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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

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Effectiveness of oral health education conducted by Community Dentistry students in improving the oral health status of preschoolers

by
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Abstract

Oral health is the backbone of the oral health of a nation. It is important to maintain the sound oral health of the community members, especially the pre-schoolers. It was the major purpose of this study to determine the effectiveness of oral health education activities conducted by the community dentistry students of the School of Dentistry, University of Baguio. This study used the descriptive research design. It looked into the oral health profile of 66 daycare learners aged three to five years old, enrolled in Middle Quezon Hill and Upper Quezon Hill Daycare Centers during SY 2013-2014. The oral health profile focused on caries experience, oral hygiene performance, and caries risk index. Based on the existing records that were evaluated, the pre-assessment oral health status of the preschoolers on caries experience is moderate; their oral hygiene performance is fair to good, and their caries risk is high. This indicates that at the start of the dental education program, the preschoolers were in need of a functional dental health education for caries prevention, more intensified oral hygiene practice, and lower vulnerability or risk in caries occurrence. The post-assessment oral health status of the preschoolers on caries experience show a moderate level of caries experience, good level of oral hygiene performance, and moderate caries risk index. These indicate considerable improvement from their pre-assessment to the post-assessment oral health status. The comparison of pre-assessment and post-assessment of oral health status of the preschoolers reflects marked, positive improvement as far as oral health is concerned. This result attests to the overall effectiveness of the oral health education intervention program conducted by the students of community dentistry of the University of Baguio.

Key words: Oral health education, oral health profile, oral health status, community dentistry students, preschoolers

I. INTRODUCTION

Oral health education for the community is a process that informs, motivates, and helps persons to adopt and maintain health practices and lifestyles; advocates environmental changes as needed to facilitate this goal; and conducts professional training and research to the same end (Gluck & Morganstein, 2009).

This definition identifies the role of oral health community practitioners in promoting oral health in the community. These roles are information-giver, motivator, educator, trainer, and researcher geared toward promotion and maintenance of oral health among the people in the community. Community oral health is also referred to as dental public health.

The American Board of Dental Public Health (ABDPH) (as cited by Mason, 2010), defines public health as:

> The science and art of preventing and controlling dental diseases and promoting dental health through organized community efforts.

> It is that form of dental practice that serves the community as a patient rather than the individual. It is concerned with dental health education of the public, with applied dental research, and with the administration of group dental care programs, as well as prevention and control of dental diseases on a community basis (p. 3).

The definition focuses on the community as the patient. It also points out the importance of public dental education, research and evaluation. Current public health program practitioners have replaced the term dental health with oral health to emphasize more than just teeth in the oral cavity. This research study adopts the term oral health and focuses the research on oral health education and promotion.

Oral health promotion requires active interventions at different levels by different health groups. Dentists and dental hygienists spend a lot of time in educating their patients, and the public/community on the value of good oral health (Eklund, 2005).

Programs in dental education include community fieldwork conducted by dentistry professionals and trainees. Schools of dentistry include community dentistry in the curriculum of dentistry education. One of the major activities of the community dentistry students is to conduct oral health education among specific community groups under the guidance of professional dentists who act as directors/advisers in the fieldwork activities of the students.

In recent years, attention has been drawn toward assessing the effectiveness of oral health education programs. This attention is in line with demand for evidence-based research and will help to inform policy makers on how to allocate resources (Nakre & Harikiran, 2013).

The community dentistry students of the School of Dentistry, University of Baguio, have been doing their share in oral health promotion and oral health education. In this regard, this study was conceived to bring to light the effectiveness of the oral health education intervention procedures implemented by the community dentistry students in their fieldwork experiences.

II. METHODOLOY

This descriptive study used the ex-post-facto design since the oral health profile of the preschoolers was already available. The data was based on the oral health education program previously conducted by the community dentistry students. Comparison of the pre-assessment and post-assessment oral he alth profiles and statistical test were made to

determine the effectiveness of the oral health education conducted by the community dentistry students.

This study included the oral health profile of all the 66 daycare learners aged three to five years, enrolled in Middle Quezon Hill and Upper Quezon Hill daycare centers during the SY 2013-2014. A total of 24 community dentistry students enrolled during the SY 2013-2014 conducted the oral health education on the preschoolers.

The study focused on the caries experience, oral hygiene performance (toothbrushing), and caries risk (intake of dietary sugars) of the preschoolers which were recorded by the community dentistry students before and after conducting the oral health education intervention program as part of their fieldwork activities. During their fieldwork, the students followed the protocol such as seeking the approval of the community including the informed consent from the parents of the preschoolers. Also, the parents or guardians of the community dentistry students signed the waiver for community dentistry fieldwork which mentioned the participation of the students in the fieldwork activities. The community dentistry students utilized standardized measures and recording forms for the caries experience, oral hygiene performance, and caries risk of the preschoolers. Their fieldwork adviser supervised them during the conduct of the program. The community dentistry students gathered the baseline data on the profile of the oral health status of the children. An oral health education intervention was given where the students used varied approaches, methods, and strategies in educating the children. These are described as follows:

Socialization

One of the key principles of learning is readiness to learn (Dodge, 2005). Before implementing the educational activities, the community dentistry students engaged in socialization activities with the children to establish rapport with them and to prepare them for the learning activities on oral health. According to the social learning theory of Bandura (cited in Arends & Kilcher, 2010), learners are motivated to learn in an environment that has positive feeling tones with pleasant, happy atmosphere, and caring relationships.

Lecture

According to Marzano (2007), the lecture method falls under the presentation and explanation teaching model. Explaining things well enhances student learning. The lecture, however, is teacher-centered. It should be modified to encourage participation from the learners. The students modified their lectures to cater to the interest of pre-schoolers.

Lectures about dental caries, the importance of proper oral hygiene and reducing the intake of dietary sugars were given using simple, plain language that the children aged three to five could understand. Visual aids were used by the students such as pictures, models, and video clips. The community dentistry students first assessed what the children already know about dental caries, proper oral hygiene and dietary sugars which they used as the basis for the content of their lecture.

