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**The test and the use of
man's education is that
he finds pleasure in the
exercise of his mind..**

Jacques Martin Barzun



Researches

- 1 **An Exploratory Study on the Interventions and Effects of Students' Consultation in the School of International Hospitality and Tourism Management**

Dr. Marivic B. Mutong | Ms. Jenelyn M. Magpatoc

- 17 **English vocabulary learning among the School of International Hospitality and Tourism Management Students**

Dr. Aida A. Dapiawen

- 33 **Perceptions of the School of Business Administration and Accountancy Students on the Departmental Examinations**

Dr. Kareen B. Leon, CPA | Mr. Rhad Vic F. Estoque, CPA

Articles

- 45 **Perspectives of Stakeholders on the Cordillera Administrative Region Training Center**

Dr. Dyesebel L. Chinayo | Ms. Rose Marie C. Detran
PSupt. Maly C. Cula

- 57 **Adaptive-Hypermedia M-Learning Application (AHMA)**

Erna-Kristi N. Martinez





**AN EXPLORATORY STUDY ON THE INTERVENTIONS AND
EFFECTS OF STUDENTS' CONSULTATION IN THE
SCHOOL OF INTERNATIONAL HOSPITALITY
AND TOURISM MANAGEMENT**

by

**Dr. Marivic B. Mutong,
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Abstract

This study dealt with the effects of students' consultation in the School of International Hospitality and Tourism Management (SIHTM). The effects were determined through the improvements on the students observed by the teachers after the consultation. The study used a descriptive survey design. Document analysis and casual conversation with 23 faculty members were applied to obtain the data needed. The consultation forms submitted by the 23 faculty members at the Dean's Office of the SIHTM during the second semester of SY 2012-2013 were analyzed by the researchers in order to identify the intervention activities done by the teachers. After transcribing the data, categorization into academic-related, environmentally-related, and personal problem-related concerns was done. The interventions were likewise grouped according to their nature. The concerns during consultations were focused on attendance and low grade due to the number of co-curricular and extra-curricular activities in the school. They may be excelling in skill-based activities and competition but their academic performance were affected. Guiding and redirecting students through pieces of advice was the most common intervention done by the faculty members followed by make-up activities as sources of scores. Most likely, the interventions given by the teachers helped the students improve their performance in school and their behaviors. Consultation proved to help students.

Keywords: Advising, consultation, effects, improvements, interventions

BACKGROUND OF THE STUDY

According to Elliris (2004), learning is a process that, in living organisms, leads to permanent capacity change and which is not solely due to biological maturation or ageing. This process covers the individual's capacity in any aspect and the condition or environment that affects this process. In addition, learning is a process through which relatively permanent changes in behavior or knowledge occur as a result of experience (O'donnell, Reeve & Smith, 2007). The type of conditioning that the school applies and the teacher uses defines the experience of the students and the behavior that arises.

A teacher is an agent of change. Being an external reinforcer, she has the responsibility of bringing correct responses to words, actions or behaviors of students. She is a humanist whose style is based on humane, open interpersonal relationships with her students, and she takes pride in the fact that students trust her.

According to Woolfolk (2006), in order to support the personal and social development of students, teachers must help students examine the kinds of dilemmas they are currently facing or will face in the next future; see the perspectives of others; and make connections between expressed values and actions. These guidelines point to proper guidance given to students in relation to their experiences and problems that affect their behavior and performance in school. Knowing what to say and how to say it are not enough to provide effective academic instruction, but also of knowing how to manage behavior skillfully. A teacher's responsibility is not limited inside the four walls of the classroom. Talking with her student is one way of reaching out to him and helps him become more interested in learning and in improving his behavior. Edwards (2008) suggests that a mini-counselling session can be arranged by the teacher. It makes a major difference in the student's life and classroom behavior to have someone who cares enough to listen. Thorndike's concept of belongingness as discussed by Hergenhahn and Olson (2001) strengthens this idea on counselling because learning will be more effective if the effects of the counselling are more related to the needs of the students. If the student's attention is disrupted by certain situations and remediation is not carried out by the teacher, learning becomes defective even if the teacher is able to explain her lessons well.

In the University of Baguio, consultation is encouraged. During



consultation, advising is unavoidably done. This is not a simple task which can easily be done by any teacher. When counseling is already needed, the Center for Counselling and Student's Development (CCSD) takes the responsibility. However, if the teacher can manage the problem or any concern regarding the student's behavior or performance, she can help the student through consultation. The results of the study of Reinke, Palmer and Merrell (2008) suggest that advising at the classroom level can create a meaningful teacher and student behavior change.

It is a requirement for teachers in the School of International Hospitality and Tourism Management (SIHTM) to submit every month a copy of consultation with the students. The consultation is done whenever the need arises like in cases of frequent tardiness and absences, misconduct in the classroom, poor academic performance, and other important matters. The student is asked to see the teacher during his or her consultation hour. The consultation is sometimes held in the faculty room for minor cases and in the consultation room for major cases. The teacher has to fill out the consultation form and at the end of the consultation, the teacher asks the student to sign. The dean of the school often reminds the teachers that conducting consultations with their students is a way of helping the students to academically perform well. It is a way of reaching out to the students and making them feel valued.

Through this study, it is hoped that consultation may be given importance and the process be improved for the benefit of the students and even the teachers. Further, outputs derived through this study would bring about specific ideas which may be implemented by the school to help and encourage retention of students.

This study identified the interventions done by the faculty members to address the concerns discussed during the consultations with students and the improvements observed by the faculty members on the students as a result of the interventions.

METHODOLOGY

This study used the descriptive survey design. Document analysis and informal interview through casual conversations were employed to gather the data needed. The respondents were identified from the consultation forms of 23 faculty members during the second semester of the School Year 2012-2013. Based from the consultation forms, 354 students

consulted with the faculty members. There were five who consulted twice with different concerns and four with the same concerns.

The consultation form prepared by the Academic Council was the main tool of the study. It contains the date and time of consultation, identification number of the student, name of the student, student signature, issues and concerns, and remarks of the teacher. Conversations with the teachers were done in the faculty room while informal interviews with the students were done along the corridor, in the classroom, IHTM demonstration room, faculty room, and IHTM Student Body office. There were interviews conducted via the telephone since some of the respondents have graduated or were on their practicum training. The respondents were informed about the purpose of the study and the benefits that it can give to the school. They were told that they have the right to refuse to participate in the study. No coercion was done in the gathering of data from the respondents. To maintain the anonymity of the people involved in the consultation and interview, the names were kept confidential.

The remarks written by the faculty members in the consultation form were utilized to identify the interventions done by the teachers. The interventions were placed in a table and were arranged starting from the most common one given by the faculty members down to the least given. The improvements of the students that the teachers observed after the consultation were likewise gathered during the informal interviews with the teachers and some students. An analysis of the class records borrowed from the SIHTM Dean's Office was done to support the feedbacks of the teachers and students. The researchers checked the grades and attendance of some students who consulted being the concern of the study. The data gathered from the class records was used for the purpose of the study only. The improvements noted were categorized as academic-related, environmentally-related, and personal problem-related improvements.

RESULTS AND DISCUSSIONS

Interventions Done by the Faculty Members to Address the Concerns Discussed During the Consultations

Advising. Plain advising or words to guide the students were given to most of those who were absent or late without valid reasons, to students with problems on grades, and to those whose cases were related to misbehavior.



Table 1. Interventions Done by the Faculty Members to Address the Concerns (N = 354)

| Interventions | % |
|--|--------------|
| 1. Advising | 52.03 |
| a. Plain advising | 36.29 |
| b. Explanation of the computation of grade | 6.35 |
| c. Explanation/discussion of the lessons | 5.08 |
| d. Presentation of the sanctions for misbehaviors | 4.31 |
| 2. Giving of make-up activities | 28.43 |
| a. Assignment | |
| answer activity sheets | |
| answer some questions | |
| research work | |
| b. Project | 0.25 |
| c. Quiz | 0.51 |
| 3. Acceptance of late works | 9.90 |
| 4. Issuance of the documents needed | 7.11 |
| a. Waiver | 6.09 |
| b. Certificate of Participation | 1.02 |
| 5. Other Interventions | 2.54 |
| a. Resolving the conflict | |
| b. Asking for others' assistance | |
| Referral to Center for Counselling and Student Development (CCSD) | |
| Talking with a family member of the student | |
| c. Requiring for a narrative report | 0.25 |
| d. Giving the chance to take the examination | 0.25 |

A faculty member advised a student leader to be a model to her classmates by attending her class regularly. Those with failing grades were advised to try harder for finals and practice good study habits, and submit complete assignments and other requirements. To those whose concerns were on attendance, some of the pieces of advice were to be diligent in attending class, set priorities, learn to manage time, have positive view of learning, give importance to punctuality, try to find an affordable boarding house in Baguio to avoid commuting from home to school and arriving late in class, set aside unnecessary activities at night to be able to sleep early and report to school on time, and take bed rest if sick for fast recovery. For problems on behavior, students were advised to observe proper decorum.

Included in the advising was the explanation of the computation of grade. It is a responsibility of teachers to explain to the students the computation of their grades. On one hand, students should practice compiling all corrected quiz papers and exam papers to keep track of their class standing. The explanation or discussion of lessons that were not understood well or missed due to absences was also part of the advising. On the other hand, to repeat the explanation of particular lessons to students after class is time consuming, therefore, the willingness of teachers to do this is commendable. The presentation of sanctions by the teacher to students who misbehaved in class reminds the students of their responsibilities and limitations in school while the provision of warnings by the teachers makes the students become more aware of proper decorum and become more responsible for their actions.

As one teacher said, she reads to the students the sanctions for their misbehavior and advised them of what to consider during class hours so that they may be reminded of proper behavior in class. Another teacher explained to the students that their actions were so annoying and these were uncommon behaviors. A teacher also reminded the students of the policy regarding eating inside the classroom while class is going on. Another teacher presented the sanctions for cheating based on the UB Student Manual which is suspension for the first offense and expulsion for the second offense.

It was also common to give warnings to misbehaving students. According to Hastings & Schwieso (1987), teachers who are preferred by students are more likely to provide warning before acting against misbehaviors. A teacher even advised a student who refused to comply with the SIHTM uniform policy to consider another course. Another faculty member shared that she reminded the student of the sanctions for not wearing complete uniform during laboratory classes. As stated in the handout for Policies, Rules, and Regulations of IHTM, students who violate the uniform/grooming policy are required to process the readmission slip on the third and fourth offense.

The transformation of an individual into a productive member of the society entails discipline and every academic institution has disciplinary rules for its students. In Article XIV of the University of Baguio Student Handbook 2010 edition, the guidelines for student discipline are presented followed by the sanctions for major and minor offenses in Article XV.



Giving of make-up activities. In relation to absences being the leading concern discussed during the consultations, giving of make-up activities to students who had been absent or late is the second among the interventions done by the faculty members. These make-up activities were in the form of project, quiz, and assignments such as to answer an activity sheet, some questions, and to research some information related to the topics discussed in the classroom. In addition, handouts were also provided to some students to help them catch up with the lessons. Though it is a practice in schools to require the students to present an excuse slip to their teachers upon entering their class, the acceptance of students to class was a case to case basis for some instructors. Some faculty members give considerations to the students depending on the reasons for absences. As reflected in the consultation form, there were teachers who asked for excuse letter, medical certificate, a proof of attendance or participation in the activity or proof that the event happened. According to some students, extra works and other make-up activities were given by the teachers to help them pass the subject. Though preparing and checking make-up activities of students are additional tasks to the teachers, this finding implies that teachers are considerate to students by giving them the chance to earn scores to compensate for what they missed. Hence, it is necessary to include copies of activities and hand-outs in the teacher's portfolio because it facilitates giving of make-up activities.

To reduce the work of giving make-up activities, Ornstein and Scarpaci (2011) suggest that teachers should develop procedures for absent students while Buttner (2007) recommends a packet for questions, grammar notes, and other homework sheets.

Acceptance of late works. It is an observation that not all students can meet the deadlines set for the submission of requirements. There were a few who accepted the late project or assignments of students after knowing their reasons. Likewise, the students were asked to give an excuse letter, medical certificate, and other documents to prove the validity of the reasons given. Although requirements were submitted late, the efforts exerted by the students were recognized by a few teachers.

Issuance of the documents needed. Issuing documents such as waiver for the educational tour and certificate of participation is done by a few teachers. Students are expected to get the waiver in the classroom. Absent students approach their teachers in the faculty room to get theirs. The certificate of participation in different activities such as the HRAB and

other competitions were requested from the coaches or advisers. The certificate serves as proof of attendance in an activity and validates the reasons for being absent. This offers them a bigger chance for make-up activities.

Although the request for an educational tour waiver and certificate for attendance in a seminar were recorded in the consultation forms as concerns, the giving of the waiver cannot be regarded as an intervention since there were no problems.

