## Lasallian Research Forum

## Editarial Baard

Editor-in-Chief
Rezyl R. Mallorca, PhD
Vice Chancellor for Research,
Extension, Alumni and Linkages/
Director of Institutional Research Office
Associate Editors

| Emma O. Suana, PhD | Omensalam A. Japar <br> University Statistician |
| :--- | :--- |
| Dean, |  |
| College of Teacher Education |  |

Flordelis J. Ejercito, PhD
Director Institutional
Quality Assurance \& Monitoring

Managing Editor
Marylene N. Tizon
Faculty, CAS
Publishing Editor

Kristel S. Tibule
Secretary of VC for REAL
Publication Assistants
Chariezel A. Decena
chariezeldecena28@gmail.com

Genevive J. Babanto
genevivebabanto@rocketmail.com

# LASALLIAN RESEARCH FORUM <br> La Salle University <br> Ozamiz City 

Foreword ..... 5
Students' Attitudes and Perceptions towards ..... 7
Performing Arts
Chiedel Joan G. San Diego
Abelano P. Pagalan
Mary Ann S. Banac
Work Competencies of Office Secretaries ..... 22
Ma. Melisa P. Abamonga
Teresita O. Dayondon
Learning and Teaching Styles in the Selected ..... 36Colleges of La Salle University - Ozamiz
Anna C. Bocar
Prudelen C. PasokBenjiemen A. Labastin
College of Teacher Education ..... 64Curricular Programs: Towards CurriculumInnovationWenny M. Caseros
Comparative Study of the CGEAT Pretest ..... 77 and Posttest Results in Mathematics Subtest
Ernie O. Capuno
Merlinda A. Dagomo
Omensalam A. Japar

## Fareward

EXCELLENCE, is the word that best fits the aim of producing this new issue of Lasallian Research Forum, Volume 17, no. 2. Articles featured in this journal are proofs of the University's attempt in reaching teaching excellence and learning endeavors.

Excellent and quality education starts with a good plan translated into a curriculum document for administration, teachers and students to follow. Moreover, a good curriculum produces quality graduates. With the intention of providing the industry with pool of resources that meet organization's objectives, a faculty from College of Teacher Education, Wenny Caseros, revisited the college's curricular programs to come up with a new program that addresses the demands of the society by having dignified and qualified teachers in schools. Anna Bocar, Prudelen Pasok and Benjiemen Labastin's effort to share in coming up with better curriculum is translated by assessing the learning styles of students and teaching styles of teachers in selected colleges of the University. The results of their study are hoped to be used by the teachers of the concerned colleges in coming up with best plan when they come to teach students in their respective fields. Teachers can benefit by using information on how students learn best and on what teaching style they respond most so that excellence is achieved in one's field. Another group of researchers namely, Ernie Capuno, Merlinda Dagomo and OmensalamAsi tried to help attain quality education by looking at Mathematics pretest and posttest scores of students in the College General Education Achievement Test (CGEAT). The study was made to identify which of the Mathematics competencies students got low scores and the results would be used to come up with a better remediation program.

Equipping students with the necessary competencies in their respective fields is one of the academic administrators' goals. Another goal that the University has for the students is to expose the latter to different Filipino culture and arts using different modes
like dancing, singing and acting on stage. With these exposures, Chiedel Joan San Diego, Abelano Pagalan and Mary Ann Banac, conducted a study measuring the students' attitudes and perceptions towards performing art to highlight the importance of Culture and Arts office to continue producing shows that would level up the interest of the students and which would be useful to their lives.

Lastly, all endeavors of the University and its administrators would never be possible without the excellent help of the administrators' right hand kicks, the secretaries. The study made by Ma. Melisa Abamonga and Teresita Dayondon on secretaries' work competencies gave everyone in LSU an assurance that services are given to students efficiently as the article revealed that secretaries are perceived to be efficient.

For the articles shared, the Institutional Research Office would like to thank all researchers whose contribution made this journal a success. May everyone continue to be inspired in discovering new things to assure EXCELLENCE in delivering Lasallian education to the poor and young at risk.

# Students' Attitudes and Perceptions towards Performing Arts 

Chiedel Joan G. San Diego<br>Abelano P. Pagalan<br>Mary Ann S. Banac<br>College of Arts and Sciences


#### Abstract

The study aimed to assess the students' attitudes and perceptions towards performing arts and also the impact of the shows to the students' education and personal lives. Researcher-made questionnaire was used to assess the students' motivation towards watching shows, their perception towards performing arts and the impact of shows to them. The findings were the following: $38 \%$ of the respondents had very high level of exposure as to watching shows. $38 \%$ had very high involvement in socio-cultural activities. $88 \%$ were intrinsically motivated to watch shows. The following items were agreed by the respondents: the shows are relevant to the subject taken; Arts are vital in providing a well-rounded education for the students; Arts encourage and assist in the improvement of student's attitudes toward school; Arts education helps teach the students to communicate effectively with adults and peers; Incorporating arts into education is the first step in adding back what's missing in education today; It is important to get personally involved in increasing amount and quality of arts education. 50\% of the respondents found that arts are important to their lives. $64 \%$ found that the show they watched were interesting and relevant to them. $48 \%$ found that the price of the ticket was right but one respondent found it absolutely not right. $38 \%$ rated that the shows they watched gave a very high impact to them. $42 \%$ decided to still watch performing arts programs. Based on the results of the study, the Culture and Arts office should continue to produce shows that would level up the interest of the students and that would be useful to the students' lives. Students have very positive response to performing arts; thus, the performing arts groups of La Salle University should continue to maintain their level of performances in order to maintain the students' positive attitudes and perceptions towards them


## 1. Introduction

Learning beyond the four corners of the classroom would result to constructive, efficient and effective learning. The US Department of Education aims to transform education into an evidence-based field (Ruppert, 2006). Exploring and exposing students into more realistic field make them acquire more experience
and realistic facts. At present, schools are now integrating arts into the curriculum as part of a comprehensive education reform strategy which plays positive changes in the school environment and improves student performance (Ruppert, 2006). This integration is increasingly accepted by many nations as to its essential part of achieving success in school, work and life. According to US No Child Left Behind Act, also known as NCLB federal law (Ruppert, 2006) arts share equal billing with reading, math, science, and other disciplines as "core academic subjects," because it can contribute to improve student learning outcomes.

Art is defined as the expression or application of human creative skill and imagination (Oxford Dictionaries, 2013). The expression would be done in many forms of arts and one of those is the performing arts. It is a form of creative expression, in which the undertakers use their body or presence as the medium. Watching performing arts is an avenue of exposing and letting the learners observe and know how art is being used in performing. In many schools across the country, performing arts is intensified. Special programs for the arts are created mostly in secondary public schools. The problem now is do the schools provide performing arts productions as the output product of the application of human creative skills and imagination? Do the students have good attitudes and have positive perceptions towards performing arts?

The above problems inspired the researchers to conduct this study to assess the students' perception towards performing arts and to evaluate their attitudes towards performing arts.

Miller (2005) defines attitude as the sum of beliefs about a particular behavior weighted by evaluations of these beliefs. Attitudes are positive, negative or neutral views of an "attitude object". People can also be ambivalent towards a target, meaning that they simultaneously possess a positive and a negative bias towards the attitude in question. Attitudes are expected to change as a function of experience.

The link between attitudes and behavior has received much
attention. Many agree that attitudes are influential in behavior; however, it is theorized that this relationship is not singular, but rather multidimensional. Biddle and Chatzisarantis (1999) write in predicting behavior, attitudes are only part of a more complex decision making process where other factors can also be of influence. Values, beliefs, perceptions of control, and intentions moderate attitude-behavior relationships. Specifically, attitudes cannot determine behavior unless they lead to the development of intentions.

This study is largely anchored on the theories about selfperception and elaboration likelihood model.

Self-perception theory is an account of attitude change developed by psychologist, Bem (1972). It asserts that people develop their attitudes by observing their behavior and concluding what attitudes must have caused them. Moreover, self-perception theory (Albarracin \& Wyer, 2000; Bem, 1965, 1970), predicts that participants who develop attitudes consistent with the things they performed will also develop intentions to participate in the same type of activity.

The elaboration likelihood model (ELM) of persuasion (Petty \& Cacioppo, 1986) is a model of how attitudes are formed and changed. There are two ways people make decisions and hence get persuaded. First, when they are motivated and able to pay attention, they take a logical, conscious thinking, central route to decision-making. This can lead to permanent change in their attitude as they adopt and elaborate upon the speaker's arguments. In other cases, they take the peripheral route. Here they do not pay attention to persuasive arguments but are swayed instead by surface characteristics such as whether they like the speaker. In this case although they do change, it is only temporary (although it is to a state where they may be susceptible to further change).

The elaboration likelihood model (Albarracin \& Wyer, 2000; Petty \& Cacioppo, 1986) suggests that when people receive a persuasive message and are motivated and able to process the
arguments, the content of the persuasive message should influence their attitudes. This theory predicts, therefore, that participants who develop attitudes consistent with the persuasive message will also develop intentions to participate in an activity that is advocated by the persuasive message.

The study aimed to assess the students' attitudes and perceptions towards performing arts. Moreover, this study sought to present the profile of the respondents in terms of exposure as to watching shows and socio-cultural involvement/engagement; to determine respondents' motivation towards watching performing arts; and to find out whether performances give impact to the respondents and how they are perceived by the respondents.

This study was confined to 50 Lasallian students and was aimed at determining attitudes and their perceptions towards performing arts for the academic year 2012-2013.

The significance of this study lies specifically on the following grounds:

Culture \& Arts Office. The office would know the perceptions and attitudes of the Lasallian students towards watching performing arts shows/productions. In this, the office should prepare productions that would suit the students' interest.

Culture \& Arts Performers. The result of the students' perception towards their performance would also be the basis for their improvement.

Lasallian Students. Their perceptions will be known and heard. Their comments and suggestions will be given actions.

## 2. Method

This section deals with the research method of the study
which includes the research design, the respondents, the sampling procedure, the instruments, the data gathering techniques and the statistical instruments that are used in analyzing the obtained data.

This study used descriptive method since it described the respondents' exposure to watching shows, their socio-cultural involvement/engagement, their economic background and their course taken, and most importantly, the motivation of the respondents towards watching shows. The study assessed the attitudes, perceptions and the impact of the performances to the respondents.

The respondents of this study were the 50 Lasallian students who watched performances/productions of the different Culture and Arts groups and were enrolled in the 2 nd semester for the school year 2012-2013.

Purposive Sampling was used in this study since they were the available respondents at hand.

In this study, researcher-made questionnaires on students' motivation towards watching shows and the students' perception towards performing arts and the impact of shows to the respondents were used. Pilot testing of the researcher-made questionnaire was done in order to have valid and reliable results of the study. To gather the data needed, the students were asked to answer the questionnaire.

Frequency and percentage were used to present the description of the respondents' exposure to watching shows,their socio-cultural involvement/engagement, their economic background, the course taken and their motivation towards watching shows and also their attitudes and perceptions towards performing arts and the impact of the performances to the respondents.

## 3. Results and Discussion

This section presents the analyses and interpretations of the gathered data. The data are presented according to the sequence of the specific problems stated in the introduction.

Table 1
Respondent's Level of Exposure to Watching Shows

| Level of Exposure | Frequency | Percentage |
| :---: | :---: | :---: |
| Extremely High | 9 | 18 |
| Very High | 19 | 38 |
| High | 16 | 32 |
| Low | 5 | 10 |
| Very Low | 1 | 2 |
| Total | 50 | 100 |

As reflected in Table 1, 19 or 38\% of the respondents had very high level as to the exposure to watching shows, 16 or $32 \%$ had high exposure, 9 or $18 \%$ were extremely high, 5 or $10 \%$ had low exposure and only 1 or $2 \%$ had a very low exposure as to watching shows.

Table 2
Level of Socio-cultural Involvement of the Respondents

| Socio-cultural <br> Involvement | Frequency | Percentage |
| :---: | :---: | :---: |
| Extremely High | 5 | $10 \%$ |
| Very High | 19 | $38 \%$ |
| High | 14 | $28 \%$ |
| Low | 11 | $22 \%$ |
| Very Low | 1 | $2 \%$ |
| Total | 50 | $100 \%$ |

In Table 2 it has been revealed that 19 or $38 \%$ of the respondents had very high socio-cultural involvement, 14 or $28 \%$ had high involvement, 11 or $22 \%$ had low involvement, 5 or $10 \%$ had extremely high involvement and only 1 or $2 \%$ had a very low socio-cultural involvement.

Table 3
Students' Motivation towards Watching Shows

|  | Frequency | Percentage |
| :--- | :---: | :---: |
| Motivation |  |  |
| Intrinsic Motivation - the desire to do <br> something because it is enjoyable | 44 | $88 \%$ |
| Extrinsic Motivation - the desire to <br> do something because of external <br> rewards such as awards, money, and <br> praise | 6 | $12 \%$ |
| Level of Inclination |  |  |
| Very Inclined | 16 | $32 \%$ |
| Somewhat inclined | 20 | $26 \%$ |
| Neutral | 1 | $40 \%$ |
| Not at all Inclined | $2 \%$ |  |
| Frequency of watching shows | 20 |  |
| Always | 15 | $30 \%$ |
| Often | $40 \%$ |  |
| Sometimes |  | $30 \%$ |

Table 3 reflected the students' motivation towards watching shows. It has been reflected that 44 or $88 \%$ of them were intrinsically motivated to watch the shows. As it is defined by the Oxford Dictionaries (2013), intrinsic motivation reflects the desire to do something because it is enjoyable. If individuals are intrinsically motivated, they would not be worried about external rewards such as praise or awards. If they are intrinsically motivated, the enjoyment they experience would be sufficient for them to want to perform the activity in the future. Lasallian students are now embracing the value of arts though it is not a required show they are still motivated to watch. 6 or $12 \%$ of the respondents were extrinsically motivated to watch shows. Extrinsic motivation reflects the desire to do something because of external rewards such as awards, money, and praise Oxford Dictionaries (2013). People who are extrinsically motivated may not enjoy certain activities. They may only wish to engage in certain activities because they wish to receive some external reward like extra points for them to have high grades. Moreover, there are still students who are not fond of watching
shows. They might watch but they are still looking into the rewards that they can get out of watching. According to Whiting (1980) in his book about Proverbs and Proverbial Phrases, "we cannot really please everybody". As to inclination to watching performing arts programs, 20 or $40 \%$ of the respondents rated neutral, 16 or $32 \%$ rated themselves as very inclined, 13 or $26 \%$ rated as somewhat inclined; however one respondent rated as not at all inclined. 20 or $40 \%$ of the respondents often watch shows and 15 or $30 \%$ always and sometimes watch shows.

Table 4
Students' Perceptions towards Arts

| Perception | Frequency | Percentage |
| :---: | :---: | :---: |
| 1. The shows were relevant to the subject taken. |  |  |
| Strongly Agree | 15 | 30 |
| Agree | 30 | 60 |
| Disagree | 5 | 10 |
| 2. Arts are vital in providing a well-rounded education for the students. |  |  |
| Strongly Agree | 19 | 38 |
| Agree | 30 | 60 |
| Disagree | 1 | 2 |
| 3. Arts encourage and assist in the improvement of student's attitudes toward school. |  |  |
| Strongly Agree | 19 | 38\% |
| Agree | 29 | 58\% |
| Disagree | 2 | 4\% |
| 4. Arts education helps teach the students to communicate effectively with adults and peers. |  |  |
| Strongly Agree | 19 | 38\% |
| Agree | 28 | 56\% |
| Disagree | 3 | 6\% |
| 5. Incorporating arts into education is the first step in adding back what's missing in education today. |  |  |
| Strongly Agree | 15 | 30\% |
| Agree | 34 | 68\% |


| Disagree | 1 | $2 \%$ |
| :--- | :---: | :---: |
| 6. It is important to get personally involved in <br> increasing amount and quality of arts education. |  |  |
| Strongly Agree | 22 | $44 \%$ |
| Agree | 24 | $48 \%$ |
| 7. Rate arts as to the importance based on your <br> perceptions. |  |  |
| $9-10$ | 24 | $48 \%$ |
| $6-8$ | 25 | $50 \%$ |
| $3-5$ | 1 | $2 \%$ |

Table 5 revealed the students' perceptions towards arts. 30 or $60 \%$ agreed that the shows they watched were relevant to the subjects they are taking. 15 or $30 \%$ strongly agreed that those shows they watched were relevant as to the subjects they are taking and 5 or $10 \%$ disagreed as to the relevance of the shows to their subjects. 30 or $60 \%$ also agreed that arts are vital in providing a well-rounded education for the students, 19 or $38 \%$ strongly agreed but only 1 or $2 \%$ disagreed. It can be noted that most of them found arts as another avenue that can provide a well-rounded education or learning to them. 29 respondents agreed that arts encourage and assist in the improvement of student's attitudes towards school, 19 strongly agreed and only 2 of them disagreed. It is revealed that 28 or $56 \%$ of the respondents agreed that arts education can really help teach the students to communicate effectively with adults and peers, 19 or $38 \%$ of them strongly agreed and 3 or $6 \%$ disagreed.

In the item about incorporating arts into education as the first step in adding back what is missing in education, it has been discovered that 34 of the respondents agreed to the importance of incorporating it, 15 or $30 \%$ strongly agreed on it and only 1 respondent disagreed. 24 or $48 \%$ agreed that there is a need of increasing the amount and quality of arts education, 22 or $44 \%$ strongly agreed and 4 of them disagreed to the importance to get personally involved in increasing amount and quality of arts education. When, the respondents were asked to rate the importance of arts, 25 or half of them rated from 6-8, almost half or 24 also rated it from 9-10 and only 1 respondent
rated it from 3-5. It can be noted that most of the respondents found the importance of arts in their lives as students.