Demonstration

The demonstration method is a showing method. In a demonstration, learners view a real or lifelike example of skill or procedure to be learned. The objective is for the learner to imitate a physical performance (such as brushing the teeth) or to adopt the attitudes or values exemplified by a role model. In many cases, the point is simply to illustrate or show how something is done. According to Smaldino, Lowther, and Russell (2008), the advantages of demonstration are: (1) Seeing before doing. Pupils benefit from seeing something done before they have to do it themselves. (2) Task guidance. A teacher can guide a large group of students to do a task. (3) Economy of supplies. Supplies will not be wasted by trial and error. (4) Safety. Proper procedures ensure safety on the part of the pupils.

The students conducted demonstrations on proper toothbrushing and the daycare learners also gave a return demonstration.

Toothbrushing Drills

Drill-and-practice strategy is designed to reinforce the procedures and concepts learned. Drill activities provide opportunities for corrective feedback. A goal of drill and practice is that learners will master the skill without error (Smaldino, Lowther, & Russell, 2008).

Regular toothbrushing drills were conducted once a week for five months. The students guided the daycare learners in following the proper way of toothbrushing.

Dramatization/Role Playing

Dramatization is a simulation of a real-life situation. In the pre-school level, this is known as role playing. It may also be integrated with puppet shows. Dramatized experiences on oral hygiene enhance the children's learning (Anderson, 2006).

Dramatized experience was provided by the students through puppet shows to make the education more exciting for the children.

Story Telling

Storytelling was also done by the students to keep the other children busy while the toothbrushing drills were done by batch.

Action Songs

Action songs related to oral health were also utilized to encourage active participation of the daycare learners. For example, in the song "Row, row, row your boat," the lyrics were substituted with brush, brush, brush your teeth.

Use of Printed Media

The students prepared and distributed printed media appropriate for the children. These handouts contain instructions for proper toothbrushing which the parents can read to their children at home. The students also distributed the toothbrushing calendar to encourage the children to brush their teeth at home.

Games

The students planned and implemented group games for the children. For example, using their favorite cartoon characters, the children were asked to stick the teeth where they are supposed to be on the poster. Another example was posting on the board the foods good for the teeth and foods that cause dental caries.

Gaming provides a competitive environment in which learners follow prescribed rules as they strive to attain a lesson goal. It is a highly motivating technique. By playing games, learners begin to recognize patterns that exist within a particular type of situation (Moursund, 2006). Game playing appeals to daycare learners and is an effective way to gain learners' attention to master a specific skill (e.g., toothbrushing skill).

Use of Activity Sheets

Activity sheets related to oral health were also utilized to keep the children involved in the educational activities.

After the oral health education intervention, the students gathered post-assessment data on the oral health status of the children. The t-test for dependent samples was used by the researcher to determine if there is a significant difference between the pre-assessment and post-assessment scores.

III. RESULTS AND DISCUSSIONS

Pre-assessment Oral Health Profile of the Preschoolers

The pre-assessment results for caries experience reveal the following distribution of the children according to the level of caries experience: very high, 4.55 percent; high, 33.33 percent; moderate, 33.33 percent; low, 22.73 percent; no caries, 6.06 percent. The mean caries index of the children is 0.40 which means that they have an average of 40 percent carious teeth in their oral cavity. This means that, on the average, the children have a moderate level of caries experience. The result shows that majority of the children have moderate to high level of caries experience. Dental caries is an infectious disease process that results in loss of tooth minerals on the surface of the tooth. If not controlled at an early stage, caries can progress through the enamel, into the dentin, and eventually into the pulp (Mason, 2010). Since prevention is better than cure, the dental health education program can help prevent the risk of having dental caries on the part of the preschool children.

The pre-assessment oral hygiene performance of the preschoolers is as follows: excellent, 13.63 percent; good, 37.88 percent; fair, 46.97 percent; poor, 1.52 percent. The mean oral hygiene performance of the children is 1.55, interpreted as good oral hygiene performance. The result shows that the children had fair oral hygiene performance, although the mean score falls under the level of good. This result implies that the preschoolers, to some extent, have the basic knowledge of removing debris from their teeth.

The pre-assessment caries risk index of the preschoolers is as follows: very low, 3.03 percent; low, 3.03 percent; moderate, 43.94 percent; high, 13.64 percent; very high, 36.36 percent. The mean score is eight (8), interpreted as high. This result implies that the children are at a high risk/highly prone to dental caries and that there is a close frequency count between the moderate risk level and very high-risk level. Therefore, the caries risk index of the preschoolers is high.

Post-assessment Oral Health Profile
of the Daycare Learners

The post-assessment caries experience results are as follows: very high, 4.55 percent; high, 33.33 percent; moderate, 34.85 percent; low, 21.21 percent; none, 6.06 percent. The mean caries index is 0.40. In the post-assessment, the children have moderate to high caries experience. The mean caries index is 0.40, indicative of a moderate caries experience which means that on the average, the children have caries on 40% of their primary teeth. Although the children have moderate caries experience, the majority of them did not have new carious teeth during the duration of the program.

The post-assessment oral hygiene performance of the children is as follows: excellent, 16.67 percent; good, 62.12 percent; fair, 21.21 percent; poor, zero percent. The mean oral hygiene performance of the children is 1.03, interpreted as good performance.

The post-assessment caries risk index is as follows: very low, 7.58 percent; low, 27.27 percent; moderate, 40.91 percent; high, 12.12 percent;

very high, 12.12 percent. The mean sweet score of the children is five (5), indicative of moderate caries risk.

Comparison of Pre-assessment and Post-assessment
Oral Health Profile

The mean caries index of both pre-assessment and post-assessment are the same, indicating that the children still had, on the average, 40% of their teeth with caries. Since the program was purely educational, restorative services were not rendered. However, preventive services such as the use of fluoride toothpaste during the toothbrushing drills were done. The objective of the educational program conducted by the community dentistry program was that no new carious teeth should be present after the culmination of the program. Since the mean def for both pre and post-assessment are the same, the oral health education conducted by the community dentistry students is deemed effective.