Other Interventions. Conflicts between or among students are natural but the teacher should be the mediator. There were two recorded cases of conflicts among students. The conflict about the distribution of task among group members was resolved by regrouping them. The misunderstanding between two students was resolved by giving each student the chance to express their feelings which ended with reconciliation.

One of the least interventions done by the teachers is asking for others' help. The discussion of problems of students with a family member is another great effort of teachers that would lead to a clearer understanding of the issue. In addition, both the teacher and the family member work hand in hand towards the solution of the problem.

In some instances, the need to refer a student to the CCSD may arise and such was the case of one student because of a personal problem where the intervention of CCSD was needed. Seeking the help of the guidance counselors means that the problem can be brought out and better discussed with people who are trained to handle such situation.

Requiring a narrative report about the result of the competition attended by the student was done by a teacher since the event was very much related to the subject. This was her way of checking on the extent of involvement of the student in the event. The report was credited as an assignment.

There was one case where the chance for the student to take the examination was given by the teacher. Examinations occupy a big percentage in the class standing. In compliance with the university policy on special examination, the student presented first to the teacher his letter noted by the Dean before he was able to take the examination.



Improvements Observed by the Faculty Members on the Students as a Result of the Interventions

Academic -Related Improvements

Improvement of grade/improvement in class participation.

According to some teachers, improvements were observed among many of the students who sought consultations. The group that sought consultation to clarify particular lessons was able to deliver their report well and got high score. This observation was confirmed by the students. To prove the claims of teachers, a student said that she was given the chance during consultation to submit her project without 20 points deduction. This earned her a high grade. She was given a consideration because her reason for the delay of submission was valid. Another student said that she was given a remedial activity which covers almost 70% of class standing. The make-up activities given to the students did help in completing their class standing scores. One student shared that because of the pieces of advice given by the teacher, he passed his project and completed his class standing score. A student recalled that the probability of getting a high grade was impossible for her if not for the consideration given by the teacher for a late research work. The guidance provided by teachers through gentle words made the students work hard and become responsible. There were those who were able to submit requirements on time which contributed to the improvement of their grades. The findings indicate that by looking into a wider perspective about scores or grades, teachers can make a difference in the academic performance of students.

Dennis, Phinney, and Chuateco (2005) found in their study that higher social support was associated with more positive academic adjustment. This result is backed up by the study of Whiteman, Barry, Mroczek, and Wadsworth (2013) where they suggested that emotional support received from peers was protective and related to positive mental health and academic adjustment. The support given by the teachers through pieces of advice, make- up activities, the second chance, and wider understanding of the reasons or situations of the students, made the students strive hard.

Extrinsic motivation is a factor to consider that pushes someone to improve. Extrinsic motivation, according to Woolfolk (2006), is the motivation of people to do something in order to earn a grade, avoid punishment, please the teacher, or for some other reason that has very little to do with the task itself and care only about what it will gain. Some students, when

alerted by their teachers regarding their class standing, become more aware of their responsibilities to their parents or to the persons sending them to school. To avoid the consequences of low grade, they study harder.

There is a significant efficacy of mental health interventions on academic outcomes (Baskin et al, 2010). The teachers made the students realize the consequences of their actions such as being inattentive, not participating in classroom activities, or unpreparedness during quizzes and examinations. The study of Choi et al (2010) revealed that those who made clinically reliable and significant change as an effect of personal counseling reported the highest level of improvement in academic commitment to their educational goals and problem resolution. Counseling also resulted to improvements of the students in mathematics and reading (Lemberger, Selig, Bowers, & Rogers, 2015).

Environmentally- Related Improvements

On the environmentally-related improvements, discipline, attendance and other behavior-based effects are included.

Improvement of behavior. After informing the students of the disciplinary actions for misbehaviors in class, there were improvements in the behavior of most of the students according to the teachers. Punctuality and regular attendance or minimized absences were observed as reflected in the class records. Penalty is avoided by simply not repeating the action. By calling the attention of students who incurred many absences and tardiness and determining their reasons through consultation, solutions were recommended to help the students.

It was observed also by a teacher that after consulting with the student's sister regarding her chronic absenteeism, the student reported to class regularly. When this student was asked if the consultation was a factor in her improved attendance, she responded positively. According to her, talking with her sister and advising her made her more diligent in her studies. Another student was observed to have minimized her tardiness after the consultation. The student told the researcher that she felt ashamed to her teacher after she was reprimanded and advised to be punctual in class.

Based on the observation of the teacher, the students who had a conflict regarding their group task worked well after regrouping them. This



was confirmed by one of the students.

Mervilde (n.d.) discussed some solutions to absenteeism such as punitive plans, parental involvement, programs, student-centered agreements, counseling approaches, and the like, however, the solutions suggested yield mixed results. This is true when different factors are considered such as the reasons, situations, policies, and other matters.

The observations mentioned explain the importance of actions by the teachers in order to remind the students of their duties and responsibilities which they will be carrying with them when they practice their careers.

To students who requested from their teachers certificate or waivers, they were able to validate their absences from their classes or were able to join the educational tour and received a passing rate. This was confirmed after the researcher checked the class record. However, based on the definition and objectives of consultation, these concerns are not for consultation. This indicates that consultation was not properly utilized.

Personal Problem-related Improvement

According to one teacher, there was a relief on the part of the student after sharing a personal problem with his teacher, especially that he was still accepted in the class.

Though in this study, consultation was found out to have a role in the improvements of students, there are also other factors to consider. Ability; prior achievement; students with special learning challenges; and multiple school, family, peer, and community factors (Baskin et al, 2010) may influence the academic performance of students while age, father/guardian social economic status and daily study hours significantly contribute to the academic performance of graduate students (Ali, Haider, Munir, Khan, & Ahmed, 2013). Kennelly, Maldoni, and Davies (2010) also found out in their study that discipline management specialists working in conjunction with English language specialists provide a reconsideration of teaching and learning strategies and modes of assessment that lead to better outcomes for both students and staff .



CONCLUSIONS AND RECOMMENDATIONS

The following conclusions were derived based on the findings of the study:

The concerns during consultations were focused on attendance and low grade due to the number of co-curricular and extra-curricular activities in the school. They may be excelling in skill-based activities and competition but their academic performance was affected.

Guiding and redirecting students through pieces of advice was the most common intervention done by the faculty members. Most likely, the interventions given by the teachers helped the students improve their performance in school and their behaviors. Consultation proved to help students.

To improve the consultation practice in the SIHTM, the following recommendations are presented based on the result of the study:

1. There must be a strict implementation of the UB attendance policy by the faculty members to make the students more aware of their responsibilities in school and thus minimize the concerns on attendance.
2. The school can produce a written policy on make-up activities to students who incur absences or tardiness and be explained to students during the first meeting.
3. Teachers should follow-up the result of consultations to be able to determine which approaches are more effective. Likewise, effects should be considered in improving consultation with students.
4. Teachers should consider the variation of concerns and reasons of students and the interventions to be given when conducting group consultation to address the issues better.
5. A revised consultation form is recommended (see attached recommended copy). Only a photocopy of the consultation form shall be submitted to the Dean's Office every grading period. The fully accomplished forms which include the observations of the teachers with the students after the consultation are submitted to



the dean's office at the end of the semester.

6. The recommended activities to improve the consultation in SIHTM can be considered.

REFERENCES

- Ali, S., Haider, Z., Munir, F., Khan, H., Ahmed, A. (2013). *Factors contributing to the students' academic performance: A case study of Islamia University Sub-Campus*. Retrieved on August 13, 2015 from <http://pubs.sciepub.com/education/1/8/3/>
- Balfanz, R., & Byrnes, V. (2012). *Chronic absenteeism: Summarizing what we know from nationally available data*. Baltimore: Johns Hopkins University Center for Social Organization of Schools.
- Baskin, T. W., Slaten, C. D., Sorenson, C. Russell, J. G. & Merson, D. N. (2010). Does youth psychotherapy improve academically related outcomes? A meta-analysis. *Journal of Counseling Psychology, 37*(3), 290.
- Buttner, A. (2007). *Activities, games, and assessment strategies for the foreign Language classroom*. New York: Eye on Education.
- Choi, K., Buskey, W., & Johnson, B. (2010). Evaluation of counseling outcomes at a University counseling center: The impact of clinically significant change on problem resolution and academic functioning. *Journal of Counseling Psychology, 57*(3), 301.
- Dennis, J. M., Phinney, J. S., & Chuateco, L. L. (2005). The role of motivation, parental support, and peer support in the academic success of ethnic minority first-generation college students. *Journal of College Student Development, 46*(3), 223. doi: 10-1353/csd.2005.0023
- Edwards, C. H. (2008). *Classroom discipline management*. New Jersey: John Wiley & Sons.
- Elliris, K. (2004). *Contemporary theories of learning*. New York: Routledge.
- Gouge, W. E. (2012). *A Comparison research study on the use of school uniforms and graduation, attendance, and suspension rates in East Tennessee*. Retrieved on May 29, 2015 from https://books.google.com.ph/books/about/A_Comparison_Research_Study_on_the_Use_o.html?id=5serNAEACAAJ&hl=en
- Hastings, N. & Schwieso, J. (1987). *New directions in educational Psychology* (Volume 2). Philadelphia: Taylor and Francis.



- Hergenhahn, B. R. & Olson, Matthew H. (2001). *An introduction to theories of learning* (6th ed.). USA: Prentice –Hall.
- Kennelly, R., Maldoni, A., & Davies, D. (2010). *A case study: Do discipline-based programmes improve student learning outcomes?* Retrieved on August 13, 2015 from <http://www.ojs.unisa.edu.au/index.php/IJEI/article/view/671>
- Lemberger, M. E., Selig, J. P., Bowers, H., & Rogers, J. E. (2015). *Effects of the student success skills program on executive functioning skills, feelings of connectedness, and academic achievement in a predominantly Hispanic, low-income Middle School District.* Retrieved on August 11, 2015 from <http://onlinelibrary.wiley.com/doi/10.1002/j.1556-6676.2015.00178.x/pdf>
- Mervilde, J. (n.d.). *Student absenteeism: Causes, effects, and possible solutions.* Retrieved on May 29, 2015 from <http://eric.ed.gov/?id=ED207157>
- O'donnell, A. M., Reeve, J. & Smith, J. K. (2007). *Educational psychology*. USA: John Wiley & Sons.
- Ornstein, A. C. & Scarpaci, R. T. (2011). *The practice of teaching: A narrative and case-study approach*. Illinois: Waveland Press.
- Reinke, W. M., Palmer, T. L. & Merrell, K. (2008). *The classroom check-up: A classwide teacher consultation model for increasing praise and decreasing disruptive behavior.* Retrieved on June 2, 2013 from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2603055/>
- Whiteman, S. D., Barry, A. E., Mroczek, D. K., & Wadsworth, S. (2013). *Journal of Counseling Psychology*, 60(2), 274.
- Woolfolk, A. (2006). *Educational psychology*. (9th ed.). Singapore: Pearson Education South Asia.



ENGLISH VOCABULARY LEARNING AMONG THE SCHOOL OF INTERNATIONAL HOSPITALITY AND TOURISM MANAGEMENT STUDENTS

by

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Abstract

This study sought to describe the vocabulary learning techniques among the students of the School of International Hospitality and Tourism Management. A questionnaire-checklist was utilized to gather the needed data. The participants in the study were the Bachelor of Science in Hotel and Restaurant Management (BSHRM), the Bachelor of Science in Tourism Management (BSTM), and the Associate in Hotel and Restaurant Management students enrolled in English 1 for 1st semester of the A.Y.2014-2015. The sample size of 488 participants were randomly picked from the different sections of the three courses. Frequency counts and weighted mean were used to get the data on the students' frequency of using the vocabulary learning techniques, and their degree of agreement on the perceived benefits of having a wide or rich vocabulary. The findings reveal that the students rarely use the vocabulary learning techniques, but they strongly agree on the perceived benefits of an enhanced vocabulary.

Keywords: vocabulary, techniques, learning, frequency, benefits



BACKGROUND OF THE STUDY

Word knowledge is particularly important in literate societies since it contributes significantly to achievements in formal and informal speaking and writing. In any communication that involves the use of written or spoken language, much is desired especially of the receivers' grasp and understanding of how language works. In the case of learners and other communicators who use English as a second language, their exposure to and use of the second language is required if it is for them to have a full grasp of how the language operates in the transmission of messages.

Vocabulary learning, and instruction are parts of all subjects of the curriculum in which students meet new words and new ideas. In the curriculum of students in the University of Baguio, all subjects, except Filipino, are taught in English. Since majority of the students' subjects are taught and learned with English as the medium, it is expected that the students should learn and speak in English in those subjects. A common observation shared by teachers is the difficulty of most students in coping with dictation, or taking down notes from lectures in their classes. Another observed difficulty is the struggle of some students in expressing themselves in well-organized discourses. This difficulty often springs from the students' inability to find the right words to express their thoughts, and the inability to understand because of the "strangeness" of some words.