Table 5
Students' Attitudes towards Performing Arts

| Questions: | Frequency | Percentage |
| :---: | :---: | :---: |
| 1. Assessment of the Watched Shows |  |  |
| Interesting | 32 | 64\% |
| Somewhat Interesting | 18 | 36\% |
| 2. Show's Relevance |  |  |
| Absolutely Relevant | 11 | 22\% |
| Relevant | 27 | 54\% |
| Partially Relevant | 11 | 22\% |
| Not Relevant | 1 | 2\% |
| 3. Ticket Price |  |  |
| Absolutely Rightly Priced | 5 | 10\% |
| Rightly Priced | 24 | 48\% |
| Partially Priced | 11 | 22\% |
| Wrongly Priced | 9 | 18\% |
| Absolutely Wrongly Priced | 1 | 2\% |
| 4.Show's Impact |  |  |
| Extreme Impact | 13 | 26\% |
| Very High Impact | 19 | 38\% |
| High Impact | 16 | 32\% |
| Low Impact | 2 | 4\% |
| 5. Likehood of Watching More Shows |  |  |
| Absolutely Yes | 19 | 38\% |
| Yes | 21 | 42\% |
| Partially Yes | 9 | 18\% |
| No | 1 | 2\% |

Table 5 showed the students' attitudes towards watching shows. As to the assessment on how they find the shows that they watched, 38 or $64 \%$ found the shows interesting and 18 or $36 \%$ of them said they are somewhat interesting. This means that most of the respondents found out the shows that they watched were
interesting and nobody considered them boring. 27 or $54 \%$ of the respondents find the shows relevant to them, 11 or $22 \%$ find them as absolutely relevant and partially relevant to them. However, one respondent rated it not relevant. As to ticket pricing, 24 or $48 \%$ of the respondents find it right, 11 or $22 \%$ find it partially right, 9 or $18 \%$ find it not right, 5 or $10 \%$ find it absolutely right and 1 respondent find it absolutely not right. Ticket pricing is one of the major problems of cultural workers. Preparing productions needs big budget so there is really a need of giving the right price of the ticket to cover the production expenses.

Moreover, 19 or $38 \%$ of the respondents rated that the shows they watched gave a very high impact to them, 16 or $32 \%$ had high impact to them, 13 or $26 \%$ experienced extreme impact as to watching the shows and only 2 or $4 \%$ experienced low impact to the shows they watched. The respondents were asked if they will still watch performing arts programs, 21 of them said Yes, 19 said absolutely Yes, 9 said partially Yes and one said No. As to the result of this item, it can be noted that there are still many students who are interested in watching performing arts programs. Lasallian students showed positive attitudes and perceptions towards performing arts. According to the theory of Bem (1970), how the students perceived performing arts also reflect their attitudes. They think the shows that they watch would give high impact to their lives; they make it as their attitude that once there are shows that would affect their lives definitely, they will watch the said shows. For 6 years of existence of the different Culture and Arts groups of La Salle University, it has been the practice of the office and the groups that they will present at least 1-2 shows per school year; at the very beginning Lasallian students were not so exposed to cultural shows but as years passed by, students began to embrace, love and were motivated to watch cultural shows/productions. As stated by Petty \& Cacioppo (1986) about the model elaboration likelihood model (ELM) of persuasion, it is a model of how attitudes are formed and changed. There are two ways people make decisions and hence get persuaded. First, when they are motivated and able to pay attention, they take a logical, conscious thinking, central route to decision-making. This can lead
to permanent change in their attitude as they adopt and elaborate upon the speaker's arguments.

## 3. Summary, Conclusion and Recommendation

This chapter is the recapitulation of salient points of the study. It presents the summary, findings, conclusion and recommendations.

The study aimed to assess the students' attitudes and perceptions towards performing arts. Moreover, this study also sought to determine the students' level of exposure to watching shows and their socio-cultural involvement. The study also aimed to find out the impact of the shows to the students' education and personal lives. The study used descriptive - evaluative method since it described the respondents' exposure to watching shows, their sociocultural involvement/engagement, their economic background and the course taken; mostly, their motivation towards watching shows. The study evaluated the attitudes, perceptions and the impact of the performances to the respondents. The respondents of this study were the Lasallian students who watched performances/productions of the different Culture and Arts groups and were enrolled in the 2nd semester for the school year 2012-2013. Purposive sampling was used to select the students to be included in the study. The study utilized a researcher-made questionnaire which underwent Pilot testing in order to have valid and reliable results of the study with 0.70 Cronback alpha. Frequency and percentage were used to present the description.

The following are the important findings and disclosures of the study:

1. $88 \%$ of the respondents were intrinsically motivated to watch shows.
2. As to inclination to watching performing arts programs, 20 or $40 \%$ of the respondents rated neutral. $40 \%$ of the respondents often watched shows.
3. The following items were agreed by the respondents:
3.1 The shows are relevant to the subject taken.
3.2 Arts are vital in providing a well-rounded education for the students.
3.3 Arts encourage and assist in the improvement of student's attitudes toward school.
3.4 Arts education helps teach the students to communicate effectively with adults and peers.
3.5 Incorporating arts into education is the first step in adding back what's missing in education today.
3.6 It is important to get personally involved in increasing amount and quality of arts education.
4. $50 \%$ of the respondents found that arts are important to their lives.
5. $64 \%$ of the respondents found that the shows they watched were interesting and relevant to them.
6. $48 \%$ of the respondents found that the price of the ticket is right but 1 respondent found it absolutely not right.
7. $38 \%$ of the respondents rated that the shows they watched gave them a very high impact.
8. $42 \%$ of the respondents decided to still watch performing arts programs.

Based on the summary of findings, the researchers concluded that due to their very high level of exposure with regard to watching shows and socio-cultural involvement/engagement, the respondents were intrinsically motivated to watch shows and they have a positive perception towards arts and arts education as well. Interesting
shows are watched by the respondents; thus, the respondents found the relevance of arts and its high impact in their lives.

As a result of the findings and conclusions drawn from the study, the following recommendations are given:

1. The Culture and Arts office should continue to produce shows that would level up the interest of the students and that would be useful to the students' lives.
2. Students have very positive response to performing arts; thus, the performing arts groups of La Salle University should continue to maintain their level of performances in order to maintain the students' positive attitudes and perceptions towards performing arts.
3. Ticket pricing and disposal are the difficulties of cultural workers. To minimize such problems and issues, the Culture \& Arts Office should find more partners and linkages for them to tie up one show/production to help aid the production expenses.

## 5. List of References

Albarracin, D., \& Wyer, R.S (2000). The Cognitive Impact of Past Behavior: Influences on Beliefs, Attitudes and FutureBehavioralDecisions. Journal of Personality and Social Psychology July 2000 Vol. 79 Issue: 1, pages 5-22/ Pubmed/USA.

Americans for the Arts. (2005), "New Harris Poll Reveals That 93\% of Americans Believe That the Arts Are Vital to Providing a Well-Rounded Education," News Release, http://www.artsusa.org.

Bem, D.J. (1972). "Self-perception theory" in L. Berkowitz (Ed.), Advances in Experimental

Social psychology 6: 1-62. New York: Academic Press. Biddle, S.J. H., \& Chatzisarantis, N. (1999). "Motivation for a Physically Active Lifestyle through Physical Education". In Y.V.Auweele, F. Amsterdan: Elsevier

Education Commission of the States (2005), State Policies Regarding Arts in Education. Denver, CO: ECS.

| Miller, | K. (2005). | Communications <br> Processes | Theories: <br> and |
| :--- | :--- | :---: | ---: |
| Contexts. | New | York: | McGraw-Hill. |

Oxford Dictionaries. Copyright 2013, Oxford University Press. Retrieved on September 20, 2013 from http://oxforddictionaries.com/definition/english/art

Petty, R.E. \& Cacioppo, J.T. (1986). The Elaboration Likelihood Model of Persuasion

Ruppert, S.S. (2006). Critical Evidence: How the Arts benefit Student Achievement.by the NationalAssembly ofStateArtsAgencies
U.S. Department of Education, No Child Left Behind. Retrieved on August 2013 from http://www.nochildleftbehind.gov.

Whiting, B. J. (1904, 1980), Early American Proverbs and Proverbial Phrases

# Work Competencies of Office Secretaries 

Ma. Melisa P. Abamonga<br>Teresita O. Dayondon<br>College of Business and Economics


#### Abstract

A descriptive research design was utilized in this study in order to determine the work competencies of office secretaries in La Salle University as perceived by their respective office heads. A modified questionnaire based on the identified competencies used by the Research Team of the Human Services Development Institute Center for Research and Advanced Study formulated by McClelland, a Management Theorist was distributed to the 17 office heads who served as respondents of the study. Results show that, majority of the office secretaries in the institution are graduates of Business Administration and Management Accounting but not Office Administration. Further, heads perceived that their secretaries often times able to spot target quickly and interpret non-verbal cues efficiently, know how to break problems down into component parts for analysis and sort information into categories, identify patterns of behavior or situation and see discrete behavior as indicative of general problem and evaluate situations against a standard of ideal. Moreover, majority of the office heads perceived that their secretaries have an average intellectual competence. Thus, it is recommended that the institution should conduct seminars and trainings to secretaries so that intellectual competence which is average can be improved and strengthened.


## 1. Introduction

Higher Education has many old and new challenges as this society moves further into the information age. It will take more than tradition to reshape, refine and further carve out higher education's societal niche. Central to this complex process of making refined missions a reality is the excellence and quality performance of human resources the faculty and staff. (Freda Bernotavics, M.S. Study Director Research Associate, Human Services Development Institute Center for Research and Advanced Study).

Secretaries are one of the very important staff in academic
environment. Upon close examination of the academic workplace, one will find that the secretary is the common thread which weaves throughout the warp and woof of the academy's loosely woven structural fabric. This critical role exists throughout the institution and it is at the forefront of the academy's operations. Therefore, it is important to sharpen people's understanding not only on the functions, tasks, and minimal skills of the job of secretary, but also to bring clarity to their understanding of the competencies which are significant for effective performance in the job. (Research Team of the Human Services Development Institute Center for Research and Advanced Study).

There are conflicting views of the role of secretary in a university. Some see the secretary as the glue who holds the place together; others view the role as simple providing clerical services. With this perception, the researchers would like to conduct a study of the competencies of the secretaries in La Salle University.

The term competency was probably first introduced to psychology literature in 1973 when David McClelland argued in his article 'Testing for competence rather than for intelligence' that traditional tests of academic aptitude and knowledge content in fact predicted neither job performance nor success in life. Thus, the quest for theory and tools that could reliablypredict effectiveness in the workplace began (McClelland, 1973).

In 1982 it was Boyatzis who first drew together comprehensive data that had been collected in the USA using the McBer \& Company 'Job Competence Assessment' method. Since then, competency has become a significant factor in HR development practices (Simpson, 2002). The word competency comes from a Latin word meaning "suitable" (Bueno \& Tubbs, 2004). Boyatzis (1982) defines competency as "an underlying characteristic of a person which results in effective and/or superior performance in a job" (p. 97). He added that a job competency represents ability.

Similarly, Mitrani et al. (1992) states that competencies
could be motives, traits, self-concepts, attitudes or values, content knowledge, or cognitive or behavioral skills. A competency is an individual characteristic that can be measured or counted reliably and that can be shown to differentiate significantly between superior and average performers, or between effective and ineffective performers. Meanwhile, competency can be described as a set of behavior patterns that an incumbent needs to bring to a position in order to perform its tasks and functions in the delivery of desired results or outcomes (Bartram, et. al, 2002; Woodruffe, 1992).

Moreover, Rao (2000) Rodrigues \& Chincholkar (2005), believed that the human resource department should develop and design a program that encourages the people in the organization to develop their competencies for their own benefit and of others and the company in general.

Mitrani et al. (1992) mention the need for competency and predict that organizations of the future will be built around people. They add that there will be less emphasis on jobs as the building blocks of an organization; instead increased attention will be focused on employees competence. If people are used as the building blocks of an organization, then competence or what they bring to the job becomes crucial. The competency approach to selection and assessment is based on classifying, identifying, and measuring individual differences for particular work-related constructs that are relevant to successful job performance (Bartram, 2004).This study is anchored on the principle of Gray \& Herr (1998) who said that an organization's success or failure can be directly related to the quality of its workforce. The most important elements in the quest for a competitive advantage in commerce be it at the micro, or firm level or at the macro, or national level, are the skills and initiative of its workforce. Technology is only as good as the ingenuity of those who can both maintain and use it to the fullest potential.

An article entitled Strategies for Competitiveness of Company Secretaries states that as the principal officer of the company, the Company Secretary is a vital link between the company, the board of
directors, shareholders and governmental and regulatory agencies. Being a business manager and an important adjunct in corporate management hierarchy, the Company Secretary acts as a confidant of the Board of Directors; takes part in the formulation of longterm and short-term corporate policies; maintains statutory books and records and ensures compliances with legal and procedural requirements under various enactments for effective corporate governance.

Considering the above article, it emphasizes the importance of acknowledging competencies for secretaries. Thus, would help him/her become a good pillar in the organization.

According to Hay Group (2004), it is the competence of employees or the "human capital that makes the organization acquires competitive advantage. Physical facilities such as land, building, furniture and fixtures would not yield productivity, rather, it is 'people capital' that runs a business and produces value from existing resources. He further stresses that an organization's best source of competitive advantage lies with its employees. Strategies, business models, products and services can all be copied by competitors, but talented and competent employees represent a sustainable source of differentiation. The demand for effective and competent employees continuously increases in both public and private organizations because a dynamic global marketplace and increasing foreign competition have compelled organizations to become more effective and flexible in response to the rapidly changing environment.

This study sought to present the profile of the office secretary in terms of their educational background and years of working experience and to evaluate secretaries' performance as perceived by the office heads in terms of the secretarial competencies namely intellectual, entrepreneurial, interpersonal, and maturational.

This study is vital for several purposes: firstly, to focus on developing information on the task of secretaries, skills and
knowledge needed; secondly, to identify the competencies which distinguish effective performance. Furthermore it recognizes excellent work performance and strengthens weak performances.

## 2. Method

The descriptive method of research was used in this study. It attempted to describe, analyze and interpret data on the work performance of office secretaries as perceived by the office heads.

The respondents of this study were the seventeen La Salle University office heads who have secretaries. But the researchers were able to retrieve twelve or $70.59 \%$ only of the questionnaires that were distributed.

In gathering the data, this study used a questionnaire based on the identified competencies used by the Research Team of the Human Services Development Institute Center for Research and Advanced Study formulated by McClelland, a Management Theorist). The questions were being modified by the researchers to fit in what is needed and what are the useful competencies applicable in the La Salle University. The following scale with its interpretation was used to determine the perception of the office heads: 4- always, 3 - often, 2 - sometime and 1 - never.

The questionnaire was distributed to different office heads and retrieved after a certain period of time and the responses were tallied. The generated data were processed, analyzed and interpreted for a significant value.

## 3. Results and Discussion

This section presents, analyzes and interprets the data gathered. The presentation is organized according the studies' objectives.

Table 1
Secretaries' Educational Background and No. of Years Working in LSU in the Service

| Offices | Educational Background | No. of Years <br> in LSU |
| :--- | :---: | :---: |
| 1. Formation \& Mission | BS Office Administration, <br> MBA | 16 yrs |
| 2. College of Computer <br> Studies | BS Computer Science | 10 yrs |
|  <br> Economics | BSC - Business Administra- <br> tion | 3 yrs |
| 4. College of Education | BS Business Administration | 10 mos |
| 5. Human Resource | BS Business Administration | 8 mos |
| 6. VC Administration | BSC Management Acctng | 7 mos |
| 7. College of Engineering <br> \& Architecture | BS Elem. Education | 4 yrs |
| 8. General Services | BS Mgmt Accounting | 1 yr \& 7 mos |
| 9. Campus Ministry | BS Business Administration | 3 yrs |
| 10. College of Account- <br> ancy | BSC - Business | 3 y |
| 11. Development Office | BS Business Administration | $1 \mathrm{yr} \mathrm{\&} \mathrm{5} \mathrm{mos}$. |
| 12. Guidance Office | BS Management Accounting | 10 yrs |

Table 1 showed that most of the secretaries were graduates of Business Administration and/or management accounting. Furthermore, most of them have been working in La Salle University less than four years.

Moreover, Table 1 implied that a secretary needs not be a graduate of an Office administration course but other courses too.

Table 2, 3, 4, 5 show the different competencies of secretaries perceived by the office heads of LSU.

Stewart (1991), in his ground-breaking cover-storyin Fortune magazine, is credited with providing the main impetus for a new world of intellectual capitalists. The initial momentum was
supported by his popular book several years later. Moreover, he defines intellectual capital as intellectual property and experiencethat can be put to use to create wealth.

Table 2
Secretaries' Intellectual Competency

| Behavior Indicators | 4 | 3 | 2 | 1 | Total Respondents |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 Able to spot target quickly and to interpret non-verbal cues efficiently. | $\begin{gathered} 4 \text { or } \\ 33.33 \% \end{gathered}$ | $\begin{gathered} 7 \text { or } \\ 58.33 \% \end{gathered}$ | $\begin{gathered} \hline 1 \text { or } \\ 8.34 \% \end{gathered}$ |  | 12 |
| 2. Know how to break problems down into component parts for analysis and sort information into categories | 3 or $25 \%$ | $\begin{gathered} 8 \text { or } \\ 66.66 \% \end{gathered}$ | $\begin{gathered} \hline 1 \text { or } \\ 8.34 \% \end{gathered}$ |  | 12 |
| 3. Can identify patterns of behavior or situation and see discrete behavior as indicative of general problem. | 3 or $25 \%$ | $\begin{gathered} 6 \text { or } \\ 50 \% \end{gathered}$ | $\begin{gathered} 3 \text { or } \\ 50 \% \end{gathered}$ |  | 12 |
| 5. Weigh pros and cons in doing things | $\begin{gathered} 4 \text { or } \\ 33.33 \% \end{gathered}$ | $\begin{gathered} 7 \text { or } \\ 58.33 \% \end{gathered}$ | $\begin{gathered} 1 \text { or } \\ 8.34 \% \end{gathered}$ |  | 12 |
| 6. Know how to develop new approaches from reflection on prior experiences. | $\begin{gathered} 5 \text { or } \\ 41.66 \% \end{gathered}$ | $\begin{gathered} 6 \text { or } \\ 50 \% \end{gathered}$ | $\begin{gathered} 1 \text { or } \\ 8.34 \% \end{gathered}$ |  | 12 |

Table 2 reflected that seven or $58.33 \%$ of the respondents perceived that their secretaries often times are able to spot target quickly and interpret non-verbal cues efficiently and only four or $33.33 \%$ perceived that their secretaries are always able to spot target quickly and interpret non-verbal cue efficiently. Moreover, it showed that eight or $66.66 \%$ perceived that their secretary often times know how to break problems down into component parts for analysis and sort information into categories while 3 or $25 \%$ perceived as always as well as 3 or $25 \%$ perceived it as sometimes. In addition,
six or $50 \%$ of the respondents perceived that their secretaries often times can identify patterns of behavior or situation and see discrete behavior as indicative of general problem while three or $25 \%$ perceived as always and three or $25 \%$ perceived also as sometimes. Consequently, it also showed that eight or $66.66 \%$ perceived that their secretaries often times evaluate situations against a standard of ideal. Furthermore, the table shows that seven or $58.33 \%$ of the respondents perceived that their secretary often times can weigh pros and cons in doing things and lastly, six or $50 \%$ perceived their secretary often times know how to develop new approaches from reflection on prior experiences.