Table 1. *Comparison of Pre-assessment and Post-Assessment Caries Experience of the Daycare Learners*

Level of Caries Experience	Pre-assessment	Post-assessment
Very High (75-100%)	3	3
High (50-74%)	22	22
Moderate (25-49%)	22	23
Low (1-24%)	15	14
None	4	4
Total	66	66
Total def	26.35	26.45
Mean	0.40	0.40

The computed t value of 1.43 is less than the critical value of 1.67 at 0.05 level of significance which means that there is no significant difference in the caries index in the pre-assessment and post-assessment. This result shows that the oral health education conducted by the community dentistry students is effective as far as the non-occurrence of new carious teeth is concerned.

The mean oral hygiene performance index of the children in the post-assessment is lower than the pre-assessment index, implying that the children improved in their plaque/debris removal skills. It is also worthy to note that there is a marked increase in the children who were categorized with good oral hygiene performance in the post-assessment as compared to the pre-assessment. Also, in the post-assessment, no child had poor oral hygiene performance as compared to the pre-assessment where one child had poor oral hygiene performance. The children with excellent oral hygiene performance also increased in the post-assessment. The oral health education conducted by the community, dentistry students was effective in improving the oral hygiene performance of the children.

Table 2. *Comparison of Pre-assessment and Post-Assessment Oral Hygiene Performance of the Daycare Learners*

Level of Oral Hygiene Performance	Pre-assessment	Post-assessment
Excellent (No debris)	9	11
Good (0.1-1.7)	25	41
Fair (1.8-3.4)	31	14
Poor (3.5-5.0)	1	0
Total	**66**	**66**
Total PHP	**102.04**	**68.1**
Mean	**1.55**	**1.03**

The computed t-value of 3.13 is greater than the critical t-value of 1.67 at 0.05 level of significance. This result means that there is a significant difference in the oral hygiene performance of the children in the pre-assessment and post-assessment. The preschoolers performed better in the post-assessment which proves that the oral health education conducted by the community dentistry students helped improve the oral hygiene performance of the children.

Pre and Post-assessment Caries Risk

The mean sweet score in the pre-assessment is higher than the mean sweet score in the post-assessment. This result shows that the caries risk of the children was lessened after the series of health education activities conducted by the community dentistry students.

The computed t-value of 5.93 is higher than the computed t-value of 1.67 at 0.05 level of significance, which means that there is a significant difference between the pre-assessment and post-assessment caries risk index. This result further proves that the oral health education activities implemented by the community dentistry students were effective in eliciting behavior change on the intake of dietary sugars.

Table 3. *Comparison of Pre-assessment and Post-Assessment Caries Risk of the Daycare Learners*

Level of Caries Risk	Pre-assessment	Post-assessment
Very Low (0-1)	2	5
Low (2-4)	2	18
Moderate (5-7)	29	27
High (8-9)	9	8
Very High (10 & above)	24	8
Total	**66**	**66**
Total Swqeet Score	**523**	**362**
Mean	**8**	**5**

IV. CONCLUSIONS

The pre-assessment oral health status of the preschoolers on caries experience was moderate; oral hygiene performance was fair to good, and caries risk was high. This result indicates that at the start of the dental education program, the preschoolers were in need of functional dental health education for caries prevention, more intensified oral hygiene practice, and lower vulnerability or risk in caries occurrence.

The post-assessment oral health status of the preschoolers on caries experience show a moderate level of caries experience, good level of oral hygiene performance, and moderate caries risk index. These indicate considerable improvement from the pre-assessment to the post-

assessment oral health status of the preschoolers.

The comparison of pre-assessment and post-assessment of oral health status of the preschoolers reflects marked, positive improvement as far as oral health is concerned.

The marked improvement in oral health status from pre-assessment level to post-assessment level attests to the overall effectiveness of the oral health education intervention program conducted by the students of community dentistry of the University of Baguio.

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An inquiry into Medical Laboratory Science students' attitude and motivation in learning Chemistry using Pintrich's Model

by

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Abstract

Research regarding relationships of attitudes and motivation with science achievement consists of studies that have examined these variables from various perspectives. This study made use of descriptive qualitative research design to delve into Medical Laboratory Science students' motivation in learning Analytical Chemistry (ANACHM1). Thematic analysis using Pintrich's model was used to analyze the contents of the students' portfolio and further used to extract students' motivation. Students' reflections were classified based on 1) the contextual factors which include the nature of tasks, reward and goal structures, instructional methods and instructor behavior, 2) the internal factors which included the expectancy, value, and affective components and 3) the motivated behavior which included choice behavior, the level of activity and involvement, and persistence behavior or regulation of effort. The results revealed that among the different components, instructional method, interest, level of activity and persistence were greatly associated with students' motivation to learn ANACHM1. The results further stressed the Pintrich's (1994) model that in the college classroom, there exists "the interactive and reciprocal nature of the relations between students and the classroom context, including the instructor's behavior, in describing and explaining motivation." The researcher recommends another study to quantitatively determine the relationship between attitude, motivation and student achievement in science.

Key words: *Attitude, motivation, academic performance, Pintrich's Model*

I. INTRODUCTION

University teachers usually mention traits such as attitude, motivation, and genuine interest as the most important student characteristic associated with successful studies (Berg, 2005). As defined by Eagly and Chaiken (1993) as cited by Özden (2008), attitude is a "psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor." Attitudes toward science represent "a person's positive or negative response to the enterprise of science. Put another way; they refer specifically to whether a person likes or dislikes science" (Schruba, 2008).

Despite the divergence of the approaches used to study motivation, its definitions are surprisingly uniform. In simple terms, motivation, based on the Latin verb for "move," is the force that makes one do something. It is a process that involves goals, physical or mental activity, and is both instigated and sustained (Kelly, n.d.; Pintrich & Schunk, 1996). In addition to prior knowledge and ability factors, researchers have shown that motivation relates to academic achievement. Motivation is the process by which activities are started, directed, and maintained toward physical and psychological goals. Much of the research on motivation in educational settings involves implicit theories of intelligence, achievement goal orientation, the level of interest a student has in specific academic disciplines, and measures of perceived self-efficacy (Barber, 2010).