Since the building blocks of communication are words, the students should therefore be armed with enough vocabulary to make them encode and decode messages in whatever situation they find themselves. Whether they are the sources or the recipients of messages, the students must have enough words to make them operate successfully in receiving, understanding and transmitting messages. Studies that have been conducted point to the importance of how vocabulary affects communication.

Hirsh (2001) stresses that language makes up the building blocks essential for any form of communication and that knowledge of vocabulary, grammar and phonology grows as fluency and accuracy improve. The learners' ability to use the language of communication is enhanced as they are exposed to input materials presenting ideas that are communicated in English. When the students do not understand an author's vocabulary, they cannot fully understand the text (Sedita, 2005). Understanding the meaning of words and proper choice of words are therefore extremely important in reading, speaking, and writing. Students who have extensive vocabulary



have a vast array of concepts about meaning-related connections among words. These students use vocabulary skills appropriately in numerous situations as they write, listen, speak, and read.

Research has demonstrated that time spent in reading, both inside and outside of school, is essential to developing vocabulary. Reading many types of material has benefits because it enables the students to see words in a variety of contexts. The meanings of these words are then more readily accessible during future reading. Both students with low and high-level literacy skills benefit from time spent in reading. Evidently, vocabulary is learned from context, and comprehension is improved if the difficulty of the material presented is appropriate to the current reading level (“Improving Vocabulary”, n.d.). Consequently, learners need to involve themselves personally and actively in reading in order to be exposed to as many words as possible, thereby widening their vocabulary, and command of words.

Roth and Sontag (1985), cites Wittgenstein who referred to language as a collection of games as well as a tool box which enables people to do things. If language is a tool box for doing things, then the students should learn to store words in their tool boxes so that they can operate well and functionally in any situation that calls for written and oral communications.

Dapiawen (2010) in her study about the Status of English Language Teaching in the Teacher Education Institutions in Baguio asserts that limited vocabulary, poor sentence construction, lack of a variety of words and of grammatical constructions, and weak vocabulary building were among the problems identified by her respondents as moderately serious. The identified problems impede the students’ ability to put across their messages.

Ceniza (1991), in his study Development of Language Tasks in English for Academic Purposes for Engineering Students, has attested to the need of improving one’s vocabulary since a good command of words and their meanings is a pre-requisite for better comprehension.

Orduña (2004), in his research on the English language situation in the University of Baguio, likewise disclosed that his student-respondents ranked speaking as last in the order of their proficiency in English. The finding that speaking proficiency ranked last points to the inability of the students to express themselves really well.

It is in the light of the findings on the importance of a wide and active vocabulary, and in the hope of coming up with activities to help build or enhance the vocabulary of the students that this study was conceptualized. It determined the frequency by which the students in the School of IHTM use the identified vocabulary learning techniques and compared their level of agreement on the perceived benefits of a wide vocabulary.

METHODOLOGY

This descriptive-evaluative research sought to describe the vocabulary learning techniques utilized by the School of IHTM students.

The respondents in this study were the first year students of the School of IHTM enrolled in English 1 during the first semester of the Academic Year 2014-2015. Overall, there were 822 English 1 students from the eight sections of Bachelor of Science in Hotel and Restaurant Management (BSHRM), six sections of Bachelor of Science in Tourism Management (BSTM), and three sections of Associate in Hotel and Restaurant Management (AHRM), and a sample size of 488 participated in the study.

The main tool used in this study was a questionnaire checklist which the researcher constructed. The indicators (techniques for learning vocabulary) were culled from Vocabulary Learning Techniques (n.d.) and from the articles of Parnell (2013), and Blanchfield (2008), while the list of the perceived benefits of a large and educated vocabulary was patterned from Grover (2012) and O'connor (2011).

Informal group talk or conversation with the respondents was conducted in order to supplement the responses obtained from the questionnaire.

RESULTS AND DISCUSSION

Frequency of Use of the Vocabulary Learning Techniques

Nosidlak (2013) states that vocabulary acquisition is evermore considered an imperative for a learner to learn a language. While language structures are generally viewed as those that lay the foundation of a language, vocabulary knowledge completes the structures for meanings and content. The building blocks of communication are words; therefore,



students must possess enough vocabulary otherwise it may be difficult for them to process information and messages they receive and encounter. Especially for oral communications, some students grope for words when asked to explain a concept, or to defend their answers. Even with written tasks, some students switch codes because of inadequate English vocabulary.

Despite inadequate vocabulary, many students unfortunately find it hard to learn and acquire vocabulary. Learners of a second language admit that their greatest difficulty in learning a target language springs from their struggle with the learning and acquisition of vocabulary (Meara, 2000). As defined by Intaraprasert (2004), vocabulary learning techniques are strategies or “learning behaviors” which learners employ to learn the meaning of a new word, to record or keep the new word learned, and to use the news learned in their speaking and writing in order to widen or enhance their active vocabulary.

The overall mean for the students’ use of the vocabulary learning techniques is 2.46. This reveals that the respondents “Rarely” use the techniques in order to learn and acquire English vocabulary. The finding, as supported by the descriptor of the scale in this study, means that even if the opportunity for learning new words exists, the students do not grab that opportunity to learn. Some of the respondents admitted in a group casual conversation that even if they do not understand some words, they simply let the unfamiliar words slip by, reasoning out that anyway, they can still figure out the gist of the message. Others said that they do not write the words down, or look up their meanings because they do not know how the words are spelled. Still, others claimed that they are lazy at times to look up meanings of unfamiliar words.

Students are expected to be motivated in vocabulary learning in order to pursue required accomplishments. It however is disheartening to note that some students as reflected by the findings do not really care to exert effort or to work on improving their vocabulary. Guthrie and Wigfield (2000) contend that determining the motivations that learners have toward vocabulary learning rests on the understanding of a learners’ attitude toward an entity. It is the students’ motivation that will drive them to pursue a task. If the students’ objective in accomplishing a task is simply to have the task done, and/ or to have a grade or a score, then they will not bother to exert extra efforts to improve their vocabulary. On the contrary, if the students are driven by the desire to improve their language



proficiency, then such drive will cause them to do something to improve their vocabulary.

Table 1. Frequency of Using the Vocabulary Learning Techniques

| TECHNIQUES IN BUILDING VOCABULARY | wtd mean | Interpretation |
|--|-----------------|-----------------------|
| 1. Asking teachers and/or classmates or friends the meaning of words met | 2.92 | Often |
| 2. Using Context Clues | 2.90 | Often |
| 3. Consulting the Dictionary | 2.79 | Often |
| 4. Defining the words before checking out definitions | 2.66 | Often |
| 5. Analyzing the Structure of Words | 2.64 | Often |
| 6. Referring to the glossary | 2.61 | Often |
| 7. Finding sample sentences in which the words can be used | 2.57 | Often |
| 8. Memorizing vocabulary lists and their corresponding meanings | 2.56 | Often |
| 9. Using New Words in Speaking or Writing | 2.44 | Rarely |
| 10. Engaging in word games such as | 2.40 | Rarely |
| a. Crossword puzzle | 2.39(R) | |
| b. Text Twist | 2.59(O) | |
| c. Scrabble | 2.40(R) | |
| d. Boggle | 2.23(R) | |
| 11. Consciously learning at least one word per day | 2.37 | Rarely |
| 12. Discussing new words with friends, classmates, and/or family members | 2.35 | Rarely |
| 13. Marking or jotting unfamiliar words and Lookingup meanings when | 2.34 | Rarely |
| a. Listening to news reports | 2.31(R) | |
| b. Listening to speakers in English | 2.42(R) | |
| c. Watching Movies in English | 2.07(R) | |
| d. Reading Material or text in English | 2.57(R) | |
| 14. Saying the word aloud | 2.26 | Rarely |
| 15. Writing new words down at least once | 2.24 | Rarely |
| 16. Creating sentences with the new words mentally or in writing | 2.18 | Rarely |
| 17. Keeping a personalized list of learned words | 2.04 | Rarely |
| OVERALL MEAN | 2.46 | RARELY |



While the focus of this study is to determine the frequency by which students use the vocabulary learning techniques, and not to establish the motivation, the finding (overall, the students “rarely” use the vocabulary learning techniques) implies that the students lack the motivation to enhance their vocabulary, and that they have the tendency to shy away from the problems they encounter when meeting unfamiliar words. This inference can be supported by the answer from the respondents that they simply let the unfamiliar word slip by. This can also be supported by the students’ popular comment of having “nosebleed” (the students’ term to mean the difficulty of understanding words, the inability to speak fluent English, and the difficulty of choosing or using the right words) when presented with materials containing unfamiliar words, when talking with a fluent speaker of the English language, and when required to discuss straight in English. The students do employ the technique to know the meaning of the word by asking their teachers or classmates (mean of 2.92), but when asked what they do if they do not receive an answer, the students simply ‘give-up’ as they let things remain as they are (*hinahayaana ko na lang*).

Considering the values obtained by the different techniques, asking teachers and/or classmates or friends the meaning of new words met obtained the highest value of 2.92 interpreted as often. This finding agrees with that of Zimmer (2007) who established in his study that “help seeking”—seeking help from others—“is a commonly adaptive strategy used by students to cope with challenges when encountering obstacles in learning due to unfamiliar vocabulary.” On the contrary, Siriwan (2007.) found that asking other people—members of one’s family, or friends—was reported by students as the technique which they activate very rarely.

In this present study, the respondents revealed that asking their teacher or classmates is immediately activated when in the classroom. On some occasions, they try to guess the meaning of the word by using the context of the sentence which obtained the second highest mean of 2.90 among the vocabulary learning technique. The finding on using context clues as “often used” is supported by Beck, McKeown, and Kucan (2002) who assert that though “guessing the meaning from the context” is a vocabulary learning technique commonly used by readers to discover the meaning of new or unfamiliar words they encounter, the technique is used at varying degrees and frequencies.

While using context clues is a technique popular among learners, McKeown and Beck (2004) assert that guessing word from context is indeed



a strategic way to work meanings out of a difficult reading material, but the same is not seen as a very effective way of learning words, especially if the learners are left on their own to discover the meanings. If without the guidance of a teacher or a tutor, the learners should be advised to consult other references to verify the meanings that they guessed lest they might be misinformed of what the words really mean. Along this view, some of the respondents affirmed the need to consult a dictionary in order to verify the guesses they made about the meanings of the words. As claimed, sometimes their guess is far from the actual and real meanings of the vocabulary items.

Among the techniques that obtained values interpreted as “often”, only asking teachers and or classmates fall under the indirect techniques (Oxford, 1999). Indirect techniques are those that are not directly involved in the subject matter itself, but nonetheless maybe essential to language and vocabulary learning. On the other hand, using context clues, finding sample sentences where words can be used, and memorizing vocabulary and their corresponding meanings are direct strategies. Direct strategies (Oxford, 1999) are those that directly involve the subject matter—the target language and vocabulary to be learned. In the context of the population of this study, the target language is English and the direct strategies are incorporated in the tasks and lessons in their English I subject. Among these activities are exercises on synonyms and antonyms, affixation and word derivation, reading comprehension exercises, sentence construction, and memorizing word lists. The finding, therefore, suggests that the students often use the vocabulary learning technique because they have to—as part of their lesson, and so that they can accomplish their tasks and assignments successfully.

All other nine techniques (using new words in speaking, engaging in vocabulary games, consciously learning a word per day, discussing words with other people, marking or jotting unfamiliar words, saying the new word aloud, writing new words down, creating sentences with the new words, and keeping a personalized list of new words met) obtained mean values that range from 2.04 to 2.44 all interpreted as “rarely”. Computing the average of the values reflects a 2.29 mean, a difference of 0.55 from the lowest level of frequency which is interpreted as “never”. The result implies that many of the respondents do not spend effort to work on their vocabulary if no assignments are given and if no vocabulary instruction is integrated in their lessons.



Vocabulary learning is not an all-or-nothing matter, rather it embraces multiple gradations and dimensions (Calfee & Drum, 1996). It is therefore imperative that students be encouraged to look for the opportunity to encounter new words, since without opportunities, the students cannot effectively broaden their personal array of vocabulary. There are varied techniques that students can use to widen their vocabulary, and designing vocabulary building tasks or activities that will encourage the students' activation or use of the techniques can tremendously help in the advancement or enhancement of their vocabulary. Definitely, motivation, self-initiated learning activities and instruction have important impact on vocabulary learning and vocabulary use.

Degree of Students' Agreement on the Perceived Benefits of a Wide Vocabulary

Schmitt (2008) argues that there are many reasons which support why vocabulary is an essential component of language: first—without a rich vocabulary, no meaningful communication can take place, and second—communication competence relies heavily on vocabulary.

Listening and reading require a wide vocabulary in order to allow comprehension of what was heard or what was read. Similarly, speaking and writing require a wide range of vocabulary for one to communicate more clearly and more precisely. Nunan (2009) states that if students do not have enough words in their tool box that will enable them to function well in their communication with others, the transmission and reception of information will be difficult.