The results revealed that majority of the respondents perceived that most of the secretaries have an average intellectual competence because they can often times perform tasks that are categorized under intellectual competency.

The concept of competence has mainly been applied in the world of business, and more specifically in the field of recruiting and selecting new employees (Stoof, 2005). In the domain of entrepreneurship, previous research has studied models of competency in order to examine entrepreneur's competencies regarding the importance of initiating and succeeding in new business (Bird, 2002). Likewise, Onstenk (2003) maintains that proper entrepreneurial competencies are required to successfully start, operate and ensure the survival of a new business in the marketplace. From an educational perspective, scholars are primarily concerned with the development of individual-level competencies for entrepreneurship (Bird, 2002).

Table 3
Secretaries' Entrepreneurial Competency

| Behavior <br> Indicators | $\mathbf{4}$ | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{1}$ | Total <br> Respondents |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 1. Know how to structure <br> work to increase effi- <br> ciency? (e.g. what to do, <br> in what sequence | 6 or <br> $50 \%$ | 4 or <br> $33.33 \%$ | 2 or <br> $16.66 \%$ |  | 12 |
| 2. Can spot things that <br> are out of order, below <br> standard, or inappropri- <br> ate. | 6 or <br> $50 \%$ | 5 or <br> $41.66 \%$ | 1 or <br> $8.34 \%$ |  | 12 |
| 3. Can easily adopt to <br> new technology/ equip- <br> ment etc...to improve <br> efficiency | $75 \%$ | $16.66 \%$ | $8.34 \%$ |  |  |
| 4. Can initiate ways to <br> keep boss, faculty and <br> staff informed about what <br> is happening. | $33.33 \%$ | $41.66 \%$ | $25 \%$ |  | 12 |
| 5. Can assess what is <br> needed to get job done <br> as well as asses potential <br> obstacles and plans for <br> contingencies. | 5 or <br> $25 \%$ | 6 or <br> $50 \%$ | 3 or <br> $25 \%$ |  | 12 |
| 6. Can initiate activi- <br> ties and actions to solve <br> problems or accomplish <br> goals? | $41.66 \%$ | $58.33 \%$ |  |  | 12 |

In Table 3, it was revealed that six or $50 \%$ of the respondents perceived that their secretaries always structure work to increase efficiency and always spot things that are out of order, below standard or inappropriate; nine or $75 \%$ perceived that their rating of their secretary's behavior is always in adopting to new technology and equipment etc. to improve efficiency. But five or $41.66 \%$, six or $50 \%$ and seven or $58.33 \%$ perceived that often times their secretaries can initiate ways to keep boss, faculty and staff informed about what is happening, can assess what is needed to get job done as well as assess potential obstacles and plan for contingencies and can initiate
activities and actions to solve problems or accomplish goals.Table 3 then implies that the secretaries' entrepreneurial competency varies as perceived by the respondents maybe because they also vary in terms of educational background and number of years of experience.

Interpersonal competence generally refers to an employee's ability to get along with others while getting the job done. Interpersonal skills include everything from communication and listening skills to attitude and deportment. Good interpersonal skills are prerequisite for many positions in an organization.

The term "interpersonal skills" is somewhat of a misnomer, because it refers to character traits possessed by an individual rather than skills that can be taught in a classroom. Within an organization, employees with good interpersonal skills are likely be more productive than those with poor interpersonal skills, because of their propensity to project a positive attitude and look for solutions to problems. (Interpersonal skill, 2012).

Table 4
Secretaries' Interpersonal Competency
$\left.\begin{array}{|l|c|c|c|c|c|}\hline \text { Behavior Indicators } & \mathbf{4} & \mathbf{3} & \mathbf{2} & \mathbf{1} & \begin{array}{c}\text { Total } \\ \text { Respondents }\end{array} \\ \hline \begin{array}{l}\text { 1. Can build alliance to } \\ \text { achieve an objective }\end{array} & \begin{array}{c}4 \text { or } \\ 33.33 \%\end{array} & \begin{array}{c}7 \text { or } \\ 58.33 \%\end{array} & \begin{array}{c}1 \text { or } \\ 8.34 \%\end{array} & 12 \\ \hline \begin{array}{l}\text { 2. Exert effort in propos- } \\ \text { ing potential solutions to } \\ \text { problem when persuading } \\ \text { others. Thus, use informa- } \\ \text { tion or factual arguments to } \\ \text { persuade. }\end{array} & \begin{array}{c}3 \text { or } \\ 25 \%\end{array} & \begin{array}{c}8 \text { or } \\ 66.66 \%\end{array} & \begin{array}{c}1 \text { or } \\ 8.34 \%\end{array} & 12 \\ \hline \begin{array}{l}\text { 3. Use diplomatic, tactful } \\ \text { ways to get point across. }\end{array} & \begin{array}{c}7 \text { or } \\ 58.33 \%\end{array} & \begin{array}{c}5 \text { or } \\ 41.66 \%\end{array} & 8.34 \% & 1 \text { or } & \\ \hline \begin{array}{l}\text { 4. Recognize when people } \\ \text { are upset and/or need to talk. }\end{array} & \begin{array}{c}7 \text { or } \\ 58.33 \%\end{array} & \begin{array}{c}4 \text { or } \\ 33.33 \%\end{array} & 8.34 \%\end{array}\right]$

| 5. Able to view situations <br> from other people's per- <br> ception or point of view? <br> (empathy) | 7 or <br> $58.33 \%$ | 4 or <br> $33.33 \%$ | 1 or <br> $8.34 \%$ | 12 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 6. Take into account values <br> that differ from their own. | 7 or <br> $58.33 \%$ | 4 or <br> $33.33 \%$ | 1 or <br> $8.34 \%$ | 12 |

Table 4 reflected that seven or $58.33 \%$ and eight or $66.66 \%$ of the respondents perceived that their secretaries often times build alliances to achieve an objective and exert effort in proposing potential solutions to problem when persuading others. Thus, they use information or factual arguments to persuade. On the other hand, Table 4 also revealed that seven or $58.33 \%$ or the respondents perceived that their secretaries always use diplomatic, tactful ways to get point across, recognize when people are upset and/and or need to talk, able to view situations form other people's perception or point of view and take into account values that differ from their own.

It further reflects then that majority of the respondents perceived that their secretaries have efficient interpersonal competence because the respondents rated always to four of the behaviors were categorized under interpersonal competency.

Table 5
Secretaries' Maturational Competency

| Behavior <br> Indicators | 4 | 3 | 2 | 1 | Total <br> Respondents |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 1. Show job commit- <br> ment; that is, enthu- <br> siastically pitches in <br> an effort not in job <br> description. | 8 or <br> $66.66 \%$ | 4 or <br> $33.33 \%$ |  |  | 12 |
| 2. Willing to learn skills <br> and knowledge neces- <br> sary to do a better job. | 8 or <br> $66.66 \%$ | 3 or <br> $25 \%$ | 1 or <br> $8.34 \%$ |  | 12 |


| 3. Willing to assume re- <br> sponsibility for quality <br> of product and service <br> of department. | 7 or <br> $58.33 \%$ | 4 or <br> $33.33 \%$ | 1 or <br> $8.34 \%$ | 12 |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 4. Can keep track on <br> goals/objectives despite <br> obstacle or setbacks. | 6 or $50 \%$ | 4 or <br> $33.33 \%$ | 2 or <br> $16.66 \%$ |  | 12 |
| 5. Does see herself/him- <br> self as representative/ <br> image-maker of depart- <br> ment and university. | 7 or <br> $58.33 \%$ | 5 or <br> $41.66 \%$ |  | 12 |  |
| 6. Does feel confident of <br> his/her ability to handle <br> job | $66.66 \%$ | $33.33 \%$ |  |  |  |

Table 5 depicted majority of the respondents perceived that their secretaries always show job commitment; that is enthusiastically pitches in an effort not in job description, willing to learn skills and knowledge necessary to do a better job,willing to assume responsibility for quality of product and service of department, keeps track on goals/objectives despite obstacles or setbacks, see herself/himself as representative/image-maker of department and university and feels confident of his/her ability to handle job. Table 5 further revealed that the majority of the respondents perceived that their secretaries developed more of their maturational competence.

## 4. Summary of Findings, Conclusion and Recommendations

Based from the results obtained, the following findings were drawn:

1. That most of the secretaries of the different offices in LSU were graduates of Bachelor of Science in Business Administration (different majors) and only one secretarygraduated with the degree of BS Office Administration and BS Computer Science. Seven of them have less than three years of experience working as secretary in LSU while only three have worked more than ten years.
2. That majority of the respondents perceived that most of
the secretaries have an average intellectual competence because the secretaries can often times perform tasks that are categorized under intellectual competency.
3. That the secretaries' entrepreneurial competency varies as perceived by the respondents maybe because they also vary in terms of educational background and number of years of experience.
4. That majority of the respondents perceived that their secretaries have efficient interpersonal competence because the respondents rated them always to four of the behaviors that were categorized under interpersonal competency.
5. That the respondents perceived that their secretaries developed more of their maturational competence.

Basedon the results ofthe study itconcludes that the secretaries are new. Even if most of them are not Office Administration graduates they still possess the intellectual, entrepreneurial interpersonal, and maturational competencies. Thus, they can perform their jobs as secretaries and are capable of performing their tasks.

Based on the findings obtained from this study, the researchers would like to recommend the following:

1. Seminars and trainings should also be given to secretaries so that intellectual competence which is average can be improved and strengthened.
2. The results of this research should be shown to the secretaries so that they become aware of how their boss perceived their competencies.
3. The Program heads of the Office Administration should consider the results because most of the secretaries are graduates of Business Administration not Office Administration. They should design and improve their curriculum so that their
graduates are employable even in LSU.
4. Since most of the graduates are Business Administration, secretarial procedures should be given to them. This seminar might be handled by the Program Head and faculty of the Office Administration.

## 5. List of References

Competency across the Campus: The University Secretary, Summary of a Research Study of Secretarial Competencies:
Freda: Clasby Miriam. Michigan, USA.

Crebert, G., Bates, M., Bell, B., Patrick, C.J. \& Cragnolini, V. (2004). Ivory Tower to Concrete Jungle Revisited. Journal of Education and Work, 17(1), 47

Hind, D., Moss, S. \& McKellan, S. (2007). Innovative Assessment Strategies
for
developing Employability Skills in the Tourism and Entertainment Management Curriculum at Leeds Metropolitan University. Paper presented at the 2007 EuroCHRIE Conference, Leeds, UK.

Interpersonal Skills. (n.d.). Retrieved on March 2012 from www.investopedia.com/term/i/interpersonal-skills . Retrieved on March 2012 from http:// www.fse.provincia.tn.it/prgleonardo/leonardo/public/ documentation/FinalSeminar/CompWint ertonEN.pdf

Penny, Julia (n.d.). Everything you Need to Know to Succeed in Job Interviews. Retrieved on March 2012 from http://www.best-job-interview.com . Retrieved on March 2012 from www. Business. Mcmaster.ca/mktng /nbontis.

# Learning and Teaching Styles in Selected Colleges of La Salle University - Ozamiz 

Anna C. Bocar<br>Prudelen C. Pasok<br>Benjiemen A. Labastin<br>College of Arts and Sciences


#### Abstract

This study limited its investigation to the learning and teaching styles of the respondents from the six colleges in La Salle University - Ozamiz. The descriptive survey method was utilized in this study. The researchers administered the survey questionnaire to 245 students and 58 teachers. The results of the study establish that four (4) out of the six (6) colleges preferred most the verbal style of learning. It was also noticed that the least preferred learning style of the three (3) out of six (6) colleges is aural learning style. Furthermore, it was found that the respondents from the six (6) colleges or $100 \%$ of the teachers who responded the survey preferred most the logical teaching style. The teachers of the four (4) colleges out of six (6) declared that aural and solitary teaching style is less preferred by them. The researchers are able to verify that there is a slight mismatch between the learning and teaching style of the students and teachers respectively. However, the style of the teachers is also open for the verbal teaching style.


## 1. Introduction

There are many theories and models with regard to learning styles. Learning styles are of various approaches or ways of learning. Learning is coupled with style. Teachers often times wonder why some students do not do good in their studies. They tried their best to instruct students as clearly as they can so that the latter will learn from what is taught to them but most often even students have heard and known it, some things are not working.

Students have different learning styles. In some ways they have mix styles of learning. One could easily say that his learning style is different from others and it cannot be concluded that one's
learning style is good or bad. Every teacher pursues different teaching methods. Some of them do lectures, others show and direct students to discovertheir ideas. A number of teachers center their teaching on principles, others on functions, some stress on memorization, and others on understanding. Students whose learning styles are compatible with the teaching style of a course instructor tend to retain information longer, apply it more effectively, and have more positive post-course attitudes toward the subject than to their counterparts who experience learning/teaching style mismatches (Felder, 1993).

Students must be aware of their own learning style;teachers on the other hand must know the teaching style that suits to the students. The quality of learning will increase and become faster when the learners are aware and they develop their learning style. Felder's (1993) study found that: When mismatches exist between learning styles of most students in a class and the teaching style of the professor, the students may become bored and inattentive in class, do poorly on tests, get discouraged about the courses, the curriculum, and themselves, and in some cases change to other curricula or drop out of school. Professors are confronted by low test grades, unresponsive or hostile classes, poor attendance and dropouts.

Moreover, mismatch exists when the learning styles of the students are different from the teaching style of the teachers. When this situation happens, the students tend to retain the learning in short period of time, ineffective in its application and have negative impression about the course (Felder, 1993).

The gap between the teaching styles of the teachers and the learning style of most of the students results to severe consequences. Students might tend not to like the subject matter and will feel less interested in it. When this situation happens, the class will become not attentive and students' poor performance is noticeable; teachers may turn out to be unfriendly to their students. This will create hindrance to the learning of the students. This situation could be
reduced when the teachers will modify their teaching styles and they must take in hand students' learning style. They must balance their teachings to the needs of the students (Felder, 1993).

Jenkins (n.d.) said that, "Student outcomes are the bottom line of a school program" (as cited in Stitt-Gohdes, n.d.). Therefore, teachers should be vigilant on their teaching styles. They need to fit the needs of the students and to develop learning situations that will motivate the students to attain advanced standards and learn more effectively. Students are unique and their minds work different from the other.

Canfield (n.d.) concluded that, "Knowing the kinds of learning experiences that students most value may help instructors develop alternative course structures that provide a better fit between their instructional goals and the learning style preferences of their students" (as cited in Stitt-Gohdes, n.d.). According to Leaver (n.d.), "People are born to learn," (as cited in Stitt-Gohdes, n.d.).

Failure to attain the desired skills and knowledge can be the outcome when instructional methods are not attuned to students preferred learning style ("Teaching \& Learning", 2003.) According to Banks, 1988; Belenky, Clinchy, Goldberger, \& Tarule, 1986; Knowles, 1980; Philbin, Meier, Huffman, \&Bouverie, 1995 "All students learn, but not all learn in the same way. Some grasp information best by listening, while others learn better through reading, reasoning, or discovering concepts through a hands-on experience. These different ways of learning are referred to as learning styles (as cited on "Teaching and Learning", 2003).

According to Bentz, 1974; Montgomery \& Groat, 2002 " individuals perceive and process information in different ways, at any one point in time many students in a class may experience some degree of discomfort, disinterest, or anxiety because the instructor is not using the learning approach they most prefer. Students who are having difficulty may become so disenchanted, or "failure-prone,"
that they may give up on their learning efforts. Thus, understanding how students learn is a crucial part of selecting appropriate teaching strategies" (as cited in "Teaching and Learning", 2003).

According to Felder (1993) "the teacher must have to reach all types of learners. This is evident when the teacher has the "teaching around the cycle" style. The teacher should explain the relevance of each new topic, present the basic information and methods associated with the topic, provide opportunities for practice in the methods, and encourage exploration of applications." Felder (1993) said further in his paper that, "most of the science classes students are visual learners while teachers presented the lecture verbally or in written forms." In the study of Novin, Arjomand, and Jourdan (2003) the vast majority accounting, management, marketing, and general business major students demonstrate clear preferences for the assimilator and converger. These are two of the learning styles introduced by Kolb.

According to Lashley (1999) "there are number of studies not only in Asia that are conducted to identify the learning preferences of hospitality, tourism and travel management students. The results of these studies suggest that huge number of these students take pleasure in practical activity but not happy in reflective activity. And therefore certainly these students exhibit their activist learning style (as cited in Barron and Arcodia, 2002)." Students with activist learning style preferences learn most easily from activities involving group work that is exciting, challenging and quick to change. They found it difficult to learn when they do not do the things and do not become involved and to undertake solitary work is not enjoyable for these types of learners (Honey and Mumford, 2000 as cited in Barron and Arcodia, 2002).

Traditional engineering instruction focuses almost exclusively on formal presentation of material. This means that the way the information is transmitted to the learners is by means of lecture (Felder, 1993).

