

A Tracer Study of La Salle University College of Engineering Graduates

Edna Ney Macalisang Hazaymeh

Mark Krisli Dela Peña

College of Engineering and Architecture

Abstract

This study discusses the results of the tracer study of the College of Engineering and Architecture graduates of La Salle University who graduated between 2009 and 2013. The main objective of this tracer study is to examine the changes in the career pattern of the graduates in order to provide a basis of evaluation of the College of Engineering and Architecture program of La Salle University.

1. Introduction

Institutions involved in developing human resources through long and short term programs have the duty to keep track of the performance of their graduates to determine accountability and whether or not their programs have impacted on the individual, the institution, or the country. Tracer study constitutes one form of empirical study which provides valuable information for evaluating the results of the education and training of a specific institution of higher education. This information may be used for further development of the institution in the context of quality assurance (Schomburg 2003). A tracer study enables the institution of higher education to get information on possible deficits in a given educational programme which can serve as a basis for curricular improvement.

Graduate surveys provide rich experience about the whereabouts of graduates, which might help to broaden perspectives among administrators, faculty and students. Such information like the income, economic sector, current job title, working time, duration of search for the first job, methods of job search, values develop and practice in work, skills acquired are relevant for higher education institutions to note.

One fundamental problem of education and training is that they must be geared to the current and future needs of societies undergoing social and economic change. Education and training cannot be planned to static specifications, but rather must be planned flexibly within the dynamic process. It is, and must always remain capable of change. It must also be ensured that the specific circumstances of the country in question are taken into account, such that education and training are made effective and efficient, in order to make the best possible use of scarce resources (Schomburg 2003).

La Salle University (LSU) formerly Immaculate Conception College- La Salle continues to raise its educational standards to produce graduates who are highly competent, efficient and competitive in the labor market. Efforts have been exerted to provide the students with quality education like providing facilities and instructional materials as well as improving learning experiences and environment to ensure that its graduates acquire the standard competencies that will prepare them to meet the challenges in their chosen profession. (Colarte, 2007). The B.S. Engineering now on its 19th year of operation. After a decade of offering the program, it already has produced batches of graduates. Up until 2013, no tracer study on the engineering graduates was done. Hence this tracer study is undertaken. The researchers undertake this study to determine whether the graduates have achieved the goals to acquire appropriate skills, equipped with the knowledge and right attitudes necessary for engineering practice to be locally and globally competitive and whether it has effectively carried out the vision and mission of the school.

According to Schomburg (2003), graduate and employer surveys constitute one form of empirical study which can provide valuable information for evaluating the results of the education and training of a specific institution of higher education. This information may be used for further development of the institution in the context of quality assurance. In addition Schomburg (2003) cited that a tracer study sometimes also called as "alumni survey" or "follow-up survey" should enable the institution of higher education to get information to indicate possible deficits in a given educational

programme and to serve as a basis for future planning activities. Information on the professional success (career, status, income) of the graduates are needed as well as information on the relevance of knowledge and skills (relationship between knowledge and skills and work requirements, area of employment, professional position). More so, consequences of university expansion can be determined with respect to the relationship between higher education and work through tracer studies (Teichler, 1981).

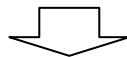
On the other hand, Holtkamp and Teichler, (1983) study conducted concerning the status of graduate surveys for the restructuring of study programs. These were to identify possible means in order to refer from the professional activities of the graduates to the requirements and potentials of teaching and study programmes. Another importance of tracer study is that it aids to examine the changes in the career pattern of the graduates in order to provide a basis of evaluation of the current programmes and it provides a continuation of the process of evaluation of the performance of the University. A study of Dato' Seri Mohamed Khaled bin Nordin and Menteri Pengajian Tinggi (2006) cited that Graduate Tracer Study has proven to be an effective method in getting accurate and quick inputs for the purpose of ensuring the human capital produced by higher education institutions are at all times relevant and be able to meet the ever changing demand of job market.

This present study is anchored on the theory of evaluation and the teaching effectiveness model. Wolf and Gowin (1980) asserted that the standards for delivering the worth of a program are set by the program's intent. These intents or objectives are measured by its outcomes, establish the criteria for rendering judgement. Gronlund (1981) supports this theory when he stated that the main purpose of evaluation is to determine to what extent the instructional objectives are achieved by the students. Gines (1998) cited that evaluation is the systematic process involving collection and analysis of data in order to make decisions. Leveriza (1990) cited that evaluation is a management responsibility. It is a managerial responsibility designed to maximize the use of the organization's resources in the attainment of its planned goals.