Overall, the respondents "strongly agree" to the perceived benefits of a wide vocabulary as supported by the overall mean of 3.33 interpreted as strongly agree. Of the 15 perceived benefits, 10 obtained means ranging from 3.25 to 3.52 all interpreted as "strongly agree"; however when the means are grouped and computed based on the "strongly agree" response, the result is 3.38 (strongly agree). On the other hand, (5) indicators obtained values that range from 3.17 to 3.24 which when computed reflect an average of 3.21 (Agree).

Table 2. Degree of Agreement on the Perceived Benefits of Wide Vocabulary

| Perceived Benefits of a Wide Vocabulary | wtd mean | Interpretation |
|---|-----------------|-----------------------|
| 1. Helps in understanding what is read or heard | 3.52 | Strongly Agree |
| 2. Enables one to better understand the ideas of others | 3.45 | Strongly Agree |
| 3. Enables one to communicate thoughts and ideas more effectively | 3.44 | Strongly Agree |
| 4. Improves public speaking skills | 3.44 | Strongly Agree |
| 5. Helps at work (can a predictor of occupational success) | 3.41 | Strongly Agree |
| 6. Helps in accomplishing school tasks successfully | 3.40 | Strongly Agree |
| 7. Allows easier connecting of new words with words already known | 3.36 | Strongly Agree |
| 8. Bolsters the ability to think more logically and incisively | 3.32 | Strongly Agree |
| 9. Helps in expressing oneself more precisely | 3.27 | Strongly Agree |
| 10. Helps in understanding higher level publications | 3.25 | Strongly Agree |
| 11. Allows one to build rapport with a wider range of people | 3.24 | Agree |
| 12. Boosts one's power of persuasion | 3.24 | Agree |
| 13. Helps in making good impressions on others | 3.23 | Agree |
| 14. Gives one the ability to make finer distinctions between things | 3.18 | Agree |
| 15. Keeps one more informed on current events | 3.17 | Agree |
| OVERALL MEAN | 3.33 | STRONGLY AGREE |

The perceived benefits lead to four different categories: 1. Benefits that relate to the Receptive Skills—listening and Reading (*helps in understanding what is read or heard, enables one to better understand the ideas of others, allows easier connecting of words with those already known, helps in understanding higher level of publications, gives one the ability to make finer distinction between things, and keeps one more informed on current events*); 2. Benefits that relate to the Productive Skills—speaking and writing (*enables one to communicate thought and ideas more effectively, improves public speaking skills, bolsters the ability to think more logically and incisively, helps in expressing oneself more precisely, allow some to build rapport with a wider range of people, boosts one's power of persuasion, and*



helps in making good impressions on others); 3. Benefit explicitly referring to the accomplishment of a school task (*helps in accomplishing school task successfully*), and 4. Benefit explicitly referring to occupational success (*helps at work—can be a predictor of occupational success*).

The category explicitly related to occupational success, helps at work—can be a predictor of occupational success obtained the highest mean (3.41), followed by the category related to success in school task (3.40), third is the category that relate to listening and reading (3.32), and finally the category that relates to speaking and writing (3.31); all mean scores interpreted as “strongly agree”.

The finding on the degree of students’ agreement on the benefits of a wide vocabulary reflects that the respondents highly agree to the importance of a rich vocabulary in the search for employment, and in staying on in the job. As gathered from the respondents, they reasoned out that their profession (hospitality and tourism management) demands excellent ability to work and communicate with people of all walks of life. Their inability to express themselves, and inability to decode information received may result in their low performance in their work places. According to them, handling customer complaints and queries, and attending to their clients are areas where a good command of the English language is essential.

The perceived benefits that relate to the receptive skills (listening and reading), and to the productive skills (speaking and writing) obtained values interpreted as “strongly agree.” This implies that the students recognize the role of a wide vocabulary in their academic and professional success.

Teachers are concerned about teaching vocabulary and activating vocabulary learning techniques among students is to facilitate the comprehension particularly of a text the students are assigned to read, and generally, comprehension of the materials that they encounter as part of their education and learning. If the students lack knowledge of the meanings of the words that they will encounter in a text, their comprehension is likely to be compromised.

Researchers have expressed several views but related conclusions regarding the relationship between vocabulary and comprehension. Neuman and Dwyer (2009) explains the importance of vocabulary as



referring to the words that one must know to communicate effectively: words in speaking (expressive vocabulary), and words in listening (receptive vocabulary). Sedita (2005) for his part states that word knowledge is crucial to reading comprehension and determines how well students will be able to comprehend the texts they read, and the information delivered to them aurally. The research conclusions presented here support that if the students do not adequately have, and do not steadily grow in their vocabulary knowledge, their reading and listening comprehension will be affected. A wide vocabulary will enable absorption, and comprehension of inputs received in communication.

Vocabulary experts agree that adequate reading and listening comprehension, and adequate and effective communication of information through speaking and writing depends on a person's already knowing between 90 to 95 percent (Decarrico, 2001) of the words in materials they are confronted with. There also is the popular understanding that a person can go only as far as his/her vocabulary can reach. Success in communication inclusive of the four macro skills embraces the need for an enhanced vocabulary.

The result of this study on the degree of students' agreement on the benefits of a wide vocabulary to the speaking, listening, writing, and reading skills of the students suggests that the respondents confirm the need to enrich one's vocabulary. It is contradictory though because while the respondents recognize the need for and benefit of a wide vocabulary, they do not exert added effort to widen their vocabulary as reflected by their "rarely" using vocabulary learning techniques despite their not knowing the meanings of the words they encounter.

The finding on the students' degree of agreement on the benefits of a wide vocabulary implies that they recognize the importance or merits of a wide vocabulary. The finding then implies that teachers need to involve the students more actively in activities or tasks that will encourage them to widen their vocabulary.



CONCLUSIONS

The vocabulary learning among first year students of the School of IHTM students is found to be wanting of consideration by and attention of particularly the language teachers in order for the students to be encouraged to employ the vocabulary learning techniques.

The students recognize the benefits of a wide vocabulary; however, they do not exert conscious effort to improve their vocabulary as supported by the findings that they “rarely” use the vocabulary learning techniques to widen their stock of words.

It is then imperative that language teachers help or encourage the students in widening their vocabulary through direct vocabulary instructions.

REFERENCES

- Beck, I.L., McKeown, M.G., & Kucan.L. (2002). *Bringing words to life: vocabulary Instruction*. New York: Guilford.
- Blanchfield, C. (2008). *Strategies to learning and teaching vocabulary*. Ohio: Merrill and Prentice Hall.
- Calfee, R.C. & Drum, P. (1996). *Research on teaching reading*. New York: Macmillan.
- Ceniza, E. L. (1991). *Development of language tasks in english for academic purposes for engineering students in Baguio City*. Unpublished doctoral dissertation, Saint Louis University, Baguio City.
- Dapiawen, A. (2010). *Status of english language teaching in the teacher education institutions in Baguio*. Unpublished doctoral dissertation, University of Baguio, Baguio City.
- Decarrico, J.S. (2001). *Reading for academic purpose*. Boston: Heinle and Heinle.
- Grover, S. (2012). *Advantages of large English vocabulary*. Retrieved on July 9, 2014 from http://www.com/info_8019813_advantages-large-english-vocabualry.html
- Guthrie, J. T. & Wigfiled, A. (2000). *Engagement and motivation in reading*. New York: Erlbaum.
- Hirsh, J. (2001). *Goal setting for ESL lessons*. Retrieved on June 6, 2014 from <http://www.geocites.com/eltsqu/goals.htm>.
- Intaraprasert, C. (2004). *ESL students and vocabulary learning strategies*. Thailand: University of Technology.
- Improving Vocabulary*. Retrieved on January 15, 2011 from <http://www.literarymatters.org/content/readandwrite/vocab.htm>
- Meara, P. (2001). *Vocabulary acquisition*. Cambridge: Cambridge University Press.



- McKeown, M.G. & Beck, I.L. (2004). *Supporting vocabulary development*. New York: Guilford.
- Newman, S.B., & Dwyer, J. (2009). *Vocabulary instruction*. London: Academic Press.
- Nosidlak, K.M. (2013). *Vocabulary learning strategies of the advanced students*. Retrieved on May 21, 2015 from <http://ojs.academypublisher.com/index.php/jltr/article/viewFile/jltr0404655661/7130>
- Nunan, D. (2009). *New ways in teaching the language arts*. Singapore: Heinle Cenage Learning Asia Pte Ltd.
- O'connor, J. (2011). *Benefits of building vocabulary*. Retrieved on July 9, 2014 from <http://www.lewrockwell.com/benefits-of-building-vocabulary.html>
- Orduña, L. V. (2004). English language situation in the University of Baguio. *UB Research Journal*, 29(2), 33-44.
- Oxford, R. (1999). *Language learning strategies*. Boston: Heinle & Publishers.
- Parnell, D. (2013). *List of strategies to help learn and develop Vocabulary skills*. Retrieved on July 5, 2014 from <http://www.learnanddevelopvocabulary.com/techniques.html>
- Roth, J. & Sontag, F. (1985). *The question of philosophy*. California: Wadworth Publishing Company.
- Schmitt, N. (2008). *Instructed second language vocabulary learning*. Cambridge: Cambridge University Press.
- Sedita, J. (2005). *Effective instruction*. Retrieved on December 13, 2010 from <http://www.keytoliteracy.com/reading-comprehension/effective-vocabulary-instruction.pdf>
- Siriwan, M. (2007). *English vocabulary learning strategies employed by rajabhat university students*. Retrieved on April 30, 2015 from http://sutir.sut.ac.th:8080/sutir/bitstream/284/mayuree_fulltext.pdf

Vocabulary learning techniques. (n.d.) Retrieved on June 3, 2014 from
<http://grammar.ccc.comnet.edu/grammar/vocabulary.html>

Zimmer, C.G. (2007). *Vocabulary: Acquisition and pedagogy*. Cambridge:
Cambridge University Press.



**PERCEPTIONS OF THE SCHOOL OF BUSINESS ADMINISTRATION
AND ACCOUNTANCY STUDENTS ON THE
DEPARTMENTAL EXAMINATIONS**

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Abstract

This research was undertaken to determine how the Bachelor of Science in Accountancy students perceive their departmental examinations. All 37 of the third to fifth year accounting students during SY 2013-2014 served as the respondents of the study. The study was done during the second semester of the school year 2013-2014, using the descriptive method. Overall, the students strongly agreed to the departmental examinations conducted every grading for the subjects Fundamentals of Accounting as well as the Partnership and Corporation Accounting. When grouped per year level, the fifth years had the highest overall mean, followed by the fourth years. Both strongly agreed to their departmental examinations. In contrast, the third years agreed only to the said departmental examinations. There was also a significant difference in the perceptions of the respondents according to their year level.

Keywords: Departmental, accountancy, examinations, year level,
University of Baguio

BACKGROUND OF THE STUDY

The University of Baguio (UB) is committed to providing balanced quality education. And, one way by which this is achieved is when there are graduates who manifest mastery of relevant skills (UB Student Handbook, 2014).

The objectives of UB, specifically on the area of mastery of relevant skills are reflected in the objectives of the School of Business Administration and Accountancy (SBAA) and the Accountancy program (UB-SBAA Student Handbook, 2012) since UB seeks to see its accounting graduates demonstrating high proficiency in the practice of their chosen profession. The Commission on Higher Education (CHED) Memorandum Order Number 3, series of 2007, mentions that in the broad field of accountancy, various levels of accounting tasks require varying levels of competence and skills. Ong (2012) noted the definition of accounting by the American Institute of Certified Public Accountants that accounting is an art. The Rochester Institute of Technology (n.d.), on the other hand, defines accounting as an information science used to collect, classify, and manipulate financial data for organizations and individuals. It is the process of identifying, measuring and communicating economic information to permit informed judgments and decisions by users of the information according to the American Accounting Association (University of North Carolina, n.d.).

Referring specifically to the Accountancy program, Bala (2006), past current Vice-Chair of the Professional Regulation Commission (PRC) Board of Accountancy, said that the continuous low percentage of passing in the licensure examinations could be viewed favorably in the sense that only those truly qualified academically are accepted to the accounting profession, and therefore, can contribute better to the improvement of the quality of service of the practitioners in the profession. On the other hand, the low percentage could mean waste of precious time and resources of the school, students, community and the nation. The performance in the board examination is one of the ultimate tests of how well the students and all those involved in the instructional process were able to achieve quality education. Needless to say, not-so-good quality of instruction is brought about by lax policies on certain educational activities.

The curriculum of the Bachelor of Science in Accountancy program of UB has captured all the subjects as required in the Certified Public Accountants (CPA) licensure examinations required by Republic Act 9298.



There are varied educational activities under the Accountancy program to help the students become more competent and skillful in their field. Some of these are oral examinations/reports, computer-based activities, portfolio and written tests. Policies, too, are in place with respect to departmental examinations.