The importance of attitude (Dalgety, Coll & Jones, 2003), and of motivation (Covington, 2000), including their relationship to student achievement, have been investigated by many educational researchers (Ozden, 2008; Chattergee, McCann, Peck & Williamson, 2009; Freedman, 1997). According to Berg (2005), students' attitude positions affect motivation, which then affects learning outcomes. Osborne, Simon and Collins (2003) in their review of 20 years of literature reported that many studies found moderately positive correlations between attitudes and achievement.

Attitudes associated with science appear to be affecting student participation in science as a subject and impacting performance in science. An examination of the major goals for science education reveals an agreement of opinion that the development of scientific literacy includes the development of positive attitudes toward science. One of the goals for school science that underlies the National Science Education Standards is to educate students who can "experience the richness and excitement of knowing about and understanding the natural world." This development of positive attitudes toward science is a critical component of science instruction. Therefore it is important that students develop, at an early age, favorable attitudes toward science and that this favorable orientation is maintained (Neathery, 1997).

Research regarding relationships of attitudes with science achievement consists of studies that have examined the attitudes of students from various perspectives. The data from a study involving seventh-grade students revealed a higher correlation between positive attitudes toward science and higher achievement scores for females enrolled in the basic and advanced classes and for males enrolled in general science classes (Neathery, 1997). House (1995) found that student attitudes were better predictors of grade achievement in introductory college chemistry than the American College Test composite scores or number of years of high school mathematics. Although it is possible to have high achievement without having a positive attitude, most would agree with the findings of Beaton, Maring, Mullins, Gonzales, Sith and Kelley (1996) who investigated the measures used in the Third International Mathematics of Science Study, that there is a consistent relationship between attitude and achievement.

At the college level, student interest and attitudes toward science may account for as much as 25% of the variability in academic achievement in the subject. Also, undergraduate science courses foster greater knowledge and awareness among students. Those attitudinal studies involving undergraduate students both majoring in science and those not majoring in science have shown that science majors students have a more positive attitude toward science than non-majors while non-majors exhibit a greater variability in attitude (Schruba, 2008).

Student motivation is a common concern for college level courses. "Students often blame the instructor for not motivating them,

and instructors often attribute poor academic performance in the classroom to the students' lack of motivation." Rather than assigning the whole responsibility to either students or instructors, Pintrich's (1994) integrative model of student academic motivation in the college classroom, emphasizes "the interactive and reciprocal nature of the relations between students and the classroom context, including the instructor's behavior, in describing and explaining motivation" (Bebek, n.d.).

This paper delved into the students' motivation in learning Analytical Chemistry (ANACHM1) based on contextual issues, internal factors, and motivated behavior as identified by Pintrich (1994). Pintrich believed that self-regulatory activities mediated the relations between learners and their environments and influenced learners' achievements (Schunck, 2005).

II. METHODOLOGY

The study made use of descriptive qualitative research design. A total of 15 portfolios were collected containing the reflections on the study habits, efforts, classroom activities and experiences of 125 students enrolled in the three sections of ANACHM1 offered in the School of Natural Sciences during the 1st semester 2014-2015. The contents of the students' portfolio were used to extract their motivation. A portfolio is a purposeful collection of student's work that tells a story of a student's efforts and achievements. It facilitates the development of skills and knowledge needed to construct an understanding of science, technology, and the world. A true student portfolio provides an opportunity and structure for students to document and describe the academic knowledge and reflect on what, how, and why they learn (Kazembe, 2010).

The portfolios were submitted during the midterm and final terms of the semester. Each student was free to select topics or activities to discuss in the portfolio. Thematic analysis using Pintrich's model (1994) was used to analyze the contents of the portfolio. This model served as the researcher's guide in classifying the reflections of the students based on the contextual factors which include the nature of tasks, reward and goal

structures, instructional methods and instructor behavior. Key indicators were included for each sub-category which was further classified into positive and negative views. The internal factors involved beliefs and emotions assumed to mediate between context and behavior. These included the expectancy, value, and affective components. Similarly, key indicators were included for each sub-category which was further classified into positive and negative views. The motivated behavior included choice behavior, the level of activity and involvement, and persistence behavior or regulation of effort. Each category had indicators classified into positive and negative views. The reflections of the students were analyzed for statements that fit the components of Pintrich's model.

The number of portfolios analyzed and the absence of research data validation greatly limited this study. The data used in this study relied solely on the written reflections of the students, and they were not verified using other sources. Further, the students focused on only one teacher.

III. RESULTS AND DISCUSSION

In Pintrich's model three major components are contextual factors, internal factors, and motivated behavior. Contextual factors include features of the learning environment assumed to influence internal factors, such as students' motivational beliefs and emotions. These internal factors together with contextual factors affect the third component, motivated behavior. Pintrich emphasizes that this relation is reciprocal, for instance, student behavior could affect teacher behavior. This integrated model was found to be useful since it describes the dynamic and interacting system of the learning environment, students' motivational beliefs, and their behavior (Berg, 2005).

Contextual regulation factors include students' perceptions of the task and context. Although these perceptions are cognitions, their focus is on the context and not on the individual's self-perceptions. These might include perceptions about classroom features that may help or hinder learning, types of tasks to be completed, grading practices, and classroom climate factors (e.g., helpfulness of the teacher) (Schunck, 2005).

A. Students' Motivations Based on Contextual Issues

Nature of Tasks

The nature of tasks can be examined by looking at the type of tasks an instructor asks students to complete, which have two important components to them: content and product (Pintrich, 1994). An appealing content might foster student interest better and lead them to become more engaged (e.g., asking questions), and a difficult content might lead to lower self-efficacy beliefs regarding understanding the course material hence lead to less motivated behavior (e.g., not maintaining effort when fatigued) (Pintrich, 1994).