Kolb's theory in 1981 (as cited in Novin, Arjomand, \& Jourdan, 2003) defined the following four learning styles.
(1) Accommodator. This refers to a person whose learning style is by means of recognizing the information through his feelings and he practices it by doing. The researchers believe that this is more or less similar to physical or kinesthetic learning style. In the study of Honey and Mumford (1986) this type of learners were named as pragmatists. The learners belong to practical, handson people who further like to apply new ideas immediately. They often get impatient with an over emphasis on reflection (as cited in Barron and Arcodia , 2002). (2) Diverger. This refers to a person whose learning style favors reflection and develops the information by watching and listening. In this case the researchers believe that logic plays a big part in the learning style. This is as good as the so called theorists learners. They like to integrate their observations into logical models based on analysis and objectivity. They appear to enjoy the structure associated with sound theoretical frameworks (Honey and Mumford, 1986 as cited in Barron and Arcodia, 2002). (3) Converger. This kind of learner refers to one who favors active learning. The learner prefers to perceive the information by thinking and doing. This is analogous to social or interpersonal learning style. This is also close to the activist learner. Activists like to involve themselves in new practices and enjoy tackling problems by brainstorming. They appear to be easily bored and prefer to move from one task to the next as the excitement fades (Honey and Mumford, 1986 as cited in Barron and Arcodia , 2002). (4) Assimilator. This refers to a person who prefers to learn by thinking and watching/listening. This style of a learner is similar to a person who learns the information in a solitary or intrapersonal manner. This learner shows evidence of a reflector. Reflectors are more cautious and thoughtful and prefer to consider all possible avenues of action before making any decisions. As the name would suggest, any actions they take are based on observation and reflection (Honey and Mumford 1986, as cited in Barron and Arcodia, 2002).

According to an online article ("Overview of Learning Style", n.d.) learners utilized different characteristics in their learning styles. The Table 1 below shows seven (7) learning styles from the said article with their characteristics:

Table 1
Learning Styles

| Learning Style | Characteristics |
| :--- | :--- |
| (1) Visual (spatial) | use pictures, images, and spatial under- <br> standing |
| (2) Aural (auditory-musical) | use sound and music |
| (3) Verbal (linguistic) | use words, both in speech and writing |
| (4) Physical (kinesthetic) | use body language and gestures |
| (5) Logical (mathematical) | use logic, reasoning and systems |
| (6) Social (interpersonal) | learn in groups or with other people |
| (7) Solitary (intrapersonal | work alone and use self-study |

The researchers gain knowledge that the above learning styles are the combination of learning styles from different models namely:
(1) Myers-Briggs Type Indicator ( MBTI) which derived from Carl Jung's Theory of psychological types, to wit: sensors (practical, detail-oriented, focus on facts and procedures); feelers (appreciative, tend to make decisions based on personal and humanistic considerations); intuitors (imaginative, conceptoriented, focus on meanings and possibilities); thinkers (skeptical, tend to make decisions based on logic and rules) ; extraverts (try things out, focus on the outer world of people); introverts (think things through, focus on the inner world of ideas); judgers (set and follow agendas, seek closure even with incomplete data); perceivers (adapt to changing circumstances, resist closure to obtain more data).
(2) Felder-Silverman Learning Style Model (1996) classifies students as sensing learners (concrete, practical, oriented toward facts and procedures); visual learners (prefer visual representations
of presented material--pictures, diagrams, flow charts); verbal learners (prefer written and spoken explanations); intuitive learners (conceptual, innovative, oriented toward theories and meanings); inductive learners (prefer presentations that proceed from the specific to the general); deductive learners (prefer presentations that go from the general to the specific); active learners (learn by trying things out, working with others); reflective learners (learn by thinking things through, working alone); sequential learners (linear, orderly, learn in small incremental steps); and global learners (holistic, systems thinkers, learn in large leaps).

Learning is a two-step process. First, it is the reception of the information which involves external information (observable through our senses) and internal information which arises introspectively. The second step is the processing of information which involves simple memorization, reflection or action, and introspection or interaction with others (Felder and Silverman, 1988). The paper of Felder and Silverman (1988) stated that, "most of the learning and teaching style components parallel one another except the active/reflective learning style and the active/ passive teaching style. Their study illustrated that the learning and teaching style of the students and teachers respectively, may be defined by answering some questions, like: 1) What type of information does the student preferentially perceive: sensory (external)—sights, sounds, physical sensations, or intuitive (internal)—possibilities, insights, hunches?; 2) Through which sensory channel is external information most effectively perceived: visual-pictures, diagrams, graphs, demonstrations, or auditory - words, sounds?; and 3) How does the student prefer to process information: actively- through engagement in physical activity or discussion, or reflectivelythrough introspection?

The questions 1 and 2 have reference to the different learning styles of students. The question number 3 refers to how the students process the information.

On the other hand, the following questions suggested the
teaching style of the teacher. To mention: 1) What type of information is emphasized by the instructor: concrete- factual, or abstractconceptual, theoretical?; 2) What mode of presentation is stressed: visual-pictures, diagrams, films, demonstrations, or verbal- lectures, readings, discussions?; and 3) What mode of student participation is facilitated by the presentation: activestudents talk, move, reflect, or passive-students watch and listen?

The numbers 1 and 2 refer to how the teacher presented the content of the subject matter. The teacher presented the information in a concrete or factual manner; this means that students will be able to perceive the information through their senses (sensory learning) and when it is presented through abstract, conceptual or theoretical manner the students have to perceive the information logically, intuitively. The number 3 question refers to the mode of students' participation.

This study limits its investigation by utilizing the learning styles and their characteristics from the online article titled "Overview of Learning Style", (n.d.) This is a combination of Carl Jung's Theory and the teaching style from Felder and Silverman (1988).

This study attempted to identify the learning styles of the students and teaching styles of the teachers from selected colleges in La Salle University- Ozamiz as determined by them. Specifically, this investigation was undertaken to provide the profile of the respondents (students and teachers) from the different colleges/ school; and to identify the preferred learning style of the students and the preferred teaching styles of the teachers.

This study is important to the following:

Students. This will unfasten the minds of the students and they will proficiently discover what type of learners they are.

Parents. They will be able to identify and understand the
learning style of their children; thus, they could extend full support to attain their goals of getting good grades.

Faculty Members. The faculty members are the direct contact to the students. In this point, this paper could be a guide to understand their students and to come up with an improved program teaching strategies that will suit, encourage and challenge the students to tint their studies with enthusiasm.

Academic Administrators. The result of this study is a beneficial tool for the academic administrators to formulate programs that fit to the students learning style. This will give them the idea what learning style they should advice to their faculty members to use for communication and instruction to students.

La Salle University. As the power and strength of the administrators emanate from the academic institution, this study might be a light to what form of professional enhancement regarding learning style the institution should introduce to eliminate communication and instruction barriers.

Researchers. As academicians this will help them to become more effective and efficient facilitators of learning. This will aid them to their communication and instructions skills and improve their ability to create good learning environment. This will also enlighten them on the effects of their teaching style.

Other Researchers. This may serve as a guide to other researchers that have the eagerness to make future research to move forward and produce better learners.

## 2. Method

The descriptive survey method was used in this study. Although in most educational environment there are sensory channels which are not often utilized ( Felder and Silverman,1988),
in this study still they were included because the respondents are coming from different colleges which offer subjects that require varied learning and teaching styles. The sensory channels referred to are the sense of smell, taste, and touch which could be translated into learning and teaching style called physical kinesthetic).

The instrument utilized in this study originated from an online article entitled Overview of Learning Styles. The indicators to identify what teaching and learning styles are most preferred by the teachers and students respectively are: use of pictures, images, and spatial understanding for visual (spatial) learners/teachers; use of sound and music for aural (auditory-musical learners/ teachers; use of words, both in speech and writing for verbal (linguistic) learners/teachers; use of body language and gestures for physical (kinesthetic) learners / teachers; use of logic, reasoning and systems for logical (mathematical) learners /teachers; learn in groups or with other people for social (interpersonal) learners / teachers; and work alone and use self-study/self -teaching for solitary (intrapersonal) learners/teachers.

Each indicator was followed by a verbal scale of measurement to determine the degree of possible responses as follows:

YES -if it represents respondents' learning / teaching style; NO - if it does not represent respondents' learning / teaching style.

Frequency and percentile distribution were used to determine the extent of practice in each learning style as manifested by the respondents.

The researchers administered the survey questionnaire to 245 students and 58 teachers coming from the six (6) colleges in La Salle University - Ozamiz namely College of Arts and Sciences (CAS); College of Accountancy (COA); College of Education (COE); School of Tourism and Hospitality Management (STHM); College of Engineering and Architecture (CEA); College of Computer Studies (CCS). The students as respondents were picked
by random to avoid bias result. The teachers who were chosen as respondents are those having regular status since they are possibly in contact with the students in regular basis and few from the full time probationary teachers. The data were gathered, tallied and interpreted. Each table presented the different learning styles which correspond to the indicators utilized by the researchers during the administration of the survey questionnaire.

The Table 2 below shows the profile of the respondents.
Table 2
Profile of the Students and Teachers as Respondents from the Selected Colleges

| College | Students | Teachers |
| :--- | :---: | :---: |
| College of Arts and Sciences (CAS) | 26 | 26 |
| College of Accountancy (COA) | 83 | 5 |
| College of Education (COE) | 51 | 5 |
| School of Tourism and Hospitality Management <br> (STHM) | 47 | 9 |
| College of Engineering and Architecture (CEA) | 23 | 5 |
| College of Computer Studies. (CCS) | 15 | 8 |
| Total | 245 | 58 |

## 3.Results and Discussion

The tables in this section presented the learning and teaching styles of the respondents from the six (6) colleges in La Salle University-Ozamiz.

Table 3
Learning Styles of the Students in the College of Arts and Sciences $\mathrm{n}=26$

| Learning Styles | Yes |  | No |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Frequency <br> (F) | Percentage <br> $(\%)$ | Frequency <br> (F) | Percentage <br> $(\%)$ |
| 1.Visual (Spatial) | 14 | 54 | 12 | 46 |
| 2.Aural(Auditory-Mu- <br> sical) | 10 | 38 | 16 | 62 |
| 3.Verbal (Linguistic) | 19 | 73 | 7 | 27 |
| 4.Physical (Kinesthetic) | 16 | 62 | 10 | 38 |
| 5.Logical (Mathemati- <br> cal) | 16 | 62 | 10 | 38 |
| 6.Social (Interpersonal) | 19 | 73 | 7 | 27 |
| 7.Solitary (Intraperson- <br> al) | 12 | 46 | 14 | 54 |

As shown in Table 3, the respondents from CAS displayed that their preferred learning styles are both verbal and social as evidenced with seventy three percent (73\%) in both learning styles. This means that they preferred to use words in speech and writings in their learning; in addition, they also preferred to learn in groups or with other people. This result negates what has been mentioned by Felder (1993) in his paper since he said that most of the science classes students are visual learners.

It is also shown in the above table that the least preferred learning style of the respondents is aural. This means that they least learned when they used sound and music.

The next table highlights the learning style of the respondents from the College of Accountancy.

Table 4
Learning Styles of the Students in the College of Accountancy $\mathrm{n}=83$

| Learning Styles | Yes |  | No |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Frequency <br> (F) | Percentage <br> $(\%)$ | Frequency <br> (F) | Percentage <br> $(\%)$ |
| 1. Visual (Spatial) | 46 | 55 | 37 | 45 |
| 2. Aural <br> (Auditory-Musical) | 36 | 43 | 47 | 57 |
| 3. Verbal (Linguistic) | 65 | 78 | 18 | 22 |
| 4. Physical (Kinesthetic) | 41 | 49 | 42 | 51 |
| 5. Logical (Mathematical) | 47 | 57 | 36 | 43 |
| 6. Social (Interpersonal) | 54 | 65 | 29 | 35 |
| 7. Solitary (Intrapersonal) | 56 | 67 | 27 | 33 |

The table above revealed that the preferred learning style of respondents from College of Accountancy is verbal as shown in the highest percentage of seventy eight percent (78\%) in Table 4. This means that speech and words are what they preferred to use in their learning. On the opposite, the least preferred learning style by the respondents is aural. The fifty seven percent (57\%) of the respondents declared that they have least learning when there is sound and music.

The next table below highlights the learning style of the respondents from the College of Education.

As shown by the respondents from the College of Education their preferred learning style is verbal as presented in Table 5. As revealed by the answers of the eighty four percent (84\%) respondents, they manifested that they learned using words both in speech and writing. It is noticeable that with regard to the least preferred learning style the responses on the three (3) of the seven (7) learning styles namely: aural, logical, and solitary got the same rate of forty-five percent (45\%).

Table 5
Learning Styles of the Students in the College of Education $\mathrm{n}=51$

| Learning Styles | Yes |  | No |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Frequency <br> (F) | Percentage <br> $(\%)$ | Frequency <br> $(\mathrm{F})$ | Percentage <br> $(\%)$ |
| 1. Visual (Spatial) | 42 | 82 | 9 | 18 |
| 2. Aura (Auditory- <br> Musical) | 28 | 55 | 23 | 45 |
| 3. Verbal (Linguistic) | 43 | 84 | 8 | 16 |
| 4. Physical (Kines- <br> thetic) | 37 | 73 | 14 | 27 |
| 5. Logical (Math- <br> ematical) | 28 | 55 | 23 | t 45 |
| 6. Social (Interper- <br> sonal) | 36 | 71 | 15 | 29 |
| 7. Solitary (Intraper- <br> sonal) | 28 | 55 | 23 | 45 |

The respondents show that they least learned when they practice self study and work alone. It is likewise when they use sound, music, logic, reasoning, and systems. The Table 6 below presents the learning style of the respondents from the School of Tourism and Hospitality Management.

Based on the above table, the respondents from the School of Tourism and Hospitality Management preferred the verbal learning style. This means that they like better to learn using words in their speech and writing while on the other hand logical learning style is what they least preferred. This means that they least learn with the use of logic, reasoning and systems.

Table 6
Learning Styles of the Students in the School of Tourism and Hospitality Management
$\mathrm{n}=47$

| Learning Styles | Yes |  | No |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Frequency <br> $(\mathrm{F})$ | Percentage <br> $(\%)$ | Frequency <br> $(\mathrm{F})$ | Percentage <br> $(\%)$ |
| 1. Visual (Spatial) | 32 | 68 | 15 | 32 |
| 2. Aural (Auditory-Musical) | 26 | 55 | 21 | 45 |
| 3. Verbal (Linguistic) | 37 | 79 | 10 | 21 |
| 4. Physical (Kinesthetic) | 29 | 62 | 18 | 38 |
| 5. Logical (Mathematical) | 25 | 53 | 22 | 47 |
| 6. Social (Interpersonal) | 36 | 77 | 11 | 26 |
| 7. Solitary (Intrapersonal) | 28 | 60 | 19 | 40 |

According to Lashley (1999), Honey and Mumford (2000), (as cited in Baron and Arcodia, 2002) the learning preferences of these students are more in practical activity. They prefer to learn most easily in group work. They least preferred reflective and solitary work. This means that with regard to the anchored learning style in this study the students' preference is in the social or interpersonal learning style.

This suggests that the result of the present study is not the same with the findings of the previous research conducted by Lashley (1999), Honey and Mumford (2000); however, as regards to the least preferred learning style this present study agrees with the result of the research conducted more than a decade ago.

Table 7
Learning Styles of the Students in the College of Engineering and Architecture
$\mathrm{n}=23$

| Learning Styles | Yes |  | No |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Frequency <br> (F) | Percentage <br> $(\%)$ | Frequency <br> (F) | Percentage <br> $(\%)$ |
| 1. Visual (Spatial) | 11 | 48 | 12 | 52 |


| 2. Aural <br> (Auditory-Musical) | 10 | 43 | 13 | 57 |
| :--- | :---: | :---: | :---: | :---: |
| 3. Verbal (Linguistic) | 14 | 61 | 9 | 39 |
| 4. Physical (Kinesthetic) | 10 | 43 | 13 | 57 |
| 5. Logical <br> (Mathematical) | 14 | 61 | 9 | 39 |
| 6. Social (Interpersonal) | 16 | 70 | 7 | 30 |
| 7. Solitary (Intrapersonal) | 11 | 48 | 12 | 52 |

As shown in the above table social or interpersonal learning style is preferred by the respondents from the College of Engineering and Architecture. This means that they favor to learn in groups or with other people. As manifested by the answers of the respondents they least learned using music, sound, body language and gestures. This means that the aural and physical or kinesthetic styles are least preferred by them.

## Table 8

Learning Styles of the Students in the College of Computer Studies $\mathrm{n}=15$

| Learning Styles | Yes |  | No |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Frequency <br> (F) | Percentage <br> (\%) | Frequency <br> (F) | Percentage <br> $(\%)$ |
| 1. Visual (Spatial) | 11 | 73 | 4 | 27 |
| 2.Aural <br> (Auditory-Musical) | 5 | 33 | 10 | 67 |
| 3.Verbal( Linguistic) | 9 | 60 | 6 | 40 |
| 4.Physical ( Kinesthetic) | 4 | 27 | 11 | 73 |
| 5.Logical(Mathematical) | 10 | 67 | 5 | 33 |
| 6. Social ( Interpersonal) | 6 | 40 | 9 | 60 |
| 7.Solitary(Intrapersonal) | 11 | 73 | 4 | 27 |

As revealed in the answers of the respondents in Table 8, there are two styles that the College of Computer Studies (CCS) students preferred most in their learning. These are visual and solitary learning styles. It can be gleaned that these two learning styles (visual and solitary) got the same percentage of responses which is seventy three percent ( $73 \%$ ). This shows that the respondents prefer
to learn using pictures, images and spatial understanding. They also preferred to work alone and have self-study. The physical or kinesthetic learning style or the use of body language and gestures is the learning style that the respondents least preferred. It can be noticed that the rate of responses in this learning style is also at seventy three percent ( $73 \%$ ).

The Tables 9 and 10 present the summary of the most and least preferred learning styles respectively.