It has been the practice of the Accountancy program for more than 10 years to have departmental examinations for accounting subjects if there are at least two sections. These simulate the conduct of the actual board examinations especially on the following: three hours time allotment, multiple choice-type examinations, wearing of white T-shirt, alphabetical arrangement per room, and using the Professional Regulation Commission (PRC) – type answer sheet which the UB Review Center also adopted. At present, only the Basic Accounting and Partnership/Corporation Accounting have departmental examinations because these have more than one section unlike the higher Accounting subjects which, more often than not, have only one section.

It is the goal of this study to look into the perception of the third, fourth and fifth year Accountancy students towards the Accounting departmental examinations they have undergone every grading period during their freshman and sophomore years. Further, this study aims to determine if there are significant differences in their perceptions according to their year level.

METHODOLOGY

This study made use of the descriptive survey method. The respondents were the UB Accountancy students under the five year curriculum (effective 2009), who were in the third, fourth and fifth year levels and enrolled during the second semester of school year 2013-2014. Transferees whose Basic Accounting and Partnership/Corporation Accounting were taken in other colleges/universities were not included. The abovementioned students were chosen because they have undergone the said departmental examinations; they have passed the minimum of 85% passing rate in the two subjects: Basic Accounting and Partnership/Corporation Accounting as part of the program's retention policy; they were taking up the higher accounting subjects at the time of the study.

This study made use of the questionnaire checklist as its primary data-gathering tool. The researchers prepared the questionnaire based



on the current policies and practices. The said instrument was tested for reliability using the test, re-test method. At least 10% of the students from each year level answered the instrument, then answered again the same after two weeks. The results were then computed using the Spearman Brown formula. The pre-test result was 0.99 and the post-test was 0.95.

Responses were sorted according to their respective categories and then frequency counts were used for the students' profile while weighted mean was used for the respondents' perceptions.

The respondents were asked to decide on choices describing each statement which corresponded to their choice. Each statement was measured on a four-point Likert scale, as follows:

| Arbitrary values | Scale | Description |
|------------------|-------------|-----------------------|
| 4 | 3.26 - 4.00 | Strongly Agree (SA) |
| 3 | 2.51 - 3.25 | Agree (A) |
| 2 | 1.76 - 2.50 | Moderately agree (MA) |
| 1 | 1.00 - 1.75 | Rarely agree (RA) |

The statistical tool used was the F-test or Analysis of Variance to determine the significance of the differences.

RESULTS AND DISCUSSION

The Perception of the Students on Their Departmental Examinations

The Accountancy students strongly agreed to most of the provisions of the departmental examination policy of the School of Business Administration and Accountancy (SBAA) which implies that they clearly see the purpose of such endeavor. This corroborates John Dewey's idea of practical, useful or realistic education (Zulueta & Maglaya, 2004). The finding further entails that the university's accountancy program is providing a foundation of knowledge, skills, values, ethics and attitudes that enable students to continue to learn and adapt to changes.

Considering each indicator, the highest rated is "The actual board exam simulated multiple choice type of exam is the best for me" which implies that the respondents were able to highly appreciate the importance of having departmental or common examination in preparation for their



actual board examination. This supports the findings of Jackson (2006) that raising minimum educational requirements increases the success rate of first-time CPA exam takers, leading to improved entrant quality.

The second highest in mean rating was the indicator “The actual board exam simulated alphabetical arrangement of all the examinees is helpful” complements the first. The third highest, “The exam announcements on the bulletin boards are timely” denotes that the respondents recognize very well the efforts of the program chair and of the dean’s office in making sure that they are well-informed as to the requirements and reminders of the departmental examinations, like their room assignments as well as what to bring. These findings are some fruits of what Dayag (2013) mentioned as challenge to accounting educators to revolutionize structures and goals and give emphasis on student skills as compared to student knowledge.

Meanwhile, the lowest three, though all were still interpreted as “agree” are: “The ‘No Solution, No Credit’ exam policy is justifiable”, “Exam-related clarifications are promptly addressed”, and, “The 40 students per room for the exams is tolerable.”

The perception of the students on the first of the lowest three implies that some of the students still do not approve of the policy that they should be able to have a supporting computation or basis for every answer they have – whether theory or problem solving type. It can be inferred that the students don’t agree to this because the actual board examination do not require the students to present their solutions. However, Bruner’s (n.d.) discovery learning emphasizes that the instructor should try to encourage students to make hypotheses, decisions and discover principles by themselves (Bruner, n.d.).

As to the indicator on the prompt response to the students’ clarifications, their degree of agreement denotes that they still yearn to see their teachers going around to monitor them in addition to the presence of the student proctors in the various room assignments. It came out in the study of Kelley, Tong, and Choi (2010) that the faculty members frequently participate in assessment tasks, including defining the learning goals of the degree program, developing instruments to measure student learning, and creating and implementing changes to improve student learning.

With respect to the third lowest which is on room capacity, the respondents suggested that the total of 40 examinees per room in



the Centennial Building be reduced further in future departmental examinations. This response jives with the common observation of the students and other stakeholders with respect to the capacity of rooms at the UB Centennial Building that there must only be 30 to 35 students per room.

Table 1. The Perception of the Accountancy Students on Their Departmental Examinations

| | Indicators | Mean | Interpretation |
|----|---|-------------|-----------------------|
| a. | The scope of the exams in each grading period includes topics already discussed. | 3.38 | Strongly Agree |
| b. | Written instructions in the exams are clear. | 3.49 | Strongly Agree |
| c. | The exams serve as my training for the actual licensure exams later on. | 3.59 | Strongly Agree |
| d. | The maximum of 3 points assigned per item in the exam is reasonable. | 3.54 | Strongly Agree |
| e. | The actual board exam simulated 3-hour time allotted for the exams per subject is enough. | 3.24 | Agree |
| f. | The change in room assignments which are different from the assigned rooms of our sections is acceptable. | 3.38 | Strongly Agree |
| g. | The Saturday exam schedules are manageable. | 3.51 | Strongly Agree |
| h. | The exam announcements on the bulletin boards are timely. | 3.65 | Strongly Agree |
| i. | The exam reminders by the teachers are timely. | 3.62 | Strongly Agree |
| j. | The 40 students per room for the exams is tolerable. | 3.14 | Agree |
| k. | The actual board exam simulated alphabetical arrangement of all the examinees is helpful. | 3.68 | Strongly Agree |
| l. | Exam-related clarifications are promptly addressed. | 3.11 | Agree |
| m. | The exams start on time. | 3.19 | Agree |
| n. | The answers to the first and second grading exams are given and discussed/ explained. | 3.22 | Agree |
| o. | The corrected first and second grading exam papers are returned and graded. | 3.43 | Strongly Agree |



| Indicators | Mean | Interpretation |
|---|-------------|-----------------------|
| p. Papers provided as answer sheets and for our solutions are enough. | 3.54 | Strongly Agree |
| q. Topics covered in the exams are in the syllabus. | 3.49 | Strongly Agree |
| r. The actual board exam simulated wearing of white T-shirt is reasonable. | 3.62 | Strongly Agree |
| s. The number of items for every grading exam in each subject is just right. | 3.54 | Strongly Agree |
| t. The actual board exam simulated multiple choice type of exam is the best for me. | 3.73 | Strongly Agree |
| u. The exams end on time. | 3.46 | Strongly Agree |
| v. The teachers announce the exam coverage before the conduct of the departmental exam. | 3.27 | Strongly Agree |
| w. The "No Solution, No Credit" exam policy is justifiable. | 2.62 | Agree |
| x. The actual board exam simulated Professional Regulation Commission (PRC) - type answer sheet is appropriate. | 3.54 | Strongly Agree |
| Overall Mean | 3.42 | Strongly Agree |

Differences in the Perception of the Students on their Departmental Examinations

Findings show that the higher the year level of the students, the higher the overall mean. This indicates that the nearer the students get to one of their ultimate goals, to take and pass the CPA licensure examinations, the more they get to appreciate the importance of undergoing the departmental examinations.

The five highest ratings were all given by the fifth years. They strongly agreed that there is timely announcement for the departmental examinations; the answer sheet and papers provided for their solutions are sufficient; the examination coverage is found in the syllabus; the wearing of white T-shirt is part of their training for the actual board examination; and, the total number of items in the exams is just right. It can be noted here that the timely announcement for the departmental examinations is also in the top three highest rated indicators in the previous table.



The fourth year students strongly agreed that “written instructions in the exams are clear” and “the actual board exam simulated alphabetical arrangement of all the examinees is helpful.” For the third years, they strongly agreed “the actual board exam simulated multiple choice type of exam is the best for me.”

Of all the indicators rated low across all the year levels, the lowest is the “No Solution, No Credit” exam policy is justifiable. This is also the lowest for the fourth years and second lowest for the fifth years, though, they agreed to such.

The respondents significantly differed in their perception on their departmental examinations according to their year level. The perception of the respondents in the various year levels differ, with the fifth years, having the highest level of agreement and the third years the lowest. This implies that the more students learn and mature, the more they get to appreciate the value of the curricular activities they undertake.

Table 2. Summary of Difference in the Perception of the Accountancy Students on Their Departmental Examinations According to Year Level

| Source of Variation | Sum of Squares | Degrees of Freedom | Mean Square | Computed f |
|---------------------|----------------|--------------------|-------------|------------|
| Column Means | 1.38 | 2 | 0.6911 | 7.32 |
| Error | 6.51 | 69 | 0.0944 | |
| Total | 7.89 | 71 | | |

F tabular =3.13; failed to accept the null hypothesis.

The post-hoc analysis result showed that all the pairs significantly differ. This implies that as the respondents go higher in their year level, their perceptions on their departmental examinations change. This may be supported Haugen and Becker’s (2005) study that students subjected to frequent classroom assessments had significantly higher levels of self-determination and overall intrinsic motivation to learn than other students.

Table 3. Post-Hoc Analysis Using Tukey’s HSD

| Pairs | Absolute Mean Difference | Critical T-Range | Description |
|---------|--------------------------|------------------|-------------|
| 5th-4th | 0.07 | > 0.0627 | Significant |
| 5th-3rd | 0.32 | > 0.0627 | Significant |
| 4th-3rd | 0.25 | > 0.0627 | Significant |



CONCLUSION AND RECOMMENDATIONS

The respondents, specifically the fifth and fourth year levels, highly support the conduct of departmental examinations. The third years, on the other hand, still have reservations as to their departmental examinations. Overall, the three year levels are not of the same mind when it comes to how they perceive the value of their departmental examinations.

Based on the foregoing conclusions, the following are recommended:

1. The school must still continue the every grading departmental examinations, paying careful attention to the items which need improvement the most:
 - a. “No solution, no credit” policy – the teachers must see to it that they explain well to their students why solutions or bases are very much needed for every item in the examination. The policy on “no solution, no credit” should be practiced evenly by all accounting instructors to standardize the requirement and to have uniform guideline in scoring accountancy exams.
 - b. Prompt response to the clarifications of students – the teacher-proctors must also have specific room assignments in proportion to the number of rooms occupied by the student-examinees. Since the number of teachers is not sufficient to cover the teacher-classroom ratio, the policy that they should at least be in the vicinity of the examination site during the entire duration of the common exams must be reiterated.
 - c. Reduction of the 40 student-examinees per room in the Centennial Building – the number may be reduced to 30-35 students per room.
2. The student-proctors must always undergo an orientation by the Program Chair before the actual examination date to address the concerns on starting the examinations on time and being able to have immediate referral of clarifications to teachers concerned who should promptly address such.



REFERENCES

- Bala, J. (2006). *The CPA board examination results: A statistical analysis*. Retrieved from http://www.picpa.com.ph/articles/CPABoard_7-19-06.pdf
- Bruner, J. (n.d.). *Instructional design: Constructivist theory*. Retrieved on December 16, 2013 from <http://www.instructional design.org/theories/constructivist.html>
- Commission on Higher Education (CHED). (n.d.). *CMO 3, series of 2007*. Retrieved on November 18, 2013 at <http://www.ched.gov.ph>
- Dayag, A. (2013). *Advanced accounting* (Volume 1). Manila: Pixelate Publishing and Printing.
- Haugen, S. & Becker, D. (2005). Classroom assessment and accounting student performance. *International Journal of Innovation and Learning*, 2(1), 36 - 46. Retrieved on March 31, 2014 from http://www.inderscience.com/search/index.php?action=record&rec_id=6082&prevQuery=&ps=10&m
- Jackson, R. E. (2006). Post-graduate educational requirements and entry into the CPA profession. *Journal of Labor Research*, 27(1). Retrieved from link.springer.com/article/10.1007%Fs12122-006-1012-1#page-1
- Kelley, C. Tong, P., Choi, B. (2010). A review of assessment of student learning programs at AACSB schools: A dean's perspective. *Journal of Education for Business*, 85(5).
- Manual of Accreditation*. (2012). Philippine Association of Colleges and Universities – Commission on Accreditation.
- Ong, F.L. (2012). *Fundamentals of accounting*. Quezon City: C & E Publishing.
- Rochester Institute of Technology. (n.d.). *What is accounting?*. Retrieved on August 1, 2014 from <http://saunders.rit.edu/programs/undergraduate/accounting/what-is.php>



UB-SBAA Student Handbook. (2012). Baguio City: University of Baguio.