Chen (1996) cited his typology of basic types of evaluation distinguishes between two broad elements: the function(s) performed by an evaluation and the programme stage focused upon. What is immediately apparent from this fourfold typology is that it neither limits process evaluation to issues of programme improvement, nor restricts outcome evaluation to focusing purely on assessing the merit or overall effectiveness of a programme.

In describing process-improvement evaluation he recognizes that evaluation information can be used for either instrumental or conceptual purposes. The former applies when the aim of an evaluation is to detect strengths and weaknesses in programme processes, with a view to making recommendations for altering the structure, or adjusting the implementation, of the program.

Computer Engineering Graduates
General Information
Age
Gender
Permanent Address
Contact Numbers
Email Address
Year graduated
Graduate studies pursued
Employment Data
Present Employment Status
Current Job
Previous Job/s
Type of specific area of work
Type of institution employed
Years of working experience
Current Gross Monthly Income
First job obtained
Length of time to get a job
Ways of acquiring the current job



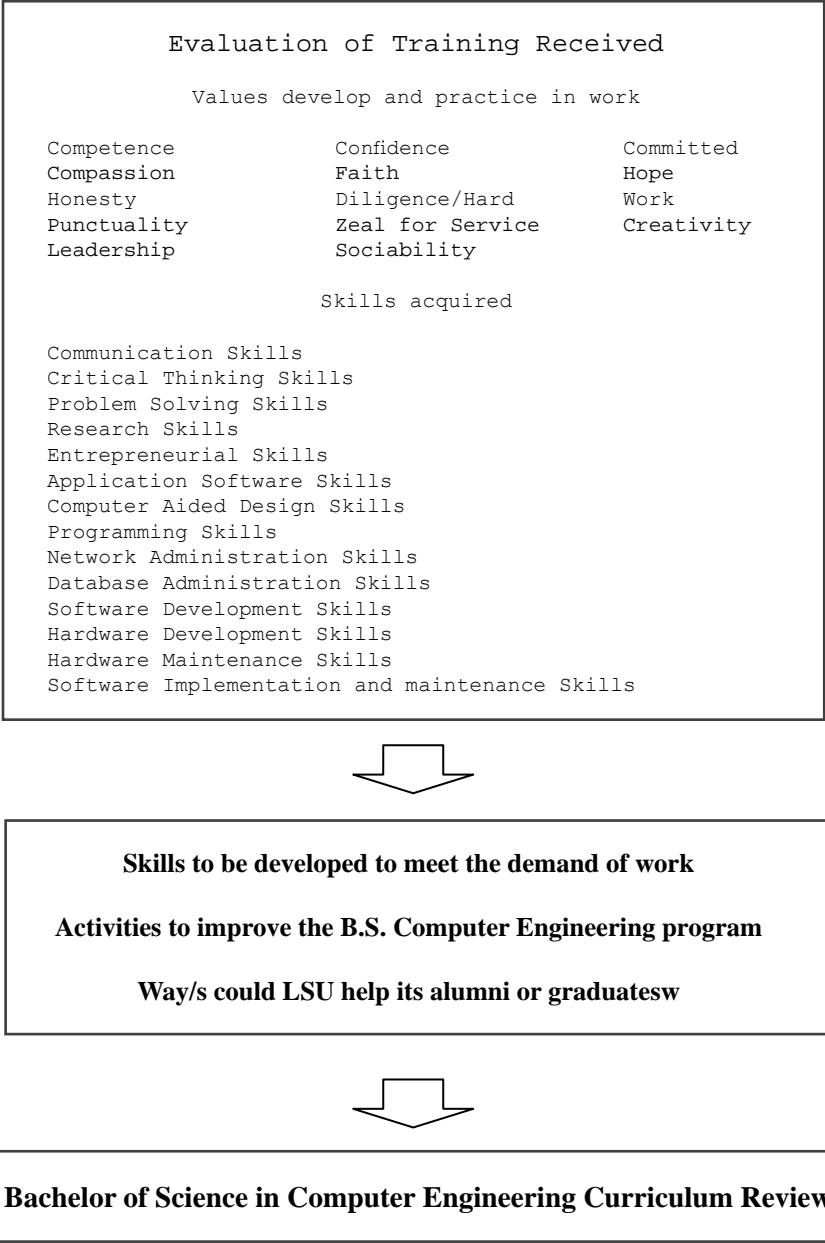


Figure 1
Schematic Diagram of the Study

Patton (1986) said that program evaluation is the systematic collection of information about the activities, characteristics, and outcomes of programs for use by specific people to reduce uncertainties, improved effectiveness, and make decisions with regard to what those programs are doing and affecting.