Five (5) students viewed ANACHM1 difficult because of the computations involved. They were not interested in Mathematics even as early as basic education. Apparently, they did not like any subjects that dealt with numbers. The difficulty of understanding mathematical computations made them fail their quizzes and examinations, eventually failing in ANACHM1. Students often base their attitude toward a subject upon past exposure to the subject and the student's positive or negative self-ability assessment, which is also based on prior experience (Schruba, 2008). There were students who, despite having difficulties understanding mathematical computations, faced the challenge of complying with the requirements of ANACHM1. They studied and adopted a positive attitude towards the subject.

Reward and Goal Structures

According to Pintrich (1994) the three reward structures (e.g., grading system), the instructors might adopt: independent, cooperative, or competitive structures. Among these, competitive reward structures where the instructor grades student on some curve (limiting the number of higher grades) are found to increase anxiety and lower students' self-efficacy beliefs, which are detrimental to student motivation. The goal structures can also take the forms of being individualistic, cooperative, or competitive based on the way instructor organizes the students to accomplish tasks (Pintrich, 1994).

Analysis of the reflections of the students showed that 12 were aligned to the contextual factors on reward and goal structures. The possibilities to work collaboratively were seen as positive for the ten students, and good results from the different activities were viewed as encouraging for two students. Ten students appreciated the activities performed collaboratively by a pair or by a group because they facilitated faster learning, corrected misconception and developed interpersonal skills. They also had higher scores as a result of collaborative learning. For two students, having a passing grade/score motivated them to continue doing and keeping up the good work. These findings underscore the importance of teamwork and collaborative learning among students. The reflections of the students mirrored the results of the study of Ifamuyiwa and Akinsola (2008) that self and cooperative instructional strategies on senior secondary school students had significant effects on their attitude towards Mathematics. Furthermore, students who are exposed to cooperative learning held positive attitudes toward science. A study which examined the effect of cooperative learning using (Student Teams-Achievement Divisions) STAD as a model indicated a positive attitude toward mathematics (Zakaria & Iksan, 2005).

The attitudes and values of learners are formed through social interaction. This is validated by the students who declared that their perceptions about group activities shifted to the positive, and they also got to know their classmates better. Borich (2004) noted that "most of our attitudes and values are formed by discussing what we know or think with others. We exchange our information and knowledge with that of others who have acquired their knowledge in different ways. This exchange shapes our views and perspectives. Our attitudes and values are among the most important outcomes of schooling. They provide the framework for guiding our actions outside the classroom." Cooperative learning is important in helping learners acquire from the curriculum the basic cooperative attitudes and values they need to think independently inside and outside of the classroom (Ajaja & Eravwoke, 2010). Essentially, then, cooperative learning, represents a shift in educational paradigm from a teacher-centered approach to more student-centered learning in the small group. It creates excellent opportunities for students to engage in problem-solving with the help of their group members (Zakaria & Iksan, 2005).

Instructional Methods

Instructional methods that are used in college classrooms such as lectures, discussions, or recitations can influence student motivation. It is important to understand relative contributions of each instructional method to facilitate student motivation: Discussion methods might foster a greater sense of control on student part regarding pace and content, hence facilitate motivation through increasing students' control beliefs; a stimulating lecture, on the other hand, might facilitate motivation through increasing students' interest in the subject (Pintrich, 1994).

Eleven (11) students discussed that they understood the topics very well because of the strategies employed by the teacher. Accordingly, the topics were discussed well and explained again when needed. These findings imply that the strategies and techniques of the teacher in teaching are indeed vital to effective learning. Further, patience and understanding are virtues appreciated by students in their teacher. The appreciate teachers who patiently explain the lesson until they understood, and teachers who understand the weaknesses of the students. All these students passed ANACHM1.

Instructor Behavior

Research on instructor characteristics has shown relationships between instructor characteristics such as clarity, enthusiasm and rapport and student learning and motivation (Pintrich, 1994). In this study, five (5) students shared that their teacher's personal attribute like being strict, approachable, showing sincere empathy, considerate and cheerful inspired and motivated them to perform better in class and to believe in their abilities. The teachers manifest a caring behavior when they constantly encourage their students to become better students and to excel. This finding affirms the common view that there are personal traits of teachers that put students at ease and make them enjoy learning. One student, on the other hand, shared that he/she was intimidated by the teacher. This could be seen as a negative view because intimidation usually results to fear.

Science curriculum, instructional facilities and resources, teacher characteristics, and student characteristics are important variables to learning processes and outcomes. Although the effect of teacher's characteristics in learning ANACHM1 was not the main focus of this study, it is also interesting to consider the effects of the mentioned variable. Teachers play important roles in bringing about better science education for the students. Teachers' content/pedagogical knowledge and instructional skills about science teaching are important factors influencing teachers' teaching behaviors and students' learning outcomes. Teachers' awareness and understanding of the particular needs of culturally different students, their views/attitudes/beliefs about the nature of science and the goals of multicultural science education are of particular importance to the teaching of science to indigenous students (Anderson & Helms, 2002). Some studies have revealed that the kind of science teaching students experience affects their attitudes toward the subject, but sometimes, even with the use of innovative instructional strategies, student attitudes, and subsequent achievements do not necessarily improve (Schruba, 2008). Berg (2005) had established that instructors' "showing students respect" in their chemistry learning could favorably affect students' attitudes and motivation. Instructor's respect can be conveyed as a genuine interest in student learning, offering clear goals and instructions, expressing acknowledgment that certain tasks can be difficult for students, and being available for students.

B. Students' Motivations Based on Internal Factors

Expectancy Components

The expectancy component of student motivation has been conceptualized in a variety of ways in the motivational literature (e.g., perceived competence, self-efficacy, attributional style, and control beliefs), but the basic construct involves students' beliefs that they can perform the task and that they are responsible for their performance (Pintrich & De Groot, 1990).

Seven (7) students who passed ANACHM1 showed great beliefs about their ability to perform a task and taking responsibility for their performance in class. On the other hand, two students who failed ANACHM1 reflected the opposite. They blame themselves for failing but are hopeful that they will eventually pass. Besides choice, self-efficacy

has been related to the quantity of effort and the willingness to persist at tasks. Individuals with strong efficacy beliefs are more likely to exert effort in the face of difficulty and persist at a task when they have the requisite skills. Individuals who have weaker perceptions of efficacy are likely to be plagued by self-doubts and to give up easily when confronted with difficulties (Pintrich & Schunk, 1996). Oliver and Simpson (1988) revealed that student's self-concept of his ability to perform in science positively correlated with achievement.