Table 9 showed the summary of the most preferred learning style of the respondents from the six (6) different colleges in La Salle University. The respondents from the four (4) of the six (6) colleges namely: CAS, COA, COE and STHM preferred most the verbal learning style. This means that they learn more using words both in speech and writing. In addition the CAS respondents also preferred social or interpersonal style. They learn in groups or with other people.

Table 9
Summarized Data of Students' Most Preferred Learning Styles by
College
$\mathrm{n}=245$

| Learning Styles | Colleges |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | CAS | COA | COE | STHM | CEA | CCS |
|  | $\mathrm{n}=26$ | $\mathrm{n}=83$ | $\mathrm{n}=51$ | $\mathrm{n}=47$ | $\mathrm{n}=23$ | $\mathrm{n}=15$ |
|  | $\%$ | $\%$ | $\%$ | $\%$ | $\%$ | $\%$ |
| 1. Visual ( Spatial) |  |  |  |  |  | 73 |
| 2.Aural(Auditory-Musical) |  |  |  |  |  |  |
| 3. Verbal ( Linguistic) | 73 | 78 | 84 | 79 |  |  |
| 4. Physical ( Kinesthetic) |  |  |  |  |  |  |
| 5.Logical( Mathematical) |  |  |  |  |  |  |
| 6. Social ( Interpersonal) | 73 |  |  |  | 70 |  |
| 7.Solitary( Intrapersonal) |  |  |  |  |  | 73 |

The CEA and CCS respondents have different preferred learning style. The CEA students preferred most social and
interpersonal learning style while the CCS preferred most visual and solitary or interpersonal learning style. The results suggest that verbal is the predominant learning style which is practiced by the respondents of the four (4) out of the six (6) colleges.

The summarized data of the students' least preferred learning styles by college is shown in Table 10.

Table 10
Summarized Data of the Students' Least Preferred Learning Styles by College
$\mathrm{n}=245$

| Learning Styles | Colleges |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | CAS | COA | COE | STHM | CEA | CCS |  |
|  | $\mathrm{n}=26$ | $\mathrm{n}=83$ | $\mathrm{n}=51$ | $\mathrm{n}=47$ | $\mathrm{n}=23$ | $\mathrm{n}=15$ |  |
|  | $\%$ | $\%$ | $\%$ | $\%$ | $\%$ | $\%$ |  |
| 1. Visual ( Spatial) |  |  |  |  |  |  |  |
| 2.Aural(Auditory-Musical) | 62 | 57 | 45 |  | 57 |  |  |
| 3. Verbal ( Linguistic) |  |  |  |  |  |  |  |
| 4. Physical ( Kinesthetic) |  |  |  |  | 57 | 73 |  |
| 5.Logical( Mathematical) |  |  | 45 | 47 |  |  |  |
| 6. Social ( Interpersonal) |  |  |  |  |  |  |  |
| 7.Solitary( Intrapersonal) |  |  | 45 |  |  |  |  |

In the same table, the COE respondents demonstrated three (3) least preferred learning styles. These are the aural, logical and solitary. This means that the respondents learn less when there is music. In addition they also less like to learn when they are alone and use reflections.

The CEA respondents manifested aural as their least preferred learning style in addition to physical or kinesthetic. On the other hand the two (2) other groups of respondents from different colleges namely: CAS, COA also preferred least the aural learning style. The STHM respondents preferred least the logical learning style while the respondents from CCS preferred least the physical or
kinesthetic learning style. The result of this study presents that four (4) of the six (6) colleges who responded the survey preferred least the aural learning style.

The succeeding Tables 11 to 16 highlight the preferred style of teaching of the faculty members of the six (6) colleges. The discussion on the results of this study is continued in Table 17 and 18 which reflect the most and least preferred teaching styles respectively.

Table 11
Teaching Styles at the College of Arts and Sciences $\mathrm{n}=26$

| Teaching Styles | Yes |  | No |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Frequency <br> (F) | Percentage <br> $(\%)$ | Frequency <br> (F) | Percentage <br> $(\%)$ |
| 1. Visual (Spatial) | 20 | 77 |  | 23 |
| 2.Aural <br> (Auditory-Musical) | 18 | 69 | 8 | 31 |
| 3. Verbal (Linguistic) | 21 | 81 | 5 | 19 |
| 4. Physical <br> (Kinesthetic) | 19 | 73 | 7 | 27 |
| 5.Logical <br> (Mathematical) | 22 | 85 | 4 | 15 |
| 6. Social (Interpersonal) | 18 | 69 | 8 | 31 |
| 7.Solitary( Intrapersonal) | 16 | 62 | 10 | 38 |

The table above revealed that among those who responded the survey, $85 \%$ of the teachers from the College of Arts and Sciences (CAS) demonstrated logical teaching style. This means that in the dissemination of the subject matter or topics to their students they preferred to do it in a reflective manner. The teachers like to use logic, reasoning and systems. This result did not much of agreement in the study of Felder (1993) which he said that teachers in sciences classes presented the lecture verbally or in written forms; however, the verbal teaching style ranked second on the list of the preferred teaching style by the CAS teachers.

It is also clear in the result of the study that thirty eight percent $(38 \%)$ of the respondents preferred less on the solitary teaching style. This means that CAS teachers do not like to work alone and use self-teaching.

Table 12 below shows the seven (7) teaching styles utilized in this study.

Table 12
Teaching Styles at the College of Accountancy
$\mathrm{n}=5$

| Teaching Styles | Yes |  | No |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Frequency <br> (F) | Percentage <br> (\%) | Frequency <br> (F) | Percentage <br> $(\%)$ |
| 1. Visual ( Spatial) | 4 | 80 | 100 | 20 |
| 2.Aural <br> (Auditory-Musical) | 1 | 20 | 4 | 80 |
| 3. Verbal ( Linguistic) | 5 | 100 |  |  |
| 4. Physical ( Kinesthetic) | 5 | 100 |  |  |
| 5.Logical( Mathematical) | 5 | 100 |  |  |
| 6. Social ( Interpersonal) | 5 | 100 |  |  |
| 7.Solitary( Intrapersonal) | 1 | 20 | 4 | 80 |

There are four (4) of them which the respondents were consistent in their answers as to the teaching style that they preferred. The $100 \%$ of the respondents declared that they uphold verbal, physical, logical and social styles in their teaching. This means that in the College of Accountancy (COA) there is no single teaching style that they preferred most. The approach in their teaching is consistently a combination of the four teaching styles mentioned above.

On the other hand, the two (2) least preferred learning styles which the eighty percent ( $80 \%$ ) of the respondents choose are the aural and solitary. They do not like to use sound and music, likewise self-teaching or working alone

Table 13 reflects the responses of the teachers in the College of Education.

Table 13
Teaching Styles at the College of Education
$\mathrm{n}=5$

| Teaching Styles | Yes |  | No |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Frequency <br> (F) | Percentage <br> (\%) | Frequency <br> (F) | Percentage <br> $(\%)$ |
| 1. Visual ( Spatial) | 5 | 100 |  |  |
| 2.Aural <br> (Auditory-Musical) | 3 | 60 | 2 | 40 |
| 3. Verbal ( Linguistic) | 5 | 100 |  |  |
| 4. Physical ( Kinesthetic) | 5 | 100 |  |  |
| 5.Logical( Mathematical) | 5 | 100 |  |  |
| 6. Social ( Interpersonal) | 5 | 100 |  |  |
| 7.Solitary ( Intrapersonal) | 4 | 80 | 1 | 20 |

All respondents from the College of Education (COE) consistently preferred five (5) out of the seven (7) teaching styles utilized in this study. Respondents' answer revealed that their teaching is a mixture of visual, verbal, physical, logical and social styles. Furthermore, the results show that the least preferred teaching style in COE is aural. This means that they less like to use sound and music in their teaching.

Table 14
Teaching Styles at the School of Tourism and Hospittality
Management
$\mathrm{n}=9$

| Teaching Styles | Yes |  | No |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Frequency <br> (F) | Percentage <br> $(\%)$ | Frequency <br> (F) | Percentage <br> $(\%)$ |
| 1. Visual ( Spatial) | 5 | 55 | 4 | 45 |
| 2.Aural(Auditory-Mu- <br> sical) | 1 | 12 | 8 | 88 |
| 3. Verbal ( Linguistic) | 9 | 100 |  |  |
| 4. Physical ( Kines- <br> thetic) | 5 | 55 | 4 | 45 |
| 5.Logical( Mathemati- <br> cal) | 9 | 100 |  |  |


| 6. Social ( Interpersonal) | 7 | 77 | 2 | 23 |
| :--- | :--- | :--- | :--- | :--- |
| 7.Solitary( Intraper- <br> sonal) | 6 | 66 | 3 | 34 |

Table 14 above demonstrated the two (2) preferred teaching styles of the respondents from the School of Tourism and Hospitality Management (STHM). The most favored teaching styles by the respondents are verbal and logical. The $100 \%$ of the respondents identify the two teaching styles. This means that they use words both in speech and writing, and they include also the use of logic, reasoning and systems in giving the information or instructions to their students. While the least preferred style in their teaching is the use of sound and music or aural teaching style.

Among the seven (7) teaching styles mentioned on the table below $100 \%$ of the respondents from the College of Engineering (CEA) favored the use of words both in speech and writings likewise the use of logic, reasoning, and systems.

Table 15
Teaching Styles at the College of Engineering $\mathrm{n}=5$

| Teaching Styles | Yes |  | No |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Frequency <br> (F) | Percentage <br> $(\%)$ | Frequency <br> (F) | Percentage <br> $(\%)$ |
| 1. Visual ( Spatial) | 3 | 60 | 2 | 40 |
| 2.Aural(Auditory- <br> Musical) | 1 | 20 | 4 | 80 |
| 3. Verbal ( Linguistic) | 5 | 100 |  |  |
| 4. Physical ( Kines- <br> thetic) | 1 | 20 | 4 | 80 |
| 5.Logical( Mathemati- <br> cal) | 5 | 100 |  |  |
| 6. Social ( Interper- <br> sonal) | 4 | 80 | 1 | 20 |
| 7.Solitary( Intraper- <br> sonal) | 1 | 20 | 4 | 80 |

This means that the respondents preferred most the verbal and logical teaching styles. On the other hand, there were three (3) least preferred styles by the engineering teachers. These are aural, physical, and solitary teaching style with the consistent rate of $80 \%$.

Table 16
Teaching Styles at the College of Computer Studies
$\mathrm{n}=8$

| Teaching Styles | Yes |  | No |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Frequency <br> $(\mathbf{F})$ | Percentage <br> $(\%)$ | Frequency <br> (F) | Percentage <br> $(\%)$ |
| 1. Visual ( Spatial) | 7 | 87 | 1 | 13 |
| 2.Aural(Auditory-Musical) | 5 | 63 | 3 | 37 |
| 3. Verbal ( Linguistic) | 8 | 100 |  |  |
| 4. Physical ( Kinesthetic) | 7 | 87 | 1 | 13 |
| 5.Logical( Mathematical) | 8 | 100 |  |  |
| 6. Social ( Interpersonal) | 5 | 63 | 3 | 37 |
| 7.Solitary( Intrapersonal) | 3 | 37 | 5 | 63 |

As shown in the above table, two (2) of the seven (7) teaching styles are preferred by the $100 \%$ of the respondents of this study. These are the verbal and logical teaching styles. This means that the College of Computer Studies (CCS) respondents favored to use words both in speech and writing in their teaching and also the use of logic, reasoning and systems. On the other hand, solitary or intrapersonal teaching is the least preferred style. This means that the teachers in CCS do not like to work alone.

Table 17 reveals the summary of the most preferred teaching style of the faculty members who responded the survey.

The result of the study reflects that the teachers in the College of Education (COE) are consistent in their teaching styles. The 100\% of the respondents declared that their preferred way of teaching is not only one but the combination of visual, verbal, physical, logical and social teaching style. The College of Accountancy (COA) teachers as well display that their favored manner of teaching is the
combination of verbal, physical, logical and social teaching style.

Table 17
Summarized Data of the Most Preferred Teaching Style by
College
$\mathrm{n}=58$

| Teaching Styles | Colleges |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | CAS | COA | COE | STHM | CEA | CCS |
|  | $\mathrm{n}=26$ | $\mathrm{n}=5$ | $\mathrm{n}=5$ | $\mathrm{n}=9$ | $\mathrm{n}=5$ | $\mathrm{n}=8$ |
|  | $\%$ | $\%$ | $\%$ | $\%$ | $\%$ | $\%$ |
| 1. Visual ( Spatial) |  |  | 100 |  |  |  |
| 2.Aural(Auditory-Musical) |  |  |  |  |  |  |
| 3. Verbal ( Linguistic) |  | 100 | 100 | 100 | 100 | 100 |
| 4. Physical ( Kinesthetic) |  | 100 | 100 |  |  |  |
| 5.Logical( Mathematical) | 85 | 100 | 100 | 100 | 100 | 100 |
| 6. Social ( Interpersonal) |  | 100 | 100 |  |  |  |
| 7.Solitary( Intrapersonal) |  |  |  |  |  |  |

The COE and COA vary only in one teaching style. The visual teaching style is preferred in COE but not in COA. This means that COE teachers use pictures and images in their teaching but the COA teachers do not.

While College of Arts and Sciences (CAS) teachers preferred most the logical teaching style, the three (3) other colleges namely: College of Engineering and Architecture (CEA), College of Computer Studies (CCS) and School of Tourism and Hospitality Management (STHM) have two (2) most preferred learning styles. The $100 \%$ of the respondents in CEA, CCS, and STHM preferred most the verbal and logical teaching style.

Table 18 presents the summary of the least preferred teaching style of the respondents from the six (6) colleges.

Table 18
Summarized Data of the Least Preferred Teaching Style by College $\mathrm{n}=58$

| Teaching Styles | Colleges |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :---: |
|  | CAS | COA | COE | STHM | CEA | CCS |  |
|  | $\mathrm{n}=26$ | $\mathrm{n}=5$ | $\mathrm{n}=5$ | $\mathrm{n}=9$ | $\mathrm{n}=5$ | $\mathrm{n}=8$ |  |
|  | $\%$ | $\%$ | $\%$ | $\%$ | $\%$ | $\%$ |  |
| 1. Visual ( Spatial) |  |  |  |  |  |  |  |
| 2.Aural(Auditory-Musical) |  | 80 | 40 | 88 | 80 |  |  |
| 3. Verbal ( Linguistic) |  |  |  |  |  |  |  |
| 4. Physical ( Kinesthetic) |  |  |  |  | 80 |  |  |
| 5.Logical( Mathematical) |  |  |  |  |  |  |  |
| 6. Social ( Interpersonal) |  |  |  |  |  |  |  |
| 7.Solitary( Intrapersonal) | 38 | 80 |  |  | 80 | 63 |  |

As shown in the tables above CEA teachers consistently less prefer aural, physical and solitary teaching styles. While COA teachers less prefer only the two of them namely: aural and solitary teaching styles.

Unlike CEA and COA, the CAS, CCS, COE and STHM have chosen one of the seven (7) teaching styles as the least preferred. For the CAS and CCS teachers solitary and interpersonal teaching style is less preferred while COE and STHM least favor aural teaching style.

In summation, different colleges have different least preferred teaching style; however, it is apparent that COA, COE, STHM, CEA less prefer the aural teaching. In addition to CEA's less preferred is the physical or kinesthetic teaching style. The CAS, COA, CEA, \& CCS express that solitary teaching style is less favored.

## 4. Summary of Findings, Conclusion, and Recommendations

The researchers in this study found four (4) out of the six (6) colleges preferred most the verbal style of learning. This means
that the students who responded this survey learn more when words are used in speech or in written forms. It was also noticed that the least preferred learning style of the three (3) out of six (6) colleges is aural learning style. This means that the respondents learn less when they use sound or music.

Furthermore, it was found by the researchers in this study that the respondents from the six (6) colleges or $100 \%$ of the teachers who responded the survey preferred most the logical teaching style. This is followed by the verbal teaching style which was favored most by five (5) out of six (6) colleges. The respondents of the four (4) colleges out of six (6) declared that aural and solitary teaching styles are less preferred by them.

In the context of the findings of this study the researchers are able to verify that there is a slight mismatch between the learning and teaching style of the students and teachers respectively. The most preferred learning style of the students is different from the teachers' favored teaching style.

The students learn more when words are used or in other words they are verbal learners while the teachers in the six (6) colleges prefer to use reasoning and system or the logical teaching style; however, the style of the teachers is also open for the verbal teaching style.

With regard to the least preferred learning style of the respondents, the students and the teachers in one way meet their preferences. Though one of the least preferred styles of the teachers is solitary, both of them (students and teachers) preferred less the use of music and sound or the so called aural style.

Based on the findings of the study the researchers suggest that:

1. Academic administrators must conduct more academic enhancement to address the mismatch.
2. Faculty members should enhance their instructional style and must know its effect to students achievements. They must identify students learning preferences and match their teaching styles with the latter to increase comfort level and willingness to learn. As much as possible teacher should guide and develop their students preferred learning style.
3. Parents should be aware of the learning style of their children to support their preferences of learning their lessons.
4. Students should be aware what their learning style is in order that they will know how to enhance the most preferred and get better on the least preferred one.

## 5. List of References

Barron, P. and Arcodia, C. (2002) Linking Learning Style Preferences and Ethnicity: International Students
Studying Hospitality and Tourism
Management in Australia. $R$ e $t \quad r$ i e v e d August. 29, 2010 from www.hlst.ltsn.ac.uk/johlste .

Felder, R. M. (1993 ). Learning Styles. Resources in
Science
Education. retrieved June 27, 2010. from http://www4. ncsu.edu/unity/lockers/users/f/ felder/public/Learning_Styles.html.
(1993). Reaching the Second Tier: Learning and Teaching Styles in College S c i e n c e Education. J. College Science Teaching, 23(5), 286-290. retrieved August 29,2010 from http://www4.ncsu. edu/unity/lockers/users/f/ felder/public/Papers/Secondtier.html

Overview of Learning Styles. ( n.d.) retrieved September 9, 2008, from
http://www. learning- styles-online.com/overview//om/.