University of Baguio Student Handbook. (2014). Baguio City:
University of Baguio.

University of North Carolina. (n.d.). *What is accounting?*. Retrieved on
August 3, 2015 from <http://uncw.edu/career/accountancy.html>

Zulueta, F. & Maglaya, E. (2004). *Foundations of education*. Manila,
Philippines: National Bookstore.



PERSPECTIVES OF STAKEHOLDERS ON THE CORDILLERA ADMINISTRATIVE REGION TRAINING CENTER

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INTRODUCTION

According to Hawkes (2014), in today's modern law enforcement world, police training is as important as doctors attending medical school or lawyers passing the bar exam. In addition, Sabath (n.d.) states that law enforcement agencies and departments are highly specialized organizations, with ongoing training to prepare to meet a great variety of problems and situations. The State of New York, by virtue of Chapter 446 of the Laws of 1959, became the first in the United States to establish basic training for newly appointed police officers. This was accomplished by creating the Municipal Police Training Council (MPTC), as well as promulgating rules and regulations with respect to the content and presentation of required training (New York State, n.d.).

In the Philippines, the Philippine Public Safety College (PPSC) was created to assume overall responsibility for the training, human resource development and continuing education of all personnel of the Philippine National Police (PNP), Bureau of Fire Protection (BFP), and Bureau of Jail Management and Penology (BJMP) (PPSC-CAR, n.d.).

Under the PPSC, the National Police Training Institute (NPTI) was established particularly for the training of the PNP's personnel. The NPTI was the product of the fusion of the Philippine Constabulary Training Command and the Integrated National Police Training Command. Its beginning can be traced in 1905, four (4) years after the Americans formally established the Philippine Constabulary for the purpose of enforcing the law and maintaining peace and order of the country. To date, NPTI conducts training programs to 17 Regional Training Centers nationwide. The training programs are the following: Public Safety Basic Recruit Course (PSBRC), Public Safety Junior Leadership Course (PSJLC), Public Safety Senior Leadership Course (PDDLIC), and Public Safety Officers Candidate

Course (PSOCC). These training programs were designed purposely to upgrade the professional knowledge and skills necessary to cope with the challenges in public safety and social defense particularly in response to crime, disaster and any contingency.

One (1) regional training center is located at Teachers' Camp, Baguio City named the Cordillera Administrative Region Training Center (CARTC). It traces its origin to the Pangasinan Police Academy (PPA) which was established on August 20, 1968 under the supervision of the Police Commission Academy. The PPA offered seven (7) classes of Police Basic Course and were attended and completed by the first class of 47 patrolmen. On January 27, 1971, the PPA was transferred to Teachers' Camp, Baguio City and was renamed Northern Luzon Regional Police Academy (NLRPA). The only course offered was Police Basic Course. In 1975, the training center offered the first Police Supervisory Course. The following year, under the command of Police Lieutenant Colonel George P. Cusi of the Integrated National Police, the NLRPA offered the first Criminal Investigation and Detection Course, Police Instructor Course and Basic Course. On July 1, 1976 the control and supervision of the NLRPA was transferred to the Integrated National Police and the training center was renamed Police Regional Training Center Region 1 (PRTC-Region 1) by virtue of PD 765. Sometime in 1978, Police Lieutenant Colonel Herman M. Marantal took over the post as commandant until 1981 when Police Colonel Marceliano M. Urbano took over until he retired on the first quarter of 1982 and was replaced by Police Senior Superintendent Cresencio S. Resurrection until 1991. During the term of PSUPT Resurrection, on June 16, 1989 the PRTC-Region 1 was renamed Regional Training Center for Cordillera Administrative Region and was renamed again to Northern Luzon Training Center on October 24, 1991 under General Order Number 1473 SG HQ of the Philippine National Police. The Northern Luzon training Center catered to the training needs of PNP personnel from CRECOM and from Regions 1, 2 and 3. On December 7, 1994, the center was renamed Cordillera Administrative Region Training Center (CARTC) with Police superintendent Juan N. Refe as the commandant until 1996. He replaced PSupt Resurrection who retired in December 1991. On June 3, 1996, pursuant to the provision of the Memorandum of the President of the PPSC dated May 17, 1996, a General Order 96-004 was issued to update the organizational structure of the CARTC.

Rosenbaum, Skogan, Fridell, Mastrofski, Hartnett, Cordner and McDevitt (2011) noted that police organizations are not static entities, but



rather are living, organic collectives that have a “life course” and exhibit both change and stability over time. This is the premise which started the National Police Research Platform. It was developed as a vehicle to continuously advance the knowledge of police organizations and their employees and to provide feedback to police agencies and policy makers nationwide. Traditionally, researches on police organizations were conducted through surveys. However, Harrison (2014) presented a Police Academy Training model for 2032 based on emerging trends and issues which prompted reflection, discussion, and action of law enforcement leaders. He described perspective as means of presenting trends, reflections, and issues emerging today as guide for the future and what is to be done about it. According to Jones and Bartlett Learning (n.d.), perspectives are important because they reflect diversity of ideas and beliefs on how agencies and also organizations should function. The perspectives in the field of Law Enforcement reflect how citizens view crime and influence related government policies in preventing and controlling criminal behavior.

The legal perspective is an approach that views behavior from a rule-based philosophy, in that the law is paramount and it is the guide for behavior that everyone must follow. The public policy perspective is made up of the rules and regulations legislative bodies and agencies choose to establish. It places emphasis on political process and internal agency operations. The system perspective views the entire context (environment) in which an issue exists by analyzing all the forces or influences (or drivers) impacting on it. Finally, the global perspective or extended systems approach is an extension of the systems approach. In addition to recognizing the immediate environmental influences, it gives significant recognition to world events and the international influences upon the agency. It focuses on the international influences (Jones and Bartlett Learning, n.d.). These perspectives were utilized in determining the views of the views of stakeholders on the Cordillera Administrative Region Training Center on the following areas: mandate, goals and objectives, organization and administration, curriculum, human resource development, extension services/linkages, and physical plant.

The Vision, Mission and Objectives of the CARTC

The vision, mission and objectives were regarded relevant to the needs of police recruits and trainees in responding to the peace and order needs of the society. Their expectations on what they become after



the training were met since their training equipped them with thorough knowledge and skills on police matters like criminal investigations, crime investigation and report writing, criminal laws, police operations, basic weaponry, police operational procedures and police tactics needed. Further, their training helped them in the conduct of their function as law enforcers. Despite the relevance of the VMO, the respondents perceived that information dissemination and full discussions of the vision, mission and objectives of the institution are needed because there were stakeholders who are not fully aware of the VMO.

While the vision, mission and objectives of the institution were viewed perfect ideals for the training center of law enforcers, it posits a challenge in its realization through sufficient and state-of-the-art facilities. These common ideals were not collectively shared by the stakeholders. The VMO was viewed legally sensible as it embodied the purpose of the institution as mandated by law. However, under the system approach, modifications on objectives unique to regional training centers were seen as necessary. One such modification is initiating competition in performance while maintaining interdependence.

The Administration, Management and Organizational Structure

The CARTC is under a traditional or classical organizational structure. Management in the traditional or classical organizational structure was influenced by Weber's ideas of bureaucracy where power was ascribed to positions rather than to the individuals holding these positions (Businessmate, 2012). It was also influenced by Taylor's scientific management, or the "one best way" to accomplish the task. Also influential was the Fayol's idea of invoking unity within the chain-of-command, authority, discipline, task specialization and other characteristics of vertically structured organization (Reference for Business, 2015).

The bureaucracy in the organization results to clear delineation of tasks. Further, the chain of command makes it easy to identify flaws in decisions made and the responsible person. However, the efficiency of the system is affected by the inadequate manpower. The CARTC, accordingly, was undermanned. The number of staff and support personnel is not enough to carry out or implement the services of the center. Hence, multi-tasking is resorted to by all the staff and support personnel. For instance, the academic staff handles two or more positions or responsibilities. The multi-tasking strategy of the center is perceived as an ineffective means



of delivering services to clienteles since most often than not, one service was sacrificed in favor of another. Consequently, the quality of service is affected.

Further, a medical doctor was also believed needed in the CARTC since the rigid physical training makes the trainees prone to accidents. A female tactics officers who can respond well to the personal needs of female recruits and trainees is also needed since she can understand the necessities and sentiments of female trainees and recruits.

The Administrators and its support staff are highly qualified and trained professionals who are experts in their own field of specialization to perform the various administrative and support services. The CARTC processes the selection of personnel. The process conforms to the civil service law hence, applicants are assumed properly screened and ranked based from their qualifications.

Educational qualifications, the field of expertise, trainings and experiences were considered in the required qualifications of members of the administration and its supporting staffs. The rank of active PNP personnel was also seen as necessary to be included as part of the qualifications for uniformed personnel in the CARTC. However, there was an argument on which of these two qualifications - educational attainment and rank - has a greater point, particularly for uniformed personnel. Likewise, several questions were asked such as the rank and number of points that correspond to a Doctorate Degree and a Master's Degree, in relation to ranking in the PNP.

The top-down management was seen as an easier way to direct and manage people on what they do. However, it was also seen as a means of curtailing initiatives, analytical thinking, creativeness and resourcefulness in the institution. People in this kind of institution are bound by the law to follow orders, rules and regulations in the performance of their duty. Thus, this kind of working environment was viewed sensibly in the legal and policy contexts but also viewed as a hindrance to opportunity for its people to build up a commitment in their work.

The Curriculum

The CARTC offers 4 programs which are physically and mentally demanding. These are the Public Safety Basic Recruit Course (PSBRC),



Public Safety Junior Leadership Course (PSJLC), Public Safety Officers Candidate Course (PSOCC), and the Public Safety Senior Leadership Course (PSSLC).

The PSBRC requires 960 hours for 6 months, 80% (768 hours) of which is allotted to academics and 20% (192 hours) for non-academics. It is composed of 6 modules covering the following: General subjects, Values and Ethics, Police Community Relations, Law, Police Operations, Police Tactical Skills, Threats to National Security, and Non- Academics

The PSOCC requires 720 hours for 4 ½ months, 80% (576 hours) of which is allotted for academics and 20% (144 hours) for non-academics. The academics covered 5 modules while the non-academics covered police tactics or basic combat training.

The PSJLC requires 720 hours for 4 1/2 months, 80% (576 hours) of which was for academics and 20% (144 hours) for non-academics. The PSSLC on the other hand, requires 560 hours for 3½ month, 80% (448 hours) for academics and 20% (112 hours) for non-academics.

The curriculum was designed and formulated by the central office for the PPSC to implement in the different regional training centers like the CARTC. Revisions were made every time there was a change in leadership. Most of the curriculum revisions were made during the time of President Margarita R. Cojuangco. Accordingly, a feedback mechanism through the students served as the basis for the curriculum revision. A significant modification made in the curriculum was the time allotment for academics which became 80% of the total number of course hours against the 20% for non-academics. This development was believed advantageous to recruits and trainees since not all were Criminology graduates. They became more equipped with the knowledge regarding police matters or about law enforcement.

In spite of the reduced number of hours for non-academics particularly on physical training, physical exhaustions affected much the trainees' academic performances as their mental ability was affected, accordingly. However, they still believed that physical training was needed for the development of the strength and stamina of the trainees. In addition, it is needed for the enhancement of skills in combat, shooting, defense mechanisms and other related skills. Consequently, it was suggested that CARTC should review and analyze further the consequences of



simultaneous academics and physical training to maximize the training capabilities of police recruits and trainees.

Accordingly, there was inadequate time for academics due to the mismatch between theoretical learnings and applications during training. Hence, a survey of training needs is needed in order to address concerns regarding needs of Criminology graduates and Non-Criminology graduates.

Criminology graduates viewed application of theories more important than the discussions of theories while non-criminology graduates viewed both the discussion of concepts or theories and their application of equal importance. Likewise, foundation or general subjects were treated by the Criminologists as a review only. They focus more on specialized topics in law enforcement. Non-Criminologists, on the other hand, viewed foundation or general subjects as equally important as the other subjects. The trainees were divided in their views regarding the preparatory courses. To the criminology graduates, the subjects were repetitions of their college curriculum while the non-criminology graduates see these as necessary for their education.

Other trainees expressed their opinions on the consistency of skills development for mastery towards proficiency and competency. They suggested that computer literacy should cover the basics in all the 4 programs offered and add advance computer skills. A revisit of the curriculum is therefore needed with the participation of all groups of stakeholders. The assistance of the alumni could be tapped in re-designing the curriculum.