Weiss, as quoted by Alkin (1990) cited that evaluation is a type of policy research, designed to help people make wise choices about future programming. Evaluation does not aim to replace decision makers' experience and judgement. Evaluation strives for impartiality and fairness. At its best, it strives to represent the range of perspectives of those who have a stake in the program.

This study aims to follow up the performance of La Salle University Engineering graduates as basis for curriculum enhancement. Specifically, it sought to present profile of the graduates in terms of demographics and employability. It also aimed at exploring the perceptions of the graduates towards competencies developed by La Salle graduates, values that are developed in their alma mater and the skills that should be further developed.

The study only include graduates of B.S. Engineering program from school year 2000-2001 to school year 2012-2013. The results of this study are beneficial to the following recipients:

Administrator. The result of this study may provide guidance to school administrators with the end view of coming up with evidence-based recommendations to be undertaken to improve the employability and eventually, improve the program of studies. Program Head. The result of the investigation will serve as the basis for curriculum review and re engineering of the subject content to meet the global competitiveness.

Faculty . The findings of the study will guide the teachers to plan activities and to stay up to date and improved on its shortcomings in order to meet the demands in the field and consequently assisting in its long term sustainability.

Students. The result of the investigation will serve as eye opener to the students taking the course to triple their effort in preparation for future employment and to be qualified to practice their profession.

Alumni Officer: It will help the office of the alumni to keep in touch with and foster relationship and partnership with its former graduates.

Future Researcher. This study will be of help to other researcher undergoing tracer study. They may be guided on what other variables to consider examining the changes in the career pattern of the graduates in order to provide a basis of evaluation of the current program.

2. Method

The study employed descriptive research design since its purpose is to obtain and present facts regarding graduates demographics and investigate their perceptions regarding competencies and values developed in them by the school and the skills that should further be developed by LSU. Its main respondents are the Engineering graduates from school year 2000-2001 to school year 2012-2013.

The instrument to gather data for this study is consist of three sections. The first section contains general information of the B.S. Computer Engineering graduates which included: (a) year graduated, (b) permanent address, (c) contact numbers, email address and whether he or she pursued graduate studies or other course. The second section described the graduates' employment data which included: (a) present employment status (b) current job (c) previous job, (e) type of specific area of work (f) type of institution employed (g) years of working experience (h) current gross monthly salary (i) first job after graduation (j) length of time to get the first job (k) ways of acquiring the current job. The third section of the questionnaire contained the evaluation of training received by the graduates which

included (a) values develop and practice in work (b) skills acquired in the university. To facilitate the distribution of questionnaire, the researcher personally distributed or contacted using the cell phone or email addresses of the graduates and an on line questionnaire was uploaded in the LSU-Ozamiz website at: http://www.lsu.ozamiz.edu.ph/alumni/alumni_tracer_study and can be accessed from a link on the LSU homepage <http://www.lsu.com.ph>. The questionnaires was filled online or may be downloaded as MS Word document, which can be duly filled in and sent either as email attachment or hard copies by post. The on the questionnaire are assumed to be answered honestly and truthfully by the graduates despite their hectic schedule so that the validity and reliability of the study can be assured.

3. Results and Discussion

Data gathered for this study is presented in this section. Presentation is categorized into respondents' profile and their perception. The total number of respondents for this study is 43 and below are the data gathered. Profile is subcategorized into demographics and employability.

Demographic Profile

Respondents' demographic profile is presented in Tables 1-5. Table 1 presents the respondents' civil status.

Table 1
Civil Status of the Respondents

Civil Status	Frequency	Percentage (%)
1. Single	37	84
2. Married	7	16
3. Separated	0	0
4. Widow(er)	0	0

As shown, majority of the respondents is still single.

Respondents’ gender, on the other hand is presented in Table 2.

Table 2
Gender of the Respondents

Gender	Frequency	Percentage (%)
1. Male	37	84
2. Female	7	16

As presented, the majority of the respondents are male graduates.

Program of specialization of the respondents is presented in Table 3.

Table 3
Engineering Course of the Respondents

Course	Frequency	Percentage (%)
1. Civil Engineering (BSCE)	12	27
2. Computer Engineering (BSCpE)	16	36
3. Electrical Engineering (BSEE)	3	7
4. Electronics Engineering (BSECE)	7	16
5. Geodetic Engineering (BSGE)	6	14

Table 3 shows that most of the respondents are Computer Engineering graduates and the least number of respondents are Electrical Engineering graduates.