Stitt-Gohdes, W. L. (n.d.). Business Education Students' Preferred Learning Styles. University of Georgia. retrieved June 27, 2010, from http://scholar.lib.vt.edu/ejournals/JCTE/v18n1/pdf/stitt.pdf.

Teaching \& Learning. (2003). An Investigation into the Preferred Learning Styles of Accounting, Management, Marketing, and General Business Majors Volume 18, Number 1, pp. 24-31

# Evaluation of the College of Teacher Education Curricular Programs: Toward Curriculum Innovation 

Wenny M. Caseros<br>College of Teacher Education


#### Abstract

Curriculum evaluation is a systematic process of inquiry which aims to determine whether the curricular program meets its goals. This study aimed to describe the BEED and BSE programs specifically on their alignment based on the CHED and PAFTE-prescribed new teacher education curriculum that is reflective of the National Competency-based Teacher Standards. This also aimed at identifying the strengths and weaknesses of the existing curricula. The qualitative method was employed in this study. It was revealed that the BEED and BSE programs satisfactorily follow the general and professional education courses set by CHED and PAFTE. Thirty to forty-five percent of the prescribed content or major courses of the BSE programs major in English, Filipino, Social Studies, Mathematics and MAPEH were not present in the existing curricula. For the BEED General Education, only the content courses of English do not jibe with the standards. The existing curricula strictly follow the general and professional education standards. The weakness is on the mismatch between the existing curricula and the standards of CHED and PAFTE in terms of the major or content courses.Thus, a revision of the existing curricula is needed.


## 1. Introduction

The central task of schools is to provide educational services that will lead to the development of human potentials. The schools will be able to perform this task creditably only to the extent that they provide relevant and adequate learning experiences for students. These learning experiences are generally referred to as the curriculum (Aquino, 1998).

Curriculum is a crucial factor in the teaching-learning process. Most of the traditional ideas view it as a written document or plan of action in accomplishing goals which can be a degree program, a syllabus, a learning package or a lesson (Bago, 2001).

However, the progressivists' view point as espoused by Marsh and Willis (in Bilbao et.al,2008)stresses that curriculum is more than a written document for it includes all the experiences inside and outside the classroom which are planned and enacted by the teacher, and also learned by the students. In other words, curriculum is concerned with what the learners should learn and complementarily with what the school should provide.

The primary goal of any school like La Salle University is to provide its students with a meaningful and life-long learning. To realize this, the school's curriculum has to be carefully and thoroughly planned, implemented and evaluated. Planning, implementing and evaluating are the three important processes/ phases of curriculum development. If these are given due attention, the school will be able to respond effectively to the changing needs and conditions of the learners and of the nation as well.

It is in this premise, that the researcher would like to conduct an evaluation of the curricular programs of the College of Teacher Education to determine whether the curriculum as designed and implemented is aligned based on the CHED \& PAFTE-prescribed new teacher education curriculum. The results of this study will serve as basis for making decisions related to program designs, practices and policies. Similarly this endeavor will lead to curriculum innovations which will eventually end to the development of the full potential of the learners.

Curriculum evaluation is a systematic process of inquiry which aims to determine whether the curricular program is meeting its goals that is, to determine whether the measure for a given set of instructional inputs match the intended or specified outcomes (Bago, 2001). In addition, Glass and Worthem (in Bilbao et.al 2008) stress that curriculum evaluation is a process of obtaining information for judging the worth of an educationalprogram, product, procedure, educational objectives or the potential utility of alternative approaches designed to attain specified objectives.

Bago (2001) posited that evaluation can be humanistic and
scientific. Evaluation which is based on humanistic approach is goal-free while the scientific approach is purpose-driven. This study will adopt the scientific approach of evaluation. The objectives of evaluation are to determine the scope (program effectiveness), timing (impact), method (qualitative), level (school) and the personnel involved (teachers, administration, students, committees).

Program evaluation entails the assessment of the effectiveness of the curricular program as implemented. This requires the analysis of the different components of the educational system (input, process and output) that impact on curriculum implementation. Inputs refer to student and teacher profiles and physical resources inventories. The instructional processes pertain to the teaching methods and strategies as well as the management processes such as leadership and communication either constrain or promote the implementation of the curriculum. The quality of the interaction between the input and process determines to a large extent the success or failure of the curriculum to produce the desired results or outcomes.

Moreover, another evaluation model was developed in 1960 by the Standford University's team headed by Albert Humprey (in Friesner, 2000) for large organizations to determine the strategic fit between an organization's internal, distinctive capabilities and external possibilities and to prioritize actions. SWOT stands for Strengths, Weaknesses, Opportunities and Threats.

Strengths are positive internal characteristics of the external environment that has the potential to help the organization achieve or exceed its strategic goals. On the other hand, weaknesses are internal characteristics that might inhibit or restrict the organization's performance. Opportunities are external characteristics that have the potential to help the organization achieve or exceed its strategic goals. In contrary, threats are external characteristics that may prevent the organization from achieving its strategic goals.

The above-mentioned literatures provided the researcher a framework in evaluating the College of Teacher Education Curricular

Programs. The results of the study led toward curricular innovation.

This research adopted the SWOT model in evaluating the College of Teacher Education curricular programs. This model provided direction in identifying the strengths, weaknesses, opportunities and threats of the existing curricula of the College of Teacher Education after they were reviewed and evaluated against the CHED and PAFTE standards.

This study reviewed or evaluated the Teacher Education curricular programs. It specifically evaluated the BEE General Education Curriculum. The BEE major in Special Education and Pre-School were not included. For the BSE programs, only the BSE major in English, Filipino, Social Studies, Mathematics, and MAPEH were evaluated.

Further, this study made use of the SWOT analysis. However, in this study only the strengths and weaknesses of the existing curriculum were identified.

This study is significant to the following:

Students. Meaningful and life-long learning will surely be attained by the students if the curriculum will be carefully planned, implemented and evaluated.

Teachers. Aligned curriculum will provide the teachers clear direction in the performance of their work. They will definitely know the "what" and "how" of teaching. In addition, better communication and collaboration among teachers will be enhanced.

Administrators. Results of this study will give them relevant information as to the effectiveness of the curricular programs. This will provide them insight whether the curricular programs are still responsive to the changing needs and conditions of the learners.

## 2. Method

This qualitative study employed the SWOT evaluation model. This made use of the CHED and PAFTE-prescribed new teacher education curriculum that is reflective of the National-Based Teacher Standards as basis in examining the existing BEE and BSE curricula of the College of Teacher Education of La Salle University, Ozamiz City.

The review or evaluation was done through a focused group discussion among the stakeholders. The stakeholders included the Dean and Assistant Dean of the College of Education, the IQAMO Director, College Subject coordinators and their faculty, Principals and subject coordinators and some faculty of selected public and private schools, alumni, and education students in their respective field of specialization. Based on the data gathered, curricular innovation was designed.

## 3. Results and Discussion

Curricular Alignment based on the CHED/PAFTE-prescribed New Teacher Education Curriculum

General Education Courses

The general education courses shall follow the existing requirements of 63 units distributed as follows; English (9 units), Filipino (9 units), Literature (6 units), Mathematics (6 units), Natural Sciences (6 units), Humanities (6 units), Social Sciences (12 units), Information Communications Technology (3 units), Mandated subjects such as Rizal Studies and Philippine History (6 units) (CHED Memorandum No. 59 series 1996).

The BEE and BSE programs follow the existing requirements of the general education courses except that it exceeded 3 units because of Health 1. The evaluation committee recommended that Health 1 will be deleted because its content is a
repetition of the topics covered in Psychology 1 and Education 13.

## Professional Education Courses

The professional education courses represent the component of the curriculum that aims to develop the range of knowledge and skills needed in the practice of the teaching profession. The required units of professional education courses are 54 for the BEE and 51 for the BSE. These include theory and concepts (12 units), methods and strategies ( 27 for the BEE and 24 for the BSE), field study courses (12 units) and special topics (3 units).The BEE and BSE programs strictly follow the professional education requirements. The content of the professional education courses were aligned based on the standards set by the Commission on Higher Education (CHED) and the Philippine Association of Teacher Education (PAFTE).

## Content Courses/Specialization

For the BEE program, all students have to complete 57 units of content courses that correspond to the various learning areas in the elementary education curriculum. These courses, which are in addition to the General Education requirements, are distributed as follows; Science (12 units), Mathematics (12 units), English (12 units), Filipino ( 6 units), Social Studies ( 6 units), Music, Arts, and Physical Education (3 units), Home Economics and Livelihood Education (3 units) and Values Education (3 units).

Moreover, the BEEd students may choose to take 57 units of content courses in two areas of specialization: the Special Education and Pre-School Education.

The existing BEEd curriculum follows the content course requirements except for English. The present English content courses are English 4n (Children's Literature), English 3e (Listening, Speaking and Grammar), English 21 (Intensive English) and English 20 (Campus Journalism). Of the courses mentioned, Campus Journalism and Children's Literature are not prescribed.

Thus, the evaluation committee decided to replace them. It was further suggested that Campus Journalism shall be replaced with Professional and Scientific Writing, English 3e shall be changed to Listening and Speaking Skills, and English 21 shall be changed to English for Teachers. However, the committee insisted to retain Children's Literature because of its relevance in the teaching of elementary pupils.

For the BSE program, all students have to complete 60 units of content courses in one of the following areas of specialization or majors; English, Filipino, Mathematics, Physics, Chemistry, Biology, Social Studies, Music, Arts, Physical and Health Education, Values Education, and Technology and Livelihood Education.

Major in English. The evaluation committee found that nine (9) or $45 \%$ of the courses as recommended by CHED and PAFTE are not present in the existing BSE Major in English curriculum. These courses are The Teaching of Speaking, The Teaching of Listening and Reading, Language Research, Remedial Instruction in English, English for Specific Purposes, Speech and Stage Arts, Introduction to Stylistics, Translation and Editing of Text, and Language and Literature Assessment.

The committee agreed that the courses in the existing curriculum which are not aligned with the standards shall be changed to incorporate the courses mentioned in the preceding paragraph. They suggested that English 3e(Interactive English) shall be changed to The Teaching of Listening and Reading, English 37 (Phonology and Phonetics) to Phonology andThe Teaching of Speaking, English 7n (Fundamentals of English for Teachers) to English for Specific Purposes, English 17 (Public Speaking) to Speech and Stage Arts, English 5a (Effective Writing) to Language Research, English 21 (Intensive English) to Remedial Instruction in English, English 30 (Preparation of Instructional Materials and Technology and Language Testing) to Preparation of Instructional Materials and Technology and Language and Literature Assessment, English 15 (Advanced Grammar and Composition) to Introduction to Stylistics
and English 5n (The Novel) to Translation and Editing of Text.
Major in Filipino. It was also discovered by the evaluation committee that eight (8) or $40 \%$ of the content courses for Filipino are not present in the existing curriculum. These are Ang Filipino sa Kurikulum ng Batayang Edukasyon, Istrukturang Wikang Filipino, Pagtuturo at Pagtataya sa Pakikinig at Pagsasalita, Pagtuturo at Pagtataya sa Pagbasa at Pagsulat, Introduksyon sa Panaliksik: Wika at Panitikan, Panunuring Pampanitikan, Pagtuturo at Pagtataya sa Panitikan, at Panitikan ng mga Umuunlad na Bansa.

The committee further examined the existing curriculum and recommended that the following subjects shall be deleted; Pagtuturong Filipino salba'tibangDisiplina,Balarila, Retorika, Filipino bilangPangalawangWika, Maunladna Filipino, Dulang Filipino, Paraan at PamaraanngPagtuturong Filipino and Kritisismo. The Filipino teachers commented that there is an overlapping of content of the following subjects, thus they agreed that those courses shall be deleted and be replaced by the courses prescribed by CHED and PAFTE.

Major in Social Studies. It was found by the evaluation committee that the existing Social Studies curriculum does not contain six (6) or $30 \%$ of the courses mandated by CHED and PAFTE. These are the Teaching Approaches in Secondary Social Studies, Scientific Reasoning and Critical Thinking, Production of Social Studies Instructional Materials, Economic Planning and Strategy, Building Bridges Across the Social Science Disciplines, and Assessment and Evaluation in the Social Sciences.

To integrate the courses enumerated in the preceding paragraph, the committee further scrutinized the curriculum and recommended that some subjects shall be fused like History 2 (Philippine Nationalism) with History 1 (Philippine History: Roots and Development), SocStud 4 (Fundamentals of Sociology) with SocStud 3(Cultural Anthropology)and the course title shall be changed to Socio-Cultural Anthropology, SocStud 5 (Introduction to

Political Science) with SocStud 13 (Law Related Studies), SocStud 7 (Phil. Economic Dev’t.) with Econ 16 (Economics in Philippine Setting), and SocStud 8 (ASEAN Studies) with SocStud 17 (Asian History and Civilization).

Major in Mathematics. As revealed in the evaluation, eight (8) or $40 \%$ of the content courses as prescribed by CHED and PAFTE are not present in the existing Mathematics curriculum. These subjects are Number Theory, Elementary Statistics, Mathematical Investigations and Modeling/Problem Solving, Action Research in mathematics, Modern Geometry, Seminar on Technology in Math, and Abstract Algebra.

The committee agreed that the descriptive titles of the following Mathematics subjects shall be changed to incorporate the above-mentioned subjects. It was suggested that Math 3E (Seminar in Problem Solving in Math) shall be changed to Problem Solving in Math/Modeling, Math 14 (Plane Trigonometry) to Plane and Modern Geometry, Math 4c (Probability and Statistics) to Elementary Statistics and Probability, Math 3c (Mathematics of Investments) will be fused with Math 1E (Fundamentals of Mathematics).

Moreover, the committee recommended that Math 10 (Differential Equation) and Math 15 (Complex Variable) will be deleted because their contents are repetitions of other Math subjects. Thus, the following subjects; Number Theory, Abstract Algebra, and Advanced Statistics shall be added in the existing curriculum.

Major in Music, Arts, PE and Health. It was noticed by the evaluation committee that six (6) or $30 \%$ of the prescribed content courses are not present in the existing MAPEH curriculum. These subjects are the Gymnastics, Solfeggio and Applied Piano, Methods and Strategies in Teaching MAPEH, coaching and Officiating of Sports Events, Dance Competitions and Music Activities, Rondalla Playing Instrumentation, Research in MAPEH and Health Practicum.

To include the prescribed content courses, Music 2 (Phil.

Music and Teaching Strategies in Music), Music 3 (Applied Music), and Music 5 (Foundations of Rhythm) are to be deleted while Health 4 (Consumer Health and Drug Education), Health 6 (School Health Education and Applied Nutrition) and Health 7 (Environmental Health) will be fused together under a new descriptive title which is Personal, Community, and Environmental Health as stipulated in the CHED and PAFTE manual.

## Other Required Subjects

Aside from the general, professional, and content/major courses, the following are the other required courses in the existing curriculum: NSTP1 and 2 (National Service Training 1\&2), PE1 (Physical Fitness), PE2 (Rhythmic Activities), PE3 (Individual/Dual Games \& Sports) and PE4 (Team Sports/Games). The university has also its own requirements such as Reed 1,2,3\& 4 (Salvation History, Christology, Ecclesiology and Sacraments and Basic Christian Morality respectively), Info Tech2 (Integrated Software Application, English 1E (English Basic), Educ 9a \& 11 (Observation and Participation) and LET Review.

After reviewing the content of Info Tech2, the evaluation committee recommended that it will be omitted because some of its topics are not useful in the field of teaching. However, some of its relevant topics will be integrated to Educ 3B (Educational Technology 2). The LET Review will be renamed to EdCoAp (Competency Appraisal).

Furthermore, the committee suggested that Health 1 will be replaced with Statistics since Research is already a part of all degree programs. Research 2 is also a new requirement set by the university across degree programs.

After the thorough review of the existing curriculum against the standards set by the CHED and PAFTE, the committee examined the sequence of the subjects as to their relatedness and degree of difficulty.

Strengths and Weaknesses of the Existing Curricula

Strengths. The existing Teacher Education curriculum both the BEED and BSED programs have satisfactorily met the CHED requirements on the general and professional education courses. The school even goes beyond the requirements by offering additional courses like English Basic, Observation and Participation, and LET review which are necessary in the development of the Teacher Education students.

Weakness. The BEE and BSE programs do not strictly follow the CHED PAFTE requirements pertaining to the content or major courses. As revealed in the evaluation, 30 to 45 percent of the prescribed content courses are missing in the existing curriculum. This further shows that the curriculum is not reviewed or updated regularly. Thus, failure to conduct a regular review of the curriculum can hinder the realization of the college's goals and objectives.

Opportunity and Threat
Opportunity. The weakness or limitation of the existing curriculumwillprovidethecollegeanopportunitytogrowandprogress. Ifthe weaknessesare appropriately responded based ontheneeds of the outsideenvironment, thecollegewillimproveandbecomecompetitive.

Threat. If the weaknesses will not be responded appropriately based on the demands of the modern society, then the college will possibly be out weighted by its competitors.

## 4. Summary, Conclusion and Recommendations

This study aimed to describe the BEE and BSE programs specifically on their alignment based on the CHED and PAFTEprescribed new teacher education curriculum that is reflective of the National Competency-based Teacher Standards. This also aimed at
identifying the strengths and weaknesses of the existing curricula.

The research design used was qualitative. An evaluation of the existing curricula was done through focused group discussion of the stakeholders based on the CHED and PAFTE standards. The strengths and weaknesses of the curricula were identified based on the evaluation done. Results of the study served as bases in designing curricular innovation.

The following are the significant findings of the study:

1. The BEE and BSE programs satisfactorily follow the general and professional education courses set by CHED and PAFTE.
2. Thirty to forty-five percent of the prescribed content or major courses of the BSE programs major in English, Filipino, Social Studies, Mathematics and MAPEH were not present in the existing curricula. For the BEE General Education, only the content courses of English do not jibe with the standards.
3. The strength of the existing curricula is they strictly follow the general and professional education standards. Besides they go beyond the CHED and PAFTE requirements by including courses which are relevant to the changing needs and conditions of the learners. On the other hand, their weakness is on the mismatch between the existing curricula and the standards of CHED and PAFTE in terms of the major or content courses.
4. The results show that a revision of the existing curricula is needed.