As to content, a comparison was made between the current and past curriculum. There was a unanimous expression of contentment on the changes made. As noted in the course requirements of each program, 80% of the total training hours was allotted for academics and the remaining 20% was allotted for non-academics.

Revisiting the curriculum of the different program was again believed needed to further address concerns of the clientele. The CARTC needs to call representatives from groups of stakeholders to sit and work together in reviewing and planning the training activities to enrich the curriculum. There were subjects that, accordingly, should be allotted more time for practicum like crime scene investigation, intelligence



report writing, related laws and other important police subjects. As to skills, basic weaponry and proficiency firing need enhancement to meet the expectations of the police officers. New techniques and strategies on combat matters were also believed needed to be introduced in the CARTC.

A basic driving lesson with practicum was also suggested as an important part of the curriculum for skill enhancement.

Human Resource Development

The human resource development was perceived important in any working organization as significant indicators of work performance. Most often, seminars, training, planning and other social activities were offered to employees to update their knowledge and skills and at the same time to rejuvenate their physical well-being. The human resource development enables people to perform to the best of their abilities. Within this line of reasoning, the stakeholders believe that the CARTC is faced with challenges in offering seminars, trainings and other related activities which could enhance the skills and capabilities of its people in the pursuit of its vision, mission and objectives.

The personnel of the CARTC availed of eleven case-based seminars and training related to human rights and range officers for the last 3 years. A test question construction was also offered. These were initiated by the PPSC.

The seminars and training attended were considered relevant to the needs of the personnel in the conduct of their functions. However, the seminars given were not availed of by all personnel but by a few only. Related seminars and training were also viewed needed by guest lecturers particularly on the art of teaching as the delivery of knowledge was regarded a concern to be addressed.

The training and seminars were considered dependent on the PPSC because of bureaucracy in the system. However, in the viewpoint of policy approach, a policy should be made where seminars and training are to be identified according to the needs and the requirements of the functions of personnel. Further, policies defining benefits, terms and conditions of availing of the said seminars and training were deemed necessary.



Extension Services/Linkages/Alumni

Extension services are expected part of the responsibilities of any public or private organization. Community outreach services are part of the curriculum of the programs offered by the CARTC. The CARTC augments the police force to ensure peace, order and safety during the celebration of the “Panagbenga” Festival and helped in the fire incident that occurred on February 19, 2015 at 8:20 p.m. in Baguio City. Accordingly, the CARTC is alert and responsive to the needs of the community thus, the services they rendered were appreciated. There is, however, a need to properly document the accomplishments of the training center in relation to its volunteer service. Hence, a program on community outreach activities based from the required practicum to be included in the curriculum of all the programs offered is deemed necessary.

The CARTC had produced an estimated 750 graduates per year from the past five years and will continue to produce the same number of graduates in the coming years as long as law enforcers are needed in the society. It has contributed to the number of policemen in the PNP actively serving the country.

The alumni contributed significantly to the achievements of the CARTC. They formed a pool of human resources not only for CARTC but for the Philippine National Police as well. The stakeholders remarked that the alumni can help to initiate change and development within CARTC. With this perceived importance of the alumni, it was believed that an alumni association of the CARTC should be established. Likewise, a community outreach and extension program was believed needed in the CARTC.

The Physical Plant and Facilities

The CARTC occupies 6,725 square meters land area at Teacher’s Camp, Baguio City. Three buildings are occupied as an administration office, classrooms, multi-purpose hall, and dormitories. The administration building is occupied by the different offices: the director’s office, personnel’s office, the library and the clinic. To accommodate the increasing number of police recruits and trainees due to the demand of law enforcers in the country, a new building was constructed in 2000 and was used as a multi-purpose hall, emergency classrooms and female dormitories. This additional facility was not enough to accommodate the ever increasing demand for policemen since the CARTC had no choice but to accept

and accommodate the growing number of police recruits and trainees. This resulted to over-crowding. In spite of the changes made particularly in number of equipment and facilities which included 338 double bed bunks, a function hall, a mess hall which serves four batches of 100 recruits and trainees per batch per meal, these changes were not enough to accommodate and serve the ever increasing number of police recruits and trainees.

Accordingly, the physical plant of the CARTC was not suited for physical training on tactics and ammunitions due to the surrounding residences all around Teachers Camp.

In the absence of an operational safety training on firing, the CARTC will not be able to cope with the global trend as reflected in its mission and objectives. Simulators for the use of different modern firearms and defensive tactics training rooms are needed. A vault for safe keeping of firearms of trainees is also needed in order for the CARTC to prevent loss of firearms. A scenario village is also believed needed for the simulation of real-life policing situations for both trainees and sworn officers. To further enhance physical training, CARTC needs to develop a physical fitness gym for agility, endurance and physical strength needed in law enforcement and policing.

Furthermore, to update the students on current information about police matters worldwide, and for research purposes, internet connections are needed. These, according to the recruits and trainees should be made readily available for use in a computer room separate from what the library provides.



CONCLUSION

The Cordillera Administrative Region Training Center (CARTC) steadfastly survived through the years in providing training to police recruits and trainees not only from the Cordillera Region but also from its neighboring regions. The CARTC remained proud for its share in the many significant accomplishments in the Philippine National Police. As a result, the CARTC's roots are deep enough for it to stand and operate on its own. Further, it can manage its own pace of growth and development towards the realization of PPSC vision 2020 in accelerating peace for progress through globally competent police officers. However, the perceptions or viewpoints of stakeholders do not totally support this scenario. Like any other system, the CARTC need to fill gaps in its operation in order for its survival not to be threatened.

REFERENCES

- Businessmate.org. (2012). *Max Weber's theory of democracy*. Retrieved on August 11, 2015 from <http://www.businessmate.org/Article.php?ArtikelId=30>
- Harrison, B. (2014). *A retrospective: Police academy training in 2032*. Retrieved on February 14, 2015 from http://leb.fbi.gov/2014/September/future_perspective__a_retrospective_police_academy_training_in_2032
- Jones & Bartlett Learning, LLC. (n.d.). *The field of law enforcement*. Retrieved on Aug. 13, 2015 from samples.jbpub.com/9780763799380/99380_CH01_PASS01.pdf
- Hawkes, A. (2014). *The history and importance of police training*. Retrieved on August 12, 2015 from <http://policelink.monster.com/training/articles/143993-the-history-and-importance-of-police-training>
- New York State Division of Criminal Justice Services. (n.d.). *History of the basic course for police officers*. Retrieved on August 12, 2015 from <http://www.criminaljustice.ny.gov/ops/training/bcpo/>
- Reference for Business. (2015). *Chain of command principle*. Retrieved on August 10, 2015 from <http://www.referenceforbusiness.com/management/Bun-Comp/Chain-of-Command-Principle.html>
- Rosenbaum, D., Skogan, W., Fridell, L., Mastrofski, S., Hartnett, S., Cordner, G., & Mcdevitt, J. (2011). *Measuring police organizations and their "life course": The national police research platform*. Retrieved on February 14, 2015 from uicclj.squarespace.com.pdf
- Sabath, D. (n.d.). *The evolution of American policing*. Retrieved on August 12, 2015 from <http://www.aphf.org/hist.html>
- The Philippine Public Safety College-Cordillera Administrative Region (PPSC-CAR). (n.d.). Retrieved from <http://www.ppsc.gov.ph>



ADAPTIVE-HYPERMEDIA M-LEARNING APPLICATION (AHMA)

by

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INTRODUCTION

Sharples (2000) introduced a framework that provides five (5) approaches for using technology in learning: intelligent tutoring systems that have attempted to replace the teacher; simulation and modeling tools that serve as learner's assistants or pedagogical agents embedded in applications that act as mentors providing advice; dictionaries, concept maps, learning organizers, planners and other resource aids that help learners to learn or organize knowledge with system tools and resources; personalized communication aids that can present materials depending on user abilities and experience with the system; and, simulated classrooms and labs that engage teachers and learners in an interaction similar to the real classrooms. A well-defined and a clear perspective on who the audience is, what the content should be, and which platform to use, are all critical in designing and developing m-learning solutions.

Mobile learning, often referred to as m-learning, generally refers to the use of mobile devices in an educational context (So, 2012). Sharples (2000) further notes that the availability of advanced mobile technologies today, such as high bandwidth infrastructure, wireless technologies, and handheld devices, has provided the means to apply their concept of e-learning which eventually extended towards m-learning.

Learning with mobile devices should constitute new learning-interaction experience for the different types of learners. Each person has a "learning style" that is best for his intake and comprehension of new information. Learning style refers to the differences among individuals regarding the mode of instruction or study most effective for them. Proponents of learning-style assessment contend that optimal instruction requires diagnosing individuals' learning style and tailoring instruction accordingly (Pashler, McDaniel, Rohrer, & Bjork, 2008). However, other studies contend that the use of well-designed combinations of text, images, sound and kinesthetic is more effective than just one mode of instruction. Through different data gathering methods, the development of a flexible multi-sensory learning system to cater to combined learning modalities is made possible. Graf, Kinshuk, and Liu (2009) contemplate that although



learning styles are considered as an important factor in education, students often have to learn in courses that do not support their learning styles. A challenge of technology facilitated learning, therefore, is to assist and help students to cope with courses that do not match their learning styles by training and developing their less preferred skills. Shams and Seitz (2008) also stated that human experience in the real world involves constant multisensory environments. Supporting this concept, a neuroscience research has discovered that significant increases in learning can be accomplished through the informed use of visual and verbal multimodal learning (Fadel, 2008). Sanky, Birch and Gradiner (2011) reiterated that even though it has been seen that there is a real need to design learning environments to cater to a range of different learning styles and modal preferences to aid student cognition, consideration of students' metacognition is equally necessary. Moreover, Picciano (2009) concluded that a major benefit of multiple modalities is that these allow students to experience learning in ways in which they are most comfortable, while challenging them to experience and learn in other ways as well.

Hypermedia can be a very useful tool to help facilitate diversity of instruction in an m-learning environment. Chen, Fan and Macredie (2002) found that hypermedia presents information in a non-linear format. The non-linearity allows learners to have greater navigational control and freedom, and gives learners the opportunity to access and sequence information according to their information needs. Jason Haag's (n.d.), Advanced Distributed Learning (ADL) Initiative's 2012 Mobile team lead, suggests that deciding on a mobile development and distribution approach is important to any organization or company looking to develop mobile applications. The objective of developing an m-learning application is to be able to expand the reach of education. To specify a device would be contradictory to that objective. The development approach should offer wider support over many devices, without needing to redevelop the content itself. It also allows developers to compensate for failings in mobile browsers on specific devices by adding extra "native" features where the mobile browser cannot cope (Stead, 2010).

The design and development of an innovative m-learning application is part of the efforts to learn, discover and contribute a possible solution to some m-learning issues. An Adaptive Hypermedia M-Learning Application (AHMA) will be able to provide the learner with rich user experience, flexible learning content, and a cross-platform mobile learning solution. As the generation of learners are adapting to new technology and where



blended learning enriches the final outcome of the learning task, new learning solutions are expected to support the current learning culture. Adaptive Hypermedia M-Learning Application (AHMA) shall facilitate learning by providing multi-sensory learning contents that support and focus on multidimensional learning style, flexibility and goal-directed learning.

METHODOLOGY

Throughout the development of the proposed project, the author employed the Crystal Clear development methodology. Crystal Clear is a highly optimized way to use a small, collocated team, prioritizing safety in delivering a satisfactory outcome, efficiency in development, and habitability of the working conventions (Cockburn, 2004). Project safety means delivering a system in adequate time and budget as per the sponsor's priorities. This makes it effective and habitable, that is, the people can live with it and will actually use it.

Crystal clear adheres to the agile development process but is more flexible on the basis of resource availability. Crystal uses nested cyclic processes of various lengths: the development episode, the iteration, the delivery period and the full project (Chang, 2010).

Chartering (Development Episode) is the phase where the researcher performed a preliminary feasibility analysis, shaping and fine-tuning the development methodology, identifying the appropriate framework for development, and developing the initial plan which included details regarding the need for the requirements and technical design considerations of the project. The deliverable in this phase was the Project Proposal Document which was subjected to reviews and revisions based on the specifications which was required by the stakeholders and reviewers.

Cyclic Delivery (Iteration) is the main development engine consisting of two or more Delivery Cycles. Each delivery cycle depended on the size of requirements or functionality subject for development which typically ranged from one week to three months. During the cyclic delivery, the researcher updated and refined the release plan of the proposed project according to the recommendations that were specified by the review committee. The researcher also implemented a subset of the approved requirements through one or more program-test-integrate iterations. Within the iteration period, the researcher included and removed sets of requirements after testing the user interface designs, and adding



and/or removing some functionality based on scheduled panel reviews and findings from each program-test-integrate iteration. Moreover, the researcher also delivered the integrated project module to real users for additional testing, verification and validation. Based on the results of the aforementioned activities, the researcher reviewed the adopted development methodology and the project plans for further update and/or refinement.