Value Components

The value component of student motivation involves students' goals for the task and their beliefs about the importance and interest of the task. Although this component has been conceptualized in a variety of ways (e.g., learning vs. performance goals, intrinsic vs. extrinsic orientation, task value, and intrinsic interest), this motivational component essentially concerns students' reasons for doing a task (UK Essays, 2003; Pintrich & De Groot, 1990).

The eight (8) students who had high grades in ANACHM1 expressed great interest in the subject, and they saw the importance of the subject to their field of specialization. The reflections suggest that students with a motivational orientation involving goals of mastery, learning, and challenge, as well as beliefs that the task is interesting and important, will engage in more metacognitive activity, more cognitive strategy use, and more effective effort management (Pintrich & De Groot, 1990).

Researchers focusing on interest and academic achievement have provided insight into the role interest plays in student motivation for learning. High levels of interest in a discipline should relate to the formation of achievement goal orientations. For instance, those who report an interest in a subject and see the knowledge as personally relevant and useful should be more likely to develop mastery goal orientations than those who do not express an interest in the subject. Researchers have reported the predictive value of student interest on exam performance (Hidi & Renniger, 2006; Hulleman, Durik, Schweigert, & Harackiewicz, 2008; Shen, Chen, & Guan, 2007; Soric & Palekcic, 2009).

Affective Components

The third motivational component concerns students' affective or emotional reactions to the task. Again, there are a variety of affective reactions that might be relevant (e.g., anger, pride, guilt), but in a school learning context, one of the most important seems to be test anxiety (Pintrich & De Groot, 1990).

One student expressed gladness that he gained higher scores in the finals after failing the first half of the semester. Another student shared that he learned from his mistakes and that discipline or values are more important than intellect/knowledge. These students took their disappointments and failures positively. This good disposition is evidence that students are capable of learning other things beyond theoretical knowledge in the classroom.

Another student felt nervous every time tasks about problem solving were given because she was not fond of Math subjects. Although many believe that ability and motivation are the primary predictors of academic performance, some researchers have reported evidence that test anxiety is also related to academic achievement (Seipp, 1991; Zeidner, 1998). Some researchers have demonstrated that the most cognitive measures of anxiety (worry and test irrelevant thoughts) were most predictive of academic performance (McIlroy & Bunting, 2002).

C. Students' Motivations Based on Motivated Behaviors

When asked about student motivation, most people give examples of student behaviors such as "studying effectively" or "asking questions" which are not usually defined as "motivation" per se in current motivation models but rather seen as functions of the motivational beliefs (Pintrich, 1994). These types of student behaviors can also be regarded as student outcomes, as they are the products of their motivational and self-regulatory processes. Motivated behaviors According to Pintrich are students' actual observable behaviors that can be used as indicators of motivation and student achievement. These include choices (class work versus party), level of activity/involvement (asking questions versus sleeping); and persistence/regulation of effort (maintaining effort despite fatigue,

boredom and difficulty level (Adams & Pierce, n.d.)

Choice Behavior

According to the Pintrich Model, choice behavior means looking chemistry as thrilling and interesting subjects and not as fear-provoking subjects (Rodil, 2014). In this study, two students chose to exert more effort to pass the subject despite difficulties encountered in class because they recognized that it is needed for the next chemistry class. This decision was a good sign that the students were indeed serious about learning. On the other hand, three students gave negative views on their choice to enroll the subject. One mentioned that she had no choice because ANACHM1 is a pre-requisite subject while one took up Medical Laboratory Science thinking it purely involved science and no computations. Also, one had second thoughts enrolling the course being away from school for a while. These actions of the students reveal indecision and ignorance which could have effects on their academic performance.

Level of activity and involvement

Nine (9) students showed positive views on their level of activity and involvement in ANACHM1. They employed varying strategies to accomplish the different tasks in class and to ensure that they pass the quizzes and examinations. Reviewing was the primary strategy of the students; however, they did not mention if they engaged in group reviewing or they did individual reviewing. Asking questions is another way of being involved in the lesson, but this is not common among the students. They recognize the importance of asking questions but do not do anything about it. In contrast, 11 students revealed that they failed quizzes. They gave reasons for failing to review well, feeling sleepy in class, forgetting about the quiz, and failing to manage their time well. These reflections of the students reveal the absence of self-regulation and self-discipline on their part. It was good to note, however, that they accept their shortcomings. Persistence Behavior/Regulation of Effort

This type of regulation by students implies their behavioral control. Students' regulation of behavior would start with their planning regarding their time and effort allocation for working on assignments, studying, or preparing for exams. Following these, they would monitor their effectiveness and make adjustments to meet the demands of the tasks they are dealing with. If the task is harder than they expected, students might increase their efforts; however if the task is too difficult, they might decrease effort, procrastinate, or give up. Finally, students might regulate their behavior by help seeking, which involves social interactions with their environment, such as seeking help from other students or their professors (Pintrich & Zusho, 2007). According to the Pintrich Model, persistent behavior means maintaining effort in the face of difficulty, boring tasks and even when fatigued. In study approaches and strategies, students do the variety of techniques to do well in class. Resilient behavior means students' ability to deal effectively with academic setbacks, stress, and study pressure or the ability to succeed and prosper even after hardship (Rodil, 2014).

The reflections of eleven students showed their persistence when encountering demanding tasks. It is clear that such behavior helped them to pass ANACHM1 in the finals. They willingly embraced the challenges associated with the subject and devised ways to combat their weaknesses. Changing their attitude towards the subject was one of the moves the students did.

The students' choice of study strategies and varying levels of engagement affect academic achievement. Researchers have reported that students who use more elaborative learning strategies perform better academically than those who use more surface strategies (Elliot & McGregor, 2001). Among motivation factors, choice behavior has the highest correlation with students' chemistry achievement (Rodil, 2014). It is not questionable why chemistry achievement is often used as indirect evidence of students' motivation (Pintrich and Schunk, 1996). Students with active learning strategies, good choice, persistent and resilient behavior are likely to learn more effectively and gain better score on the tests than those who do not have these characteristics.