Based from the findings, it can be concluded that the Teacher Education Curricular Programs do not exactly conform to the CHED's and PAFTE's minimum standards.

The following are recommended based on the results of the study.

1. The policies and standards set by CHED and PAFTE should be considered in the planning, implementation and evaluation of the curriculum. Thus, the existing BEED and BSED curricula should be revised following the CHED and PAFTE standards.
2. A regular or a yearly review or evaluation of the curriculum is needed to make it more responsive to the interests, needs and problems of the learners and to provide the teachers clear direction as to the "what" and "how" of their work.

## 5. List of References

Aquino, A. (1998). Curriculum planning for better schools. Quezon City: REX Printing Company, Inc.
(2008).Curriculum Innovation. Mandaluyong City:

National Bookstore

Bago, A. (2001). Curriculum development. Manila: De La Salle University Press, Inc.
Bilbao, P. et al. (2008). Curriculum development. Quezon City: Lorimar Publishing

CHED Memorandum No. 59 series 1996 Retrieved on August 2012 from http://www.ched.gov.ph/index.php/archive/cmo-archives/1996-ched-memorandum-orders-2/

Friesher, T. (2000).History of SWOT analysis. Retrieved from August 2012 from www.marketingteacher.com/swot/ history-of-swot.html

Garcia, D. (2007). Designing curriculum. Manila. Rex Bookstore
PAFTE Journal.Volume XIV, 2005. Manila. Centro Escolar University.

# Comparative Study of the CGEAT Pretest and Posttest Result in the Mathematics Subtest 

Ernie O. Capuno<br>Merlinda A. Dagomo<br>Omensalam A. Japar<br>College of Arts \& Sciences


#### Abstract

This study was conducted to determine the performance in the Collegiate General Education Achievement Test (CGEAT) of freshmen examinees of La Salle University and the variables or factors that relate to their performance. This paper analyzed the pretest and posttest results of the Mathematics area of the CGEAT which data are made available by the Guidance Services Center of the university. It was found that the examinees have significantly performed better in the posttest of the CGEAT. However, they have low performance in the statistical analysis and probabilities area both in the pretest and posttest. It is recommended that this area be introduced in the high school and be offered in the first year of college education for in depth knowledge since this is necessary for the students' research and thesis period. This area should be enhanced more and discussed in the university's EnSciMath and advisory class programs. Male freshmen examinees performed better in the areas of numerical literacy, pattern recognition and algebraic representations, and measurement and geometric representations during the posttest compared to the female examinees. Those examinees that are enjoying scholarship in the university were observed to have performed better in the area of measurement and geometric representations over those nonscholars both in the pretest and posttest. There is a different result in the pretest and posttest of those freshmen examinees coming from public and private high schools. A further study is recommended for comparing the performance of the examinees in the Mathematics area grouped by their type of school graduated from.


## 1. Introduction

The transition from high school to tertiary education is a challenge among the freshmen students. Students need to be knowledgeable enough of the basic concepts learned in the high school to be able to adjust and absorb its theoretical and empirical implications which they would encounter in college education.

Learning the basics or the general education subjects will help them find independent learning strategies that may develop and enhance more their knowledge.

In the aim of the De La Salle Philippines in coming up with One La Salle network, the Collegiate General Education Achievement Test (CGEAT) is one of their ways in realizing it. It will assess how well are the La Sallian students learning in the general education subjects which are expected to have been learned in the high school. A pretest and posttest of the CGEAT were conducted in the twelve identified La Salle Schools in the Philippines in the school year 2012-2013. The results of the pretest and posttest in each school were compared with the set score by the De La Salle Philippines.

The strongest predictor of college success was high-school grades in college preparatory courses (Geiser and Santelices, 2007). Whitney (1993) further had shown in her study that high school grades are not the only predictor of college success but also the result of standardized test scores. The high school average has been a consistent predictor of success in college that Geiser and Santelices (2007) put on emphasis of its consideration in college admissions.

Most of the universities worldwide employed standardized tests to their students to predict how well students will do in college (Bowen \& Bok, 1998). Such standardized tests help the admission staff select students who are likely to do well at their institution in terms of college performance. Scholastic aptitude test (SAT) is a standardized test used to measure a student's capacity of learning or the learning ability in college. De La Salle Philippines (DLSP) initiated the administering of the Collegiate General Education Achievement Test (CGEAT), also a standardized test.

The universities which are administered by La Sallian philosophies such as De La Salle Green Hills, De La Salle- Lipa, La Salle University- Ozamiz City and other La Sallian schools required their freshmen students to take the CGEAT as the first step in their
project coming up with One La Salle Network.

The CGEAT is a two-part test designed to measure the students' achievement relative to the curriculum standard for English, Math and Sciences specified by the De La Salle Phil, Inc. (DLSP, 2011). It aims to educate learning and teaching by pinpointing the students' relative strengths and areas for improvement and identifying opportunities to improve curriculum and instruction.

Under the CGEAT are four subtests that are composed of English Writing Test with four areas, English subtest with three areas, Science subtest with four areas and Mathematics subtest with four areas. This paper will deal on the Mathematics subtest of the CGEAT. The following are the areas under this subtest: (1) Numerical Literacy; (2) Pattern Recognition and Algebraic Representation; (3) Measurement and Geometric Representation; and (4) Statistical Analysis and Probabilities.

The EnSciMat Program of the university was created in the school year 2012-2013 after the conduct of the pretest of the CGEAT by the De La Salle Philippines. Thru the instruction of the office of the Vice-Chancellor for Academics, the topics that are expected to be learned by the freshmen students during their high school years are to be part of the teaching of the instructors assigned in the EnSciMath program. This is in preparation also to the CGEAT posttest conducted in February 2013.

The Advisory program was created under the office of the Vice-Chancellor for Academics which aims at helping students that have difficulties in their subjects. This is another form of students' consultation hour where students consult their teachers at their vacant time to ask or clarify some concepts that they have difficulty understanding during their class period.

The objectives of the study are to describe and compare the overall performance of the La Salle University freshmen students in the pretest and posttest results in the CGEAT in the area of

Mathematics. Specifically, it attempts to probe on freshmen students' performance in the CGEAT both in pretest and posttest results in the areas of numerical literacy; pattern recognition and algebraic representation; measurement and geometric representation; and statistical analysis and probability. The study also attempts to investigate any significant difference in the pretest and posttest scores when respondents were grouped by gender, type of high school graduated from and scholarship status categories.

This study will be beneficial to the following:
Students. Knowing the result of the CGEAT, the students will be able to realize what area in mathematics needs improvement. This will also enlighten their minds to work hard in Mathematics.

Teachers. They will plan lessons and activities in Mathematics that will enhance the development of problem solving skills among their students. Moreover, they will be able to encourage or help students to learn extensively in different areas in Mathematics.

Parents. This will help them know the status of their children in terms of mathematical ability; consequently, giving information as to what and how much support their children need from them and from the school.

Administrators. This will guide the administrators in conducting seminars for teachers in Mathematics that will lead to better instruction in Mathematics subjects. This will give them idea on making deeper follow-up on the area where students really needed the help.

## 2. Methodology

This section discusses in details the methodology in the conduct of the research. This includes, the research design, locale, respondents, instrument, collection of data and treatment of data.

The study is of descriptive design. It describes the overall performance of the La Salle University freshmen students in the pretest and posttest results in the CGEAT Mathematics subtest in the four areas, namely; (a) Numerical Literacy, (b) Pattern Recognition and Algebraic Representations, (c) Measurement and Geometric Representations, and (d) Statistical Analysis and Probabilities.

The listed respondents in the data obtained are the freshmen students of La Salle University in the 1st Semester of SY 2012-2013. These students are those fresh graduates from high school and neither transferees from other schools nor shifters from other programs. A total of 576 freshmen students took the CGEAT both pretest and posttest.

Table 1 presents the age distribution of the examinees who took the CGEAT. Majority of them, 62.85 percent, are 18 to 19 years old. 29.69 percent ages 16 to 17 years old and 7.46 percent are 20 years old and above. The expected age of the freshmen students is 16 , yet majority of the freshmen CGEAT takers are 18 to 19 years old. There are also freshmen takers who are 20 years old and above. These students possibly belong to those shiftees from other programs, transferees from other schools or those who temporarily stopped schooling after graduating high school. This information can be verified if the respondents have indicated the year they graduated their high school.

Table 1
Age Distribution of Examinees

| Age Group | Frequency | Percentage |
| :---: | :---: | :---: |
| $16-17$ | 171 | 29.69 |
| $18-19$ | 362 | 62.85 |
| $20-21$ | 29 | 5.03 |
| 22 and above | 14 | 2.43 |
| Total | 576 | 100.00 |

The test instrument used in the CGEAT is in the care of the

De La Salle Philippines. The researchers will only make use of the individual result of the students who were takers of the pretest and posttest of the CGEAT. Such instrument cannot be included or attached along with this research paper.

The researchers made use of the utilizing existing data method of data collection. They make use of the data available in the office of the Guidance Services Center of La Salle University thru the Vice-Chancellor for Academics or the Vice-Chancellor for Academics and Student Services.

The following measures were used to present the result of the data gathered or analysis of the data: Percentage Distribution. This presented the percent of total items correct in each of the four areas of the Mathematics subtest of CGEAT; Paired-Sample T-Test. This test was used to test if there is a significant difference in the pretest and posttest scores in the four areas of Mathematics subtest of CGEAT; and Independent-Sample T-test. This was utilized for the testing for significant difference in the posttest percent of total items correct when the respondents were grouped by gender category, type of high school graduated from and scholarship status. Same test was used for the standard scores both in the pretest and postest in the four areas under the CGEAT Mathematics subtest.

## 3. Results and Discussion

This section presents the results of the study and are presented according to the objectives set. Gender distribution of examinees is presented in Table 2.

Table 2
Gender Distribution of Examinees

| Gender | Frequency | Percentage |
| :--- | :---: | :---: |
| Female | 407 | 70.66 |
| Male | 167 | 28.99 |
| No response | 2 | 0.35 |


| Total | 576 | 100.00 |
| :--- | :---: | :---: |

Majority of the examinees are female, that is, 407 out of the 576 examinees of the CGEAT. 167 of them are male and two examinees have missing information on their gender. The male being outnumbered by the female is true to many studies or even population statistics in the country.

One of the information obtained from the examinees is the type of school where they graduated in their high school. This is shown in Table 3.

Table 3
Type of School Where Examinees Graduated From

| High School Graduated <br> From | Frequency | Percentage |
| :--- | :---: | :---: |
| Private - DLSP | 85 | 14.76 |
| Private - Non DLSP | 209 | 36.28 |
| Public | 282 | 48.96 |
| Total | 576 | 100.00 |

As presented in Table 3, 48.96 percent of them graduated from public high schools and 51.04 percent or 294 of the total examinees were from private high schools. Of these 294 who came from private schools, 29.91 percent, or 85 of them, are from DLSP schools. The students who graduated from private high schools are relatively higher in number than those who graduated from private schools. And from the private high schools, majority came from schools not belong to the De La Salle network.

Table 4 presents the distribution of the examinees as to educational program taken.

Table 4
Educational Program Distribution of Examinees

| Educational Program | Frequency | Percentage |
| :--- | :---: | :---: |
| Education | 99 | 17.19 |
| Engineering, Manufacturing <br> and Construction | 58 | 10.07 |
| Health and Welfare | 23 | 3.99 |
| Humanities and Arts | 10 | 1.74 |
| Sciences | 38 | 6.60 |
| Services | 105 | 18.23 |
| Social Sciences, Business and <br> Law | 243 | 42.19 |
| Total | 576 | 100.00 |

Forty-two point nineteen (42.19) percent of them are taking social sciences, business and law related programs, 18.23 percent are taking service related programs, 17.19 percent are education related, 10.07 percent are into engineering, manufacturing and construction related programs. 6.60 percent are into pure sciences, 3.99 percent are into health and welfare and 1.74 percent in humanities and arts. These programs where the students decided to pursue in La Salle University could be further studied in their college readiness exam result where data are available in the office of the Psychometrician at the Guidance Services Center of LSU.

Table 5 presents the distribution of the scholarship status of the examinees.

Table 5
Scholarship Status Distribution of Examinees

| Scholarship Status | Frequency | Percentage |
| :--- | :---: | :---: |
| With Scholarship | 134 | 23.26 |
| Without Scholarship | 442 | 76.74 |
| Total | 576 | 100.00 |

As shown, 76.74 percent of them have no scholarship in school. Only 23.26 percent among the examinees are enjoying scholarship in the university. This result somehow has hit the objective of La Salle University where in $20 \%$ of its population are
scholars because 23.26 percent of the new freshmen who entered in LSU in the school year 2011 are scholars.

## CGEAT Performance of the Examinees

The analysis and presentation of the performance of the examinees were subdivided into three parts namely, (a) by percentage distribution of total items which are answered correctly by the respondents, (b) by standard scores in pretest and (c) by standard scores in posttest. Further, the Mathematics subtest is subdivided into four areas namely, (a) Numerical Literacy, (b) Pattern Recognition and Algebraic Representations, (c) Measurement and Geometric Representations, and (d) Statistical Analysis and Probabilities.

Significant differences in the CGEAT performance were tested also between gender categories (female vs. male), type of school where they came from (private vs. public) and scholarship status (scholars vs. nonscholars).

The last analysis done for the data was on testing if a significant difference in the CGEAT Mathematics subtest between the pretest and posttest exists or not.

## A. By Percentage Distribution of Total Items Answered Correctly by the Respondents

Table 6 shows the distribution of items correctly answered by the respondents in the area of Mathematics during posttest.

Table 6
Distribution of Items Correctly Answered in Mathematics during the Posttest

| Posttest Percent of <br> Total Items Correct | Area1 | Area2 | Area3 | Area4 | Mathematics |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Frequency |  |  |  |  |  |
| 25 and Below | 78 | 175 | 168 | 237 | 46 |  |
| $26-50$ | 192 | 197 | 220 | 174 | 323 |  |
| $51-75$ | 235 | 119 | 132 | 103 | 155 |  |
| $76-100$ | 71 | 85 | 56 | 62 | 52 |  |
| Percentage |  |  |  |  |  |  |
| 25 and Below | 13.54 | 30.38 | 29.17 | 41.15 | 7.99 |  |
| $26-50$ | 33.33 | 34.20 | 38.19 | 30.21 | 56.08 |  |
| $51-75$ | 40.80 | 20.66 | 22.92 | 17.88 | 26.91 |  |
| $76-100$ | 12.33 | 14.76 | 9.72 | 10.76 | 9.03 |  |

Legend: Areal: (Numerical Literacy)
Area2: (Pattern Recognition and Algebraic Representations)
Area3: (Measurement and Geometric Representations)
Area4: (Statistical Analysis and Probabilities)

As presented, distribution of items correctly answered by the respondents is divided into four categories for a detailed result. A higher percentage of examinees in the area of numerical literacy got 51 to 75 percent of total items correct. This is a good result since it indicates that the examinees' performance in that area is in the upper 50 percent. Both in the pattern recognition and algebraic representation area and measurement and geometric representations area, a higher percentage of the examinees got 26 to 50 percent of total items correct which is in the bottom 50 percent. In the statistical analysis and probabilities area of Mathematics, most of the examinees had scores in the below 25 percent. This implies that during their high school they have no retention on the basic concepts of statistics or maybe lessons related to statistics were not introduced in their high school years.

For the overall CGEAT mathematics subtest performance, 56.08 percent of the examinees answered between 26 to 50 percent of the total items correctly of which is below 50 percent.

Table 7 shows the differences in CGEAT Performance of Examinees by Gender. The CGEAT performance is measured in terms of the items correctly answered by the respondents.

Table 7
Differences in CGEAT Performance of Examinees by Gender

| Mathematics Areas | Female | Male | t-value | p- <br> value |
| :--- | :---: | :---: | :---: | :---: |
| Numerical Literacy | 55 | 61 | -2.915 | $0.004^{*}$ |
| Pattern Recognition and Algebraic <br> Representations | 42 | 48 | -2.402 | $0.017^{*}$ |
| Measurement and Geometric Repre- <br> sentations | 45 | 51 | -2.856 | $0.004^{*}$ |
| Statistical Analysis and Probabilities | 38 | 38 | 0.009 | 0.992 |
| Overall (Mathematics) | 46 | 50 | -2.951 | $0.003^{*}$ |

*significant at 0.05 level using Independent-Sample T-Test

Table 7 showed that only in the statistical analysis and probabilities area of Mathematics which the performance between the gender groups are the same. The other areas showed that the male group has significantly better performance than the female. This implies that male freshmen students are more inclined in learning Math than the female students. But in the Statistical Analysis and Probabilities there is no difference in the performance among the male and female examinees.

Table 8 shows the differences in CGEAT performance of examinees by type of school where they had graduated. The CGEAT performance is still measured in terms of the items correctly answered by the respondents.

Table 8
Differences in CGEAT Performance of Examinees by Type of
School Graduated From

| Mathematics Areas | Public | Private | t-value | p-value |
| :--- | :---: | :---: | :---: | :---: |
| Numerical Literacy | 57 | 57 | -0.340 | 0.734 |
| Pattern Recognition and Algebraic <br> Representations | 41 | 46 | -2.311 | $0.021^{*}$ |
| Measurement and Geometric Repre- <br> sentations | 48 | 45 | 1.247 | 0.213 |
| Statistical Analysis and Probabilities | 36 | 39 | -1.443 | 0.150 |
| Overall (Mathematics) | 46 | 48 | -0.872 | 0.384 |

*significant at 0.05 level using Independent-Sample T-Test

As shown, there is no significant difference in the performance of the examinees in the areas of Mathematics whether the student graduated from public or private high school except in the pattern recognition and algebraic representation area. In this subtest, those students from private high school have better scores than those from public schools. But it has been identified that those coming from private high schools have higher scores in the area of Pattern Recognition and Algebraic Representations than those coming from public high schools. This result is a possible topic for another research study.