RESULTS AND DISCUSSION

Key Features of the AHMA

After eliciting the information needed and understanding the different topics underlying the study, the proponent, together with the stakeholders, focused on laying out the key features of the system in an incremental and iterative approach.

Table 1. Summary of the key features of AHMA

| Functionality | Description |
|--------------------------------|---|
| Take Learning Styles Inventory | This functionality allows the user to answer questionnaires that will help in identifying the user's learning preference. |
| Read Lessons | This functionality allows the user to read the lessons or topics. It shows the course topics in form of notes, images, videos and animations. |
| View Simulation | This functionality allows the user to view simulations of particular lessons through animations. |
| View Videos | This functionality allows the user to view videos of a particular lessons |
| Listen to Audios | This functionality allows the user to listen to audio recordings of a particular lessons |
| Take Drill Exercise | This functionality allows the user to take drill exercises for a particular lesson. |
| Take Quiz | This feature will be used when the user will take a quiz for a particular lesson. |
| Review Answers from Quizzes | This functionality allows the user to review the answers of the quiz after taking the quiz. |

The key features of AHMA were determined upon considering some mobile learning research and development projects and programs. Among such programs that was able to provide insights on designing mobile learning application features and approaches is MOBILearn. MOBILearn is a worldwide European-led research and development project exploring



context-sensitive approaches to informal, problem-based and workplace learning by using key advances in mobile technologies (MLEARN 2004). This project addresses the need to strategically explore and suggests solutions to come up with multimedia content and tools through research and development.

Based on the Memletics learning style model, AHMA features a learning style assessment tool. The assessment tool is a three-stage process. The 1st stage introduces the Memletic pre-test graph. The pre-test graph establishes the baseline of comparison by setting the rating for each of the learning styles to 20.

The 2nd stage of the learning styles inventory is the Memletic survey. It is AHMA's feature main learning styles assessment tool. The assessment process allows the user to rate 70 statements.

The 3rd and last stage of the learning styles inventory is the 'results graph'. After the user rates the grouped statements, the ratings for each set are tallied. The tallied results are then passed on to a function that generates the 'results graph'. AHMA also includes a short explanation or summary of what the 'results graph' means. The summary includes a percentile rate of the tallied result for each of the learning style as well as a guide or recommendation for the appropriate learning content based on the learning style preference determined by the inventory.

The application also features a description of the different features of AHMA. The 'About AHMA' module include: a short background of the study, the course or learning modules and its feature.

AHMA features the course description and lessons under different learning modules. The course description module discusses the 'Course Overview', 'course description', and the course 'learning objectives'. The course topic is about Computer Hardware Servicing, it is based on the TRBSHT1 course syllabus taught in the University of Baguio. It teaches the user in preparation for the National Certification Exam or NCII for computer hardware servicing of the Technical Education and Skills Development Authority (TESDA).

AHMA is designed with touch optimized navigation menus, buttons form elements engages the to the learning application as oposed to flicking through pages of text (i.e. manuals and books) or constant clicking (for

computer based systems). This makes it easier to learn and maintain interest while being mobile. AHMA also allows the user to view the content on multiple screens and multiple devices through its responsive and multi-platform design.

The learning modules are grouped based on the topics discussed within each module. Learning module have different media formats that the user may choose to access to enhance the user's learning experience. Each module provides hyperlinks and navigation menus that allow them to learn in different modalities, i.e. through videos, images and or audio recordings.

Visual learners with aural inclinations towards the aural learning style preference may navigate to either the video gallery and/or audio screens, to watch and/or listen to the learning content rather than just read through the pages.

Users are also provided with image galleries that further reinforce the understanding of a concept through images. It is able to exploit the purpose of using images in order to clarify ambiguity through pictures with descriptions.

AHMA enhances learning through end-of-the-lesson exercises and/or quizzes which may either be in the form of multiple-choice type quiz. The application was based on the three-tier architecture. The three-tier architecture is made up of three layers; the presentation, business logic, and the data access layer.

The presentation layer contains the components that implement and display the user interface and manage user interaction. This layer includes controls for user input and display, in addition to components that organize user interaction.

The Business Layer contains the application façade, workflow, and learning components of the application. The application façade provides a series of custom facades for the interface objects. It organizes information for the appropriate interface objects based on selected information from the various business objects.

The data layer is concerned with how data is accessed and the utilities used for managing data to and from the mobile devices' local storage.



Application Structure

The researcher organized AHMA's structure as shown in the diagram in the next section:

Adaptive Hypermedia M-Learning Application

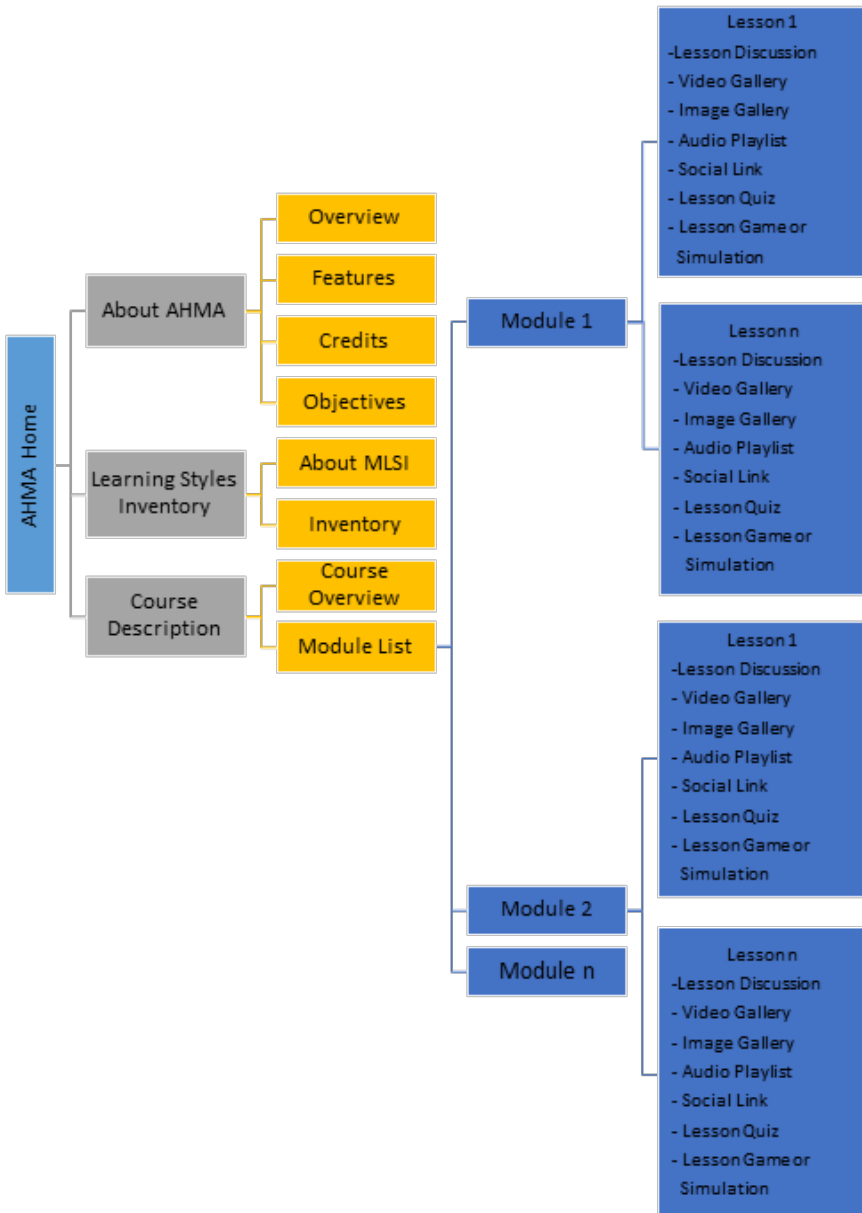


Figure 1. AHMA Structure

Application Activity Diagram

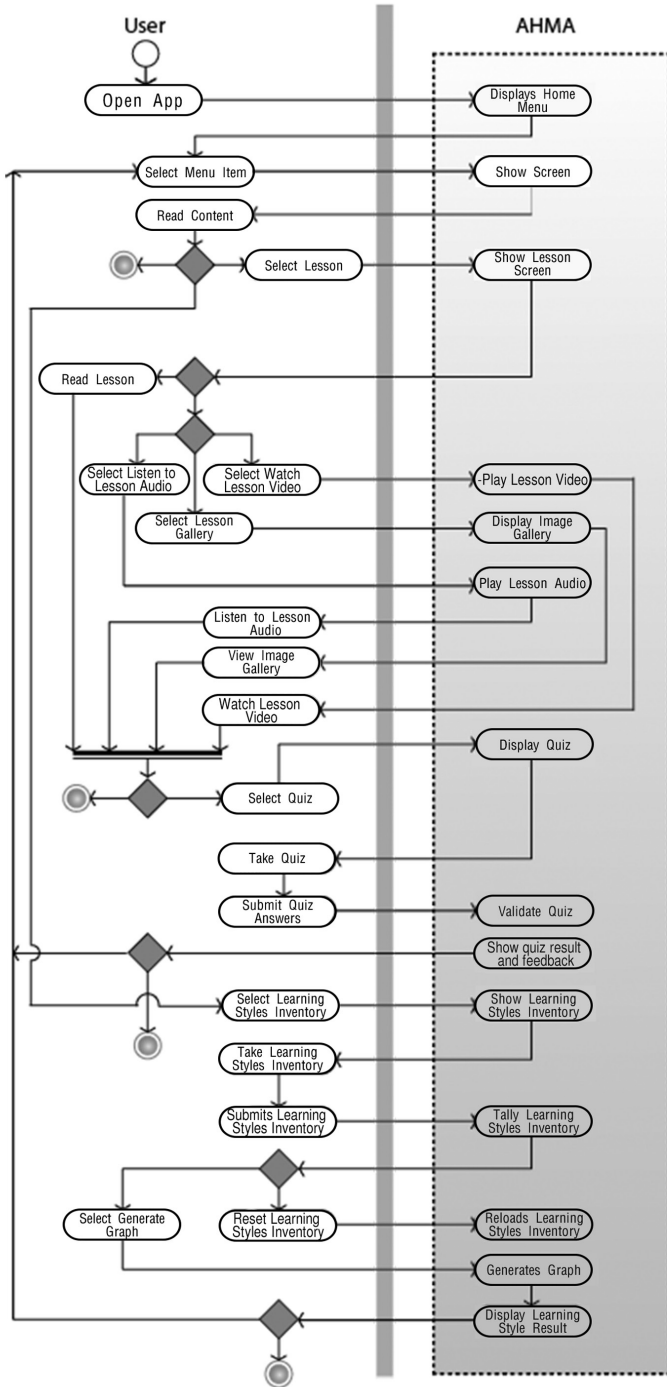


Figure 2. Activity Diagram



CONCLUSION

The diversity of learning styles is an important consideration in the development of new modes of learning such as the Adaptive-Hypermedia M-Learning Application. Using new modes of delivering instruction enhances the teaching-learning situation and could lead to the realization of a fun learning environment. The key features of AHMA, when evaluated and refined, could provide teachers and learners an opportunity to veer away from the traditional modes of learning.

REFERENCES

- Chang, M. (2010). *Agile and crystal clear with IT innovations*. Retrieved from http://www.vala.org.au/vala2010/papers2010/VALA2010_14_Chang_Final.pdf
- Chen, S., Fan, J. & Macrede, R. (2002). *Navigation in hypermedia learning systems: Experts vs. novices*. Retrieved on August 14, 2012 from <https://scholar.google.com.ph/scholar.google.com.ph/citations?user=jdB84x8AAAAJ&hl=en>
- Cockburn, A. (2004). *Crystal clear a human-powered methodology for small teams*. Retrieved on August 14, 2015 from dl.acm.org/citation.cfm?id=1406822
- Fadel, C. (2008). *Multimodal learning through media: What the research says*. Retrieved on December 2012 from <http://www.cisco.com/web/strategy/docs/education/Mulrimodal-learning-through-media.pdf>
- Graf, S., Kinshuk, & Liu, T.C. (2009). *Supporting teachers in identifying students' learning styles in learning management systems: An automatic student modeling approach*. *Educational Technology & Society*, 12(4), 3–14. Retrieved on December 2012 from http://www.ifets.info/journals/12_4/2.pdf
- Haag, J. (n.d.). *ADLMobile app development and distribution options*. Retrieved from <http://www.adlnet.gov/mobile-app-development-and-distribution-options>
- MLEARN (2004). *Learning anytime everywhere*. Retrieved on August 14, 2015 from <http://www.mlearn.org/mlearn2004/>
- Sanky, M.D., Birch, D. & Gradiner, M.W. (2011). *The impact of multiple representations of content using multimedia on learning outcomes across learning styles and modal preferences*. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 7(3), 18-35. Retrieved on December 2012 from <http://ijedict.dec.uwi.edu/include/getdoc.php?id=4887&article=1255&mode=pdf>