Respondents year of graduation is presented in Table 4.

Table 4

Year of Graduation of the Respondents

Year Graduated	Frequency	Percentage (%)
1990	1	2
1997	1	2
2001	1	2
2005	1	2
2006	2	5
2008	6	14
2009	10	24
2010	6	14
2011	3	7
2012	12	28

Table 4 shows that majority of the respondents are who responded to the study are the graduates of Batch 2012 followed by the Batch 2009 graduates.

The distribution of respondents who pursue graduate studies is presented in Table 5.

Table 5

Distribution of Graduates who Pursue Graduate Studies

	Frequency	Percentage (%)
Pursued Graduate Studies	1	2
Did not pursue Graduate Studies	42	98

As shown, almost all respondents did not pursue any graduate studies

Employability Profile

Respondents employability profile is presented in Tables 6-8. Current employmen status of the respondents is presented in Table 6 while the information on length of time respondents' first job was acquired in presented in Table 7. Table 8 on the other hand,

presents the type of employment status of the respondents.

Table 6
Current Employment Status

Present Status	Frequency	Percentage (%)
1. Employed	29	68
2. Not Employed	13	30
3. Self-Employed	1	2

Table 7
Length of Time the First Job was Acquired

Length	Frequency	Percentage (%)
1. Less than a month	10	38
2. 1-6 months	11	42
3. 7-11 months	1	4
4. 1 year to less than 2 years	3	12
5. 2 years to less than 3 years	0	0
6. 3 years to less than 4 years	0	0
7. 4 years or more	1	4

Table 8
Type Employment Status

Present Status	Frequency	Percentage (%)
1. Full time/Permanent/Regular	18	62
2. Part Time	3	10
3. Probationary	2	7
4. Temporary/Casual	6	21

As revealed in Table 6, the majority of the respondents were already employed and most of them (80%) immediately acquired their first job within 6 months after graduation as shown in Table 7. Table 8 also shows that most of the respondents were already in their Full Time/Permanent/Regular status.

Below is the list of first job acquired by the graduates:

1. Survey/Cadastral Project
2. Faculty
3. Office Engineer
4. DPWH Iligan Sales Agent
5. Cultural Arts Trainer
6. Computer Technician
7. Test Technician
8. MEPP-in-charge
9. Process Engineer
10. Foreman
11. Project Supervisor
12. QC Service Engineer
13. Jr Engineer at Bosenn Engineering
14. IT/Software Engineer
15. Cadet Engineer
16. Assistant Surveyor
17. Project Engineer
18. Inspector/Secretary
19. Field Engineer
20. QC/QE

However, the following reasons were stated by those unemployed respondents: no available/vacant job, not available for employment due to family responsibility, and just graduated

Perceptions of Respondents towards their competencies, values and skills

Perceptions of respondents regarding the competencies received, skills acquired and values developed in school are presented in Tables 9-11.

Respondents' perception on usefulness of training received from the school is shown in Table 9.

Table 9
Respondents' Perception on Usefulness of Training Received

Overall Usefulness of Training Received	Frequency	Percentage (%)
1. Extremely Useful	14	33
2. Very Useful	19	44
3. Useful	8	19
4. Somewhat Useful	1	2
5. Not Useful	2	2

As indicated in Table 9, 77% of respondents perceived the training given the La Salle University is at least very usefull to their career life.

Skills acquired by the graduates from the school is presented in Table 10.

Table 10
Skills Acquired among Graduates

Skills Acquired in	Weighted Mean	Verbal Interpretation
Problem Solving	3.82	Moderately Acquired
Communication	3.68	Moderately Acquired
Critical Thinking	3.68	Moderately Acquired
Research	3.66	Moderately Acquired
Application Software	3.66	Moderately Acquired
Construction Project Estimating	3.64	Moderately Acquired
Construction Project Management	3.50	Moderately Acquired
Computer-Aided Design	3.48	Moderately Acquired
Entrepreneurial	3.41	Moderately Acquired
Design and Structural Analysis	3.39	Slightly Acquired
Hardware Development	3.23	Slightly Acquired
Visual Basic Programming	3.18	Slightly Acquired
Surveying	3.18	Slightly Acquired
Network Administration	3.11	Slightly Acquired
Software Development	3.11	Slightly Acquired

