 2/9/2013; interview with Respondent D, 9/9/2013; and interview with Respondent H, 16/9/2013).

Findings. The following are the findings of the study: (1) Most of the graduates have baccalaureate degrees in education; (2) All graduates have permanent positions in their current employment and all of them are in the teaching profession; (3) Most of the graduates have administrative position in their schools; (4) All graduates are LET or Licensure Examination for Teachers' passers and most them have professional trainings for the past three years locally and internationally; (5) Only one graduate has published book and two graduates have published researches; (6) Two graduates have received professional awards; (7) Majority of them were promoted right after graduation because of the school policy of promoting teachers after obtaining a graduate degree; (8) The foremost reason why most graduates enrolled in PNU or Philippine Normal University is because of affordable tuition fee; (9) The graduates are generally satisfied with the services, learning environment, and services of the university; (10) The graduates believe that the skills that they learned from the program are adequate. Content-based skills was rated as the most adequate while communication skills as the least adequate; and (11) The trainings received by the graduates from the curricular program were adequate and relevant to the development of their competencies.

CONCLUSION

The graduate Mathematics education program is relatively successful in developing leaders and scholars in the discipline as shown by the profile of graduates. The university with the limited physical resources provides relatively satisfactory services and facilities in some aspects to the students. The graduate Mathematics education program provides adequate and relevant trainings that contribute to the development of the skills and competencies of the students.

Based on the findings and conclusions of the study, the following are hereby recommended. *First*, there is a need to improve the facilities of the university, like recreational facilities, canteen, library, and computer laboratories. *Second*, the services of the university provided by the administrative support staff has to be revisited. Procedures on payment and request for documents should be improved to facilitate the process. *Third*, extra-curricular, co-curricular activities, and community services should be given specific attention by the university because it was rated lowest by the graduates. *Fourth*, training on the development of communication skills should be given emphasis in the curricular program. *Fifth*, course offerings should be revisited because some courses were found not useful and not relevant to the needs of the students.[1]

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Interview with Respondent A, a Graduate of the Master of Arts in Education with Specialization in Mathematics Education of PNU (Philippines Normal University) in Manila, Philippines, on 2

[1]***Statement:*** We wish to confirm that our paper is not a product of plagiarism and have not been submitted, reviewed as well as published by other scholarly journals.

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Interview with Respondent B, a Graduate of the Master of Arts in Education with Specialization in Mathematics Education of PNU (Philippines Normal University) in Manila, Philippines, on 2 September 2013.
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Interview with Respondent D, a Graduate of the Master of Arts in Education with Specialization in Mathematics Education of PNU (Philippines Normal University) in Manila, Philippines, on 9 September 2013.
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Campus of PNU in Manila, Philippines
(Source: http://www.pixoto.com, 1/1/2017)

This tracer study evaluated the graduate Mathematics education program in CGSTER PNU (College of Graduate Studies and Teacher Education Research, Philippine Normal University) in Manila, Philippines. The profile of the graduates of the program was described in terms of biographical characteristics, employment attributes, transition, and professional achievements. Likewise, a retrospective evaluation of the program was also done, which includes the satisfaction of the graduates with services, learning environment, and facilities of the university.

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