IV. CONCLUSIONS

By analyzing the students' portfolio using Pintrich's Model, it is revealed that among the different components, instructional method, interest, level of activity and persistence were greatly associated with students' motivation to learn ANACHM1. The researcher recommends another study to quantitatively determine the relationship between attitudes, motivation and student achievement in science.

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Watershed management in the City of Baguio

by

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Abstract

It was the major purpose of this study to determine the status of the watershed management of Baguio City as perceived by the stakeholders namely; the City Environment and Parks Management Office (CEPMO), the Community Environment and Natural Resources Office Baguio City (CENTRO), The Baguio Water District (BWD), and the officials of the different barangays covering the Busol Watershed, Buyog Watershed, and the Camp 8 Watershed. The City Government's watershed management thrust clutches through the City Council Resolution No. 096 Series of 2010 or known as the "Seven-Point Strategic Action Plan for the Rehabilitation and Protection of Watersheds and Forest Reservations. This descriptive survey study made use of the questionnaire-checklist as its main data gathering tool. In addition, informal interviews were conducted during the data gathering process. The extent of implementation of the City Council Resolution No. 096 Series of 2010 fell under a slightly implemented category. On the extent of participation; the results show that the implementation was slightly participated by the respondents.

Key words: Watershed, management, resolution

BACKGROUND OF THE STUDY

The preservation of environment is here taken as the final aim of environmental philosophy. The basis is the assumed truth that the survival of man is interrelated with that of his environment (Baay, 2002).

The growth of the early Filipino communities along lakeshores, rivers, and springs was due to the availability of fresh water. By the 11th to the 13th centuries, there and Sibalom. The early Tagalogs (or taga-ilog) were riverine people of the Kingdoms of Tundo and Maynila along the river Pasig. The Maranaos, meaning "people who dwell by the lake," had long inhabited the shores of Lanao Lake (Philippine Environment Series, 1986).

In these recent times, according to the Department of Environment and Natural Resources - Protected Areas and Wildlife Bureau (DENR-PAWB), there is only a total of 702,301 hectares of protected watershed forest reserves.

In the City of Baguio, there are three major watersheds that are sources of potable water namely: Busol Watershed; Buyog Watershed; and Camp 8 Watershed.

Busol Watershed

The Busol Watershed Reservation was created under Proclamation No. 15 on April 27, 1922, by then Governor General Leonard Wood. By Presidential Decree 198 (1973) as amended by PD 768 and PD 1479, the watershed is managed by the Baguio Water District (BWD). Busol Watershed has a total land area of 336.58 hectares, geographically situated between 16 degrees 27'00' North latitude and 120 degrees 36'30'' and 120 degrees 37'30 East longitude. About two-thirds of the area or 224.39 hectares is inside La Trinidad and the rest, 112.19 hectares, is inside Baguio City. In the year 1998, the watershed which was estimated to have the full potential of about 919.9 gallons per the minute reportedly discharges only 31.54 percent of this potential. This volume supplies up to twenty percent of Baguio City's total water needs (Biodiversity Study of Busol Watershed, 1998).

Araoas (2011), however, reported that "water production had drastically dwindled from 3,000 gallons per minute to 600-800 gpm. Even the surface water impounding dam built during the pre-war days has been abandoned due to pollution and diminished water retention of the forest." These reported estimates on Busol water generation may vary, but the trend is clear: the volume of water generated from Busol decreases to threatening levels through the years.

Buyog Watershed

Buyog watershed was created under Proclamation no. 93 on November 5, 1992. It has a total land area of 19.93 hectares. There is a total of 11 hectares occupied the residential area with permanent structures. It has a land cover of 8.50 hectares of forested area, and the remaining 4,300 square meters are converted to gardens. Buyog watershed is part of Barangay Upper Pinget and Barangay Lower Pinget. The 8.5 hectares of the forested area are fenced through the combined effort of the Baguio Water District, Department of Public Works and Highways, Baguio Re-greening Movement, and other stakeholders. The 2012 water production data of the Water District shows that Busol watershed produces an average monthly output of 31,200 cubic meters or roughly 2.3% of the water production of the BWD. It is estimated to serve 5,994 in population, and it ranks the third in Baguio City.

Camp 8 Watershed

Camp 8 watershed was created under Proclamation no. 107 on November 19, 1936. It has a total land area of 27.50 hectares. There is a total of 14.5 hectares occupied by residential area. It has a land cover of 9 hectares of forested area and the remaining 4 hectares are converted to gardens. Camp 8 watershed is part of Barangay Sta.Scholastica, Barangay Camp 8, and Barangay Military Cut- Off.

The implementation aspect of Council Resolution 096 Series of 2010 adopts a mixed view of both "Traditional View" and "Policy Perspective View." It is traditional in a way that it specifically demands compliance from certain government agencies as well as non-government organizations as purposely sought for by the policy makers. On the other hand, it has a facet of policy perspective in that it allows flexibility in the

implementation process. It also adheres to present laws and presents itself to uncompromising in its desired action plans.

This lesson has been clearly recognized in the literature for strategic planning. Plans remain sterile without implementation, so there has always been a close connection between planning and execution. As noted, planning is most beneficial where it can help make immediate decisions in the light of future impact. Thus, a final step in any planning process is to arrive at a series of specific actions taken in the near future-the next six months, or the next year or two years-who does what, when and to what effect. These steps, which may detail new policy positions or new organizational processes, will form a new action agenda for the community or the agency (Denhardt & Grubbs, 2003).

This research was conceptualized to evaluate the existing watershed management plan of the local government of Baguio City which is the Seven-Point Strategic Action Plan of 2010. The findings of the study can be used as reference and aid in the provision of timely and appropriate management intervention in our deteriorating watersheds. Specifically, this study aimed to determine the extent of implementation of the City Council Resolution no. 096 series of 2010 and the extent of participation of the respondents in the implementation?