Table 9 shows the differences in CGEAT performance of examinees by scholarship status. The CGEAT performance is still measured in terms of the items correctly answered by the respondents.

Table 9
Differences in CGEAT Performance of Examinees by Scholarship Status

| Mathematics Areas | Scholars | NonScholars | t-value | $\mathbf{p -}$ <br> value |
| :--- | :---: | :---: | :---: | :---: |
| Numerical Literacy | 58 | 57 | -0.651 | 0.515 |
| Pattern Recognition and <br> Algebraic Representations | 45 | 43 | -0.750 | 0.454 |


| Measurement and Geomet- <br> ric Representations | 52 | 45 | -2.672 | $0.008^{*}$ |
| :--- | :---: | :---: | :---: | :---: |
| Statistical Analysis and <br> Probabilities | 37 | 38 | 0.264 | 0.792 |
| Overall (Mathematics) | 49 | 46 | -1.467 | 0.143 |

*significant at 0.05 level using Independent-Sample T-Test

As presented in Table 9, Students who have scholarships have better performance than those without scholarships only in the areas of measurement and geometric representations. That is, scholars have higher scores in the area of Measurement and Geometric Representations than those non-scholars. This finding can be further studied for in-depth analysis.

## B. By Standard Scores in Pretest

Tables 10 to 12 show the results of the analysis when significant difference of the CGEAT Mathematics performance during pretest is tested as respondents were grouped by gender, type of highs school graduated from and scholarship status. CGEAT performance in these presentations is measured in terms of standard scores of examinees.

Table 10 shows the difference of CGEAT pretest performance by standard scores in Mathematics when examinees are grouped by gender.

Table 10
Difference of CGEAT Pretest Performance by Standard Scores in Mathematics of the Respondents by Gender

| Mathematics Areas | Female | Male | t-value | $\mathbf{p -}$ <br> value |
| :--- | :--- | :--- | :--- | :--- |
| Numerical Literacy | 294 | 302 | -1.503 | 0.133 |
| Pattern Recognition and Algebraic Rep- <br> resentations | 276 | 281 | -0.820 | 0.413 |
| Measurement and Geometric Represen- <br> tations | 275 | 282 | -1.819 | 0.069 |
| Statistical Analysis and Probabilities | 259 | 260 | -0.056 | 0.955 |


| Overall (Mathematics) | 279 | 284 | -1.765 | 0.078 |
| :--- | :--- | :--- | :--- | :--- |

*Statistical tool used: Independent-Sample T-Test

As presented, there is no significant difference in the pretest performance of the examinees when they are grouped by gender category in the different areas of Mathematics subtest. This implies that during the pretest the female and male takers have the same level of knowledge in the subtest Mathematics.

Table 11 shows the difference of CGEAT pretest performance by standard scores in Mathematics when examinees are grouped by type of high school they graduated from.

Table 11
Difference of CGEAT Pretest Performance by Standard Scores in Mathematics of the Respondents by Type of School Graduated From

| Mathematics Areas | Public | Private | t-value | p- <br> value |
| :--- | :---: | :---: | :---: | :---: |
| Numerical Literacy | 296 | 296 | 0.060 | 0.952 |
| Pattern Recognition and Algebraic <br> Representations | 274 | 281 | -1.367 | 0.172 |
| Measurement and Geometric Repre- <br> sentations | 282 | 272 | 2.413 | $0.016^{*}$ |
| Statistical Analysis and Probabilities | 259 | 260 | -0.242 | 0.809 |
| Overall (Mathematics) | 281 | 280 | 0.300 | 0.764 |

*significant at 0.05 level using Independent-Sample T-Test
Table 11 presented that in the pretest result in the area of measurement and geometric representations, the standard scores between those examinees coming from private and public high schools significantly differed. Those coming from public schools have better performance in this area over those coming from private schools. This difference may be attributed to the practices among private or public high school teachers and mentors of the students. This could be a possible area of study in the future.

Table 12 shows the difference of GEAT pretest performance
by standard scores in Mathematics when examinees are grouped by scholarship status.

Table 12
Difference of CGEAT Pretest Performance by Standard Scores in Mathematics of the Respondents by Scholarship Status

| Mathematics Areas | Scholars | NonScholars | t-value | p- <br> value |
| :--- | :---: | :---: | :---: | :---: |
| Numerical Literacy | 296 | 296 | 0.097 | 0.923 |
| Pattern Recognition and <br> Algebraic Representations | 279 | 277 | -0.350 | 0.727 |
| Measurement and Geometric <br> Representations | 286 | 274 | -2.546 | $0.011^{*}$ |
| Statistical Analysis and <br> Probabilities | 264 | 258 | -1.320 | 0.187 |
| Overall (Mathematics) | 283 | 279 | -1.135 | 0.258 |

*significant at 0.05 level using Independent-Sample T-Test

Table 12 showed also that those having scholarships performed significantly better than those without scholarship in the area of measurement and geometric representations. The results presented in Tables 11 and 12 can be studied further identifying the scholarship status and type of high school graduated from as independent variables.

## C. By Standard Scores in Posttest

Tables 13 to 15 show the results of the analysis when significant difference of the CGEAT Mathematics performance during posttest is tested as respondents were grouped by gender, type of highs school graduated from and scholarship status. CGEAT performance in these presentations is measured in terms of standard scores of examinees.

Table 13 shows the difference of GEAT posttest performance by standard scores in Mathematics when examinees are grouped by gender.

Table 13
Difference of CGEAT Posttest Performance by Standard Scores in Mathematics of the Respondents by Gender

| Mathematics Areas | Female | Male | t-value | p-value |
| :--- | :--- | :--- | :--- | :--- |
| Numerical Literacy | 314 | 329 | -3.056 | $0.002^{*}$ |
| Pattern Recognition and Algebraic Rep- <br> resentations | 284 | 297 | -2.401 | $0.017^{*}$ |
| Measurement and Geometric Represen- <br> tations | 290 | 304 | -2.791 | $0.005^{*}$ |
| Statistical Analysis and Probabilities | 276 | 276 | -0.028 | 0.978 |
| Overall (Mathematics) | 293 | 304 | -2.740 | $0.007^{*}$ |

*significant at 0.05 level using Independent-Sample T-Test

Table 13 showed that only in the statistical analysis and probabilities area of Mathematics, the performance between the gender groups is the same. The other areas showed that the male group has significantly better performance than the female. This result is same with Table 7. The no difference in the area of Statistical Analysis and Probabilities in the posttest further verifies that they have no background in Statistics in high school so they have difficulty grasping the concept even when they attended the EnSciMat program of LSU.

Table 14 shows the difference of GEAT posttest performance by standard scores in Mathematics when examinees are grouped by type of school they had graduated.

Table 14
Difference of CGEAT Posttest Performance by Standard Scores in Mathematics of the Respondents by Type of School Graduated From

| Mathematics Areas | Public | Private | t-value | p- <br> value |
| :--- | :---: | :---: | :---: | :---: |
| Numerical Literacy | 317 | 318 | -0.239 | 0.811 |
| Pattern Recognition and Algebraic <br> Representations | 282 | 293 | -2.385 | $0.017^{*}$ |


| Measurement and Geometric Repre- <br> sentations | 297 | 291 | 1.410 | 0.159 |
| :--- | :---: | :---: | :---: | :---: |
| Statistical Analysis and Probabilities | 273 | 279 | -1.494 | 0.136 |
| Overall (Mathematics) | 294 | 297 | -0.903 | 0.367 |

*significant at 0.05 level using Independent-Sample T-Test

Table 14 showed that there is no significant difference in the performance of the examinees by posttest standard scores in the four areas of Mathematics whether the student graduated from public or private high school except in the pattern recognition and algebraic representation area. In this area, those students from private high school have better scores than those from public schools. Same result was observed in Table 8.

Table 14 shows the difference of GEAT posttest performance by standard scores in Mathematics when examinees are grouped by scholarship status.

Table 15
Posttest Standard Scores in Mathematics by Scholarship Status

| Mathematics Areas | Scholars | Non <br> Scholars | t-value | p-value |
| :--- | :---: | :---: | :---: | :---: |
| Numerical Literacy | 321 | 317 | -0.861 | 0.389 |
| Pattern Recognition and Al- <br> gebraic Representations | 291 | 287 | -0.749 | 0.454 |
| Measurement and Geometric <br> Representations | 306 | 290 | -2.686 | $0.008^{*}$ |
| Statistical Analysis and Prob- <br> abilities | 275 | 276 | 0.251 | 0.802 |
| Overall (Mathematics) | 301 | 295 | -1.477 | 0.140 |

*significant at 0.05 level using Independent-Sample T-Test

Table 15 showed that only in the measurement and geometric representations area of Mathematics the performance between the scholars and nonscholars differs. In this area, those students who are into scholarships have better performance than those without scholarships. Same analysis was derived from Table 9.

The same results were observed in the analysis in the CGCGEAT Mathematics subtest in Tables 7 to 9 (by percentage distribution of the total items correctly answered by the respondents) and in Tables 13 to 15 (by posttest standard scores) because both measures came from the posttest performance in the CGEAT.

The results presented in Tables 14 and 15 can be studied further identifying the scholarship status and type of high school graduated from as independent variables and relate it to the achievement tests given to high schools students in their last year in high school.

## D. Comparison between CGEAT Performance in Mathematics during Pretest and Posttest

Table 16 shows the significant difference of the CGEAT performance of examinees during pretest and posttest. CGEAT performance is measured in terms of students' standard scores.

Table16
Difference of CGEAT Performance by Standard Scores in
Mathematics during Pretest and Posttest

| Mathematics Areas | Pretest | Posttest | t-value | p- <br> value |
| :--- | :---: | :---: | :---: | :---: |
| Numerical Literacy | 296 | 318 | -9.728 | $0.00^{*}$ |
| Pattern Recognition and Algebraic <br> Representations | 277 | 288 | -4.954 | $0.00^{*}$ |
| Measurement and Geometric Rep- <br> resentations | 277 | 294 | -7.571 | $0.00^{*}$ |
| Statistical Analysis and Probabili- <br> ties | 260 | 276 | -6.381 | $0.00^{*}$ |
| Overall (Mathematics) | 280 | 296 | -13.185 | $0.00^{*}$ |

[^0]It is showed in Table 16 that the posttest results in the four areas of Mathematics subtest are significantly better than the pretest results. The highest difference was observed in the area of numerical
literacy which has a score difference of 22 points by standard scores. In the overall Mathematics subtest performance, the posttest is higher by 16 standard points than the pretest. This result implies that the EnSciMath program is effective in improving their knowledge learned in Mathematics.

## 4. Summary of Findings, Conclusion and Recommendation

 Summary of Findings1. Majority of the CGEAT examinees came from private high schools, that is, 51.04 percent of them.
2. 42.19 percent of the examinees are taking social sciences, business and law related educational programs.
3. Most of the examinees, 76.74 percent of them, have no scholarship in the university.
4. In the pretest result in Mathematics area, those coming from public high schools have better performance over those coming from private high schools in the area of measurement and geometric representations.
5. In the CGEAT posttest, male examinees have better performance in the areas under Mathematics subtest except on statistical analysis and probabilities area.
6. In the area of pattern recognition and algebraic representations, those examinees graduated from private high schools have better performance in the posttest than those graduated from public schools.
7. Those enjoying scholarships have better performance in the measurement and geometric representations area than those nonscholars both in the pretest and posttest.
8. There is a significant difference in the posttest and pretest performance of the examinees in the Mathematics subtest of the CGEAT. Posttest scores are significantly higher than the pretest scores. The highest difference in standard scores was observed in the area of numerical literacy which has a score difference of 22 points.

## Conclusion

For a better view of the summary of findings presented, Table 17 provides the comparative results between groups of examinees and between Mathematics areas of the CGEAT.

Table 17
Comparative Presentation of Significant Findings

| Test | Mathematics Area | Group of Examinees |
| :--- | :--- | :--- |
| Pretest | Measurement and Geometric <br> Representations | Public $>$ Private |
|  | Measurement and Geometric <br> Representations | Scholars > NonScholars |
|  | Numerical Literacy | Male $>$ Female |
|  | Pattern Recognition and Alge- <br> braic Representations | Male $>$ Female |
|  | Measurement and Geometric <br> Representations | Male $>$ Female |
|  | Pattern Recognition and Alge- <br> braic Representations | Private $>$ Public |
|  | Measurement and Geometric <br> Representations | Scholars > NonScholars |

Statistical analysis and probabilities concept is part of the general education programs under the curriculum of DLSP. The incoming freshmen student in the tertiary level is expected to be equipped with this basic knowledge but it was found in this study that they have no enough knowledge in this area. It was also observed that the offering of this subject course in La Salle University is during
the second and third year in their college program. This course must be offered in their first year in college since this is essential in their research and thesis period. A study can be done in the future identifying the scholarship status and type of high school graduated from as independent variables and relate it to the achievement tests given to high school students in their last year in school.

## Recommendations

Statistical analysis and probabilities concepts shall be taught extensively in the high school since it is one of the general education programs that the freshmen students should be equipped with prior to their college education. This course subject shall also be offered during their first year in college to enhance more their statistical knowledge which is necessary in their thesis or research writing period in college. This subject is further suggested to be included in the advisory class and EnSciMat program of the university. It is recommended that further study comparing the performance in the four areas of Mathematics subtest between those students coming from public and private high schools be made.

## 5. List of References

Bowen, W.G. \& Bok, D. 1998. The Shape of the River: Long-term Consequences of Considering Race in College and University Admissions. Princeton, NJ: Princeton University Press.

De La Salle Philippines, Inc. 2011, April. Outputs from the La
Sallian Learning Leaders 3rd Congress. Manila.

Geiser, S. and M. Santelices. (2007). "Validity of high-school grades in predicting student success beyond the freshman year: High-school record vs. standardized tests as indicators of four-year college outcomes." Center for Studies in Higher Education, UC Berkeley.

Whitney. D.R. (1993). Educational admissions and placement. In R.L. Linn (Ed.). Educationalmeasurement. (3rd ed.), Phoenix, AZ: The Oryx Press.

## About the Authors



Ms. Chiedel JoanSanDiego is a holderofthe following degrees: Bachelor of Science in Secondary Education major in PEHM and graduated as 1 st honorable mention last March 1999 at La Salle University; Bachelor of Science in Elementary Education major in MAPEH and graduated last October 2000 in the same institution and Master of Science in Physical Education at MSU-IIT, Iligan City last April 2008. She is a faculty member of the PE and Music Department of the College of Arts and Sciences and the Institutional Cultural Arts DirectorofLaSalleUniversity,OzamizCity.


Mr. Abelano Pagalan is a graduate of Bachelor of Science in Physical Education in 2005 at Mindanao State University, Marawi City where he also finished his Master in Physical Education. He is currently a faculty of the PE department, College of Arts and Sciences at La Salle University, Ozamiz City.


Ms. Mary Ann Banac is a graduate of Bachelor of Secondary Education major in Physical Education, Health and Music (PEHM) in 2001 and Master of Arts in Education major in Physical Education in 2012 at La Salle University, Ozamiz City. At present, she is a faculty of the PE department of College of Arts and Sciences, La Salle University, Ozamiz City.


Ms. Maria Melisa Abamonga is a graduate of Bachelor of Science in Secretarial Administration major in Office Management. She finished her Master in Business Administration at ICC-La Salle. Currently, she is a faculty of the College of Business and Economics at La Salle University, Ozamiz City.


Ms. Teresita Dayondon is a graduate of Bachelor of Science in Secretarial Administration at University of San Carlos, Cebu City. She finished her Master in Business Administration at La Salle University, Ozamiz City. Currently, she is a faculty of the College of Business and $\begin{array}{lcc}\text { Economics } & \text { at } \quad \text { La } & \text { Salle } \\ \text { University, } & \text { Ozamiz } & \text { City. }\end{array}$

Dr. Anna Bocar is a faculty of the
 College of Business and Economics. She graduated her Bachelor of Science in Commerce major in Accounting at Immaculate Conception College in 1990, Bachelor of Laws at Misamis University in 1996, Master in Business Administration at Immaculate Conception College-La Salle in 2000 and completed her Doctor in Business Administration at University of San Jose-Recoletos, Cebu City.


Ms. Prudelen Pasok is a Social Science faculty of the College of Arts and Sciences. She is a graduate of Bachelor of Secondary Education major in Social
Studies with Proficiency in teaching award in 1997 at ICC-La Salle, Ozamiz City. She completed her Master in Teaching Social Studies at La Salle University, Ozamiz City.


Mr. Benjiemen Labastin is a graduate of Bachelor of Arts in Philosophy at Our Lady of Angels Franciscan Seminary, Novaliches, Quezon City in 2002. He earned his Master in Philosophy at the University of San Carlos, Cebu City. At present, he is the coordinator of the Social Science Department of La Salle Univeristy, Ozamiz City.


Wenny Caserosispresently thePersonnel Director of La Salle University. She is a graduate of Bachelor of Elementary Education at La Salle University in 1991. She earned her MasterinEducationmajorinEducational Management in 2002 and Doctor of Philosophy in Education in 2007 at La Salle University.


Ms. Omensalam Asi-Japar is a graduate of Bachelor of Science in Statistics at Mindanao State University, Iligan Institute of Technology (MSUIIT), Iligan City. At present, she is a faculty of the College of Arts and Sciences and she is the Director of Planning and Evaluation at La Salle University, Ozamiz City.


Mr. Ernie Capuno is a graduate of Bachelor of Science in Mathematics at Mindanao State University, Marawi City. He earned his Master in Education major in Mathematics at La Salle University. At present, he is a faculty and coordinator of the Mathematics Department in the College of Arts and Sciences at La Salle University (LSU).


Merlinda Dagomo is a graduate of Bachelor of Secondary Education major in Mathematics at Immaculate Conception College - La Salle, Ozamiz City. She finished her Master in Education major in Mathematics at the same institution. She was the Mathematics Coordinator of the College of Arts \& Sciences from June 2007May 2010. Currently, she is a faculty of the College of Arts \& Sciences and the principal of the Night High School.


[^0]:    *significant at 0.05 level using Paired-Sample T-Test