Hardware Maintenance	3.11	Slightly Acquired
Database Administration	2.98	Slightly Acquired
Software Implementation and Maintenance	2.98	Slightly Acquired
Other Skill		
a. Karate-do	0.09	Not Acquired
b. Electrical Estimation	0	Not Acquired

Legend: 4.21-5-highly acquired; 3.41-4.2-moderately acquired; 2.61-3.4-slightly acquired; 1.81-2.6-fairly acquired; 1-1.8-poorly acquired; 0-.9 not acquired

As shown in Table 10, the respondents in this study claimed that they moderately acquired the skills particularly on the problem solving, communication, critical thinking , research, application software, construction project estimating, construction project management, computer-aided design, and entrepreneurial from the school. Graduates learn little skill in design and structural analysis, hardware development, visual basic programming, surveying, network administration, software development, hardware maintenance, database administration and software implementation and maintenance as the results showed that these skills are just slightly acquired. Further, they claimed that among they do not learn karate-do and electrical estimation. Results could be attributed to the fact that most of the respondents in this study are computer engineering graduates who are not exposed to electrical estimation. Karate-do training is given in school however, it is not compulsory as it only caters students who voluntarily join the club.

Perceived values developed among the graduates while in the school is presented in Table 11.

Table 11

Values Developed among Graduates

Values	Weighted Mean	Verbal Interpretation
Commitment	4.11	Moderately Developed
Faith	4.11	Moderately Developed
Hope	4.09	Moderately Developed
Honesty	4.07	Moderately Developed

Diligence	4.07	Moderately Developed
Compassion	4.00	Moderately Developed
Competence	3.93	Moderately Developed
Zeal for Service	3.93	Moderately Developed
Confidence	3.91	Moderately Developed
Punctuality	3.89	Moderately Developed
Creativity	3.82	Moderately Developed
Leadership	3.80	Moderately Developed
Sociability	3.73	Moderately Developed
Other Values		
God-Centered Self	0.09	Not Developed

Legend: 4.21-5-highly developed; 3.41-4.2-moderately developed; 2.61-3.4-slightly developed; 1.81-2.6-fairly developed; 1-1.8-poorly developed; 0-.9 not developed

Table 11 indicates that almost all values listed are moderately developed among College of Engineering graduates. Top three moderately developed values include commitment, faith, hope, honesty & diligence. Given with the core values embedded in the school’s vision, it is so alarming that graduates did not consider God as the center of their life.

4. Conclusion and Recommendations

Based from the results of the study, the respondents who are mostly single, dominantly male, who are mostly from BS Computer Engineering and BS Civil Engineering and graduates within 2008-2010 did not pursue Graduate Studies. From the information gathered, these graduates were employable as they got their first job within the first six months after graduation. However, there is a need for Engineering Department to review and revise their curricula, extend more efforts in developing skills relative to the programs offered. There is also a need to improve formation programs for graduates to highly develop the necessary values consistent to the graduate attributes dreamed by the University.

It is therefore recommended that curricula be revisited and improved to meet the necessary skills and competencies expected of their graduates. Mechanisms be also in place to improve formation program of the school. Regular feedbacking by the graduates should be sought by the CEA department to be used as basis for continued improvement of instruction to be able to address the industrial needs.

5. List of References

- Alkin, M. (1990). *Debates on Evaluation*. Newbury Park, CA: Sage Publications.
- Chen, H. (1996). A Comprehensive Typology for Program Evaluation American Journal of Evaluation 17: 121-130
- Colarte, C. (2007). *Tracer Study of Education Graduates Employed in Ozamiz City Division*. Lasallian Research Forum Journal, 14, 3-21.
- Gines, A. et al. (1998). *Education Psychology*. Quezon City: Rex Book Store.
- Gronlund, N.E. (1981). *Measurement and Evaluation in Teaching*. New York: Macmillan Publishing Company
- Kardi, N., et al. (2009). Enhancing Employability Initiatives: Malaysia Experience Retrieved: March 24, 2014, from <http://www.kln.ac.lk/uokr/ASAIHL/Malayasia.pdf>
- Leveriza, J. (1990). *The management of organizations*. Metro Manila, Philippines: National Book Store.
- Patton, M.Q. (1986). *Utilization-focused Evaluation*. Beverly Hills, California: Sage Publications.

Schomburg, H. (2003). Handbook for Graduate Tracer Studies: Centre for Research on Higher Education and Work, University of Kassel, Germany
http://www.qtafi.de/handbook_v2.pdf