DESIGN AND METHODOLOGY

This study used the descriptive survey method. This method was employed to record, describe, analyze, and interpret data as well as assess the status of watershed management in the City of Baguio. Descriptive survey method can characterize what a given group of people might think or believe in. The ultimate thrust of the design is to quantify or measure the facts obtained, based on a large number of elements drawn from the population (Garcia, 2012).

Population and Locale of the Study

The population of the study covered the current members of the CEPMO of Baguio City as they are the environmental arm of the Local Executive Department; the staff of the CENRO Baguio as they serve as the front line on community environmental and natural resource affairs of the DENR; the staff of the Baguio Water District as they are in charge of the water generating facilities within the watersheds; and barangay officials whose area assignment include the watersheds of Baguio City. The summary of respondents is presented in Table 1.

Table 1. *Summary of Respondents*

Respondents	Location	Number of Respondents
CEPMO	Baguio City Hall	27
CENRO	Pacdal, Baguio City	5
BWD	Engineer's Hill, Baguio City	9
BRGY. OFFICIALS	Brgy. Pacdal	2
	Brgy. Brookspoint	2
	Brgy. East Bayan	2
	Brgy. Ambiong	2
	Brgy. Pinget	2
	Brgy. Sta. Scholastica	2
	Brgy. Camp 8	2
	Brgy. Military Cut-off	2
TOTAL		**57**

However, out of the 57 total respondents, 32 respondents answered or 56.14% of the questionnaires were retrieved. The CEPMO has the lowest turnout of questionnaire retrieval. On the informal interviews conducted, it is conversely revealed that the CEPMO is quite hesitant to answer the questionnaires for reservations that they may be pictured in a negative way due to the perceived non-implementation of the City Council Resolution No. 096 Series of 2010. Another issue is the internal problem within a particular department under the CEPMO that primarily caters to the watersheds of Baguio City.

Locale of the study focused on the three main watersheds that cater to the City of Baguio namely: Busol watershed; Buyog watershed; Camp 8 watershed; and the different barangays that houses these watersheds.

Data Gathering Tool/s

This study gathered data through a survey questionnaire. Survey allow for the study of several variables and can include many respondents and can, therefore, improve the capacity to generalize bigger populations (Garcia, 2012).

A questionnaire made checklist was formulated by the researcher and was used as the principal data-gathering instrument. This questionnaire was used to elicit responses and to gain information that answered the questions of this study. Through informal interviews, the respondents were able to clarify questions, and the researcher was also able to understand the context of which set of questions is being answered.

Extent of Implementation of the City Council Resolution No. 096 Series of 2010 as Perceived by the Respondents

The extent of implementation of the City Council Resolution No. 096 Series of 2010 as perceived by the members of the CEPMO, the members of the CENRO, the staff of BWD, and the barangay officials had an overall mean of 2.00, interpreted as slightly implemented. The apparent reason for this is that the Council Resolution No. 096 Series of 2010 entails a close collaboration and coordination among the respondents in order to effect fruition or even initiate the implementation phase. However, in the case at hand, there is clearly no proper coordination among the respondents. Hence, no agency is taking the lead or even taking the initiative to implement the plan.

Table 2. *Extent of Implementation of the City Council Resolution No. 096 Series of 2010 as Perceived by the Respondents*

Indicator	Weighted Mean	Verbal Interpretation
1. Strengthen the system for watershed monitoring and evaluation of plan performance in the area of watershed management and protection.	1.90	Slightly Implemented
2. Organize an Inter-Agency Task Force on Informal Settlers in Forest Reservations	1.97	Slightly Implemented
3. Fast-Track the Implementation of Engineering Interventions in Critical Watersheds.	2.09	Slightly Implemented
4. Enact and Implement a Comprehensive Environmental Code for Baguio City	1.98	Slightly Implemented
5. Initiate the Organization of Forest Reserve Citizen Action Group.	1.94	Slightly Implemented
6. Strengthen the Baguio Re-greening Movement (BRM) and Expand its Eco Walk Project to Cover as well other Watersheds and Forest Reservations.	2.41	Slightly Implemented
7. Prepare and Implement an Integrated Watershed Management Plan for Each of the Forest Reservations in Baguio City.	1.75	Not Implemented
Overall Mean	**2.0**	**Slightly**
Standard Deviation	**0.65**	**Implemented**

The likely reason is that they are swamped with so many environmental resolutions to implement, and as such, it affected the low implementation perception.

Even the existence of environmental management and monitoring plan seems.to be not a priority. An environmental management plan or strategy is a vital tool that may help improve our watersheds and forest reservations. This is why the non-existence of such might not be good for the environment.

A policy evaluation plan for the appraisal or review of a policy being implemented is very important so as to assess the success or failure of the Council Resolution No. 096 Series of 2010. Without the mechanism of policy evaluation, the government will never learn from its experiences.

This corroborates the study of Balonggaya (1997) where it is concluded that regardless of whether the respondents perceive as effective or not any of the management strategies implemented at Busol watershed, there is a need to continuously improve such management strategies to sustain the protection, conservation, and further development of the watershed.

In the study of Camantiles (2002), the preparation of the Itogon Integrated Watershed Management Project used the policy from the bottom approach similar to the Council Resolution no. 096 series of 2010. However, the implementation results differed as the respondents in the study of Camantiles (2002) noted that the Integrated Watershed Management Plan of Itogon was better off implemented than that of the Integrated Management Plans of Baguio City. The reason is that policy from the bottom the approach presents an effective policy making tool.

Extent of Participation of the Respondents in the Implementation of the City Council Resolution No. 096 Series of 2010

The perceived extent of participation of the respondents in the implementation of the City Council Resolution No. 096 Series of 2010 that had an over- all mean of 2.29 with a standard deviation of 0.69 indicating that in general, respondents slightly participated in the implementation of the resolution. This means that the respondents did not have a serious or a regular participation in the implementation of the program due to the fact that they do not have clear delineated function/duty/task/ contribution to the said program which also would give the impression that there was no specific work plan prepared, disseminated and evaluated.

Table 3. *Extent of Participation of the respondents in the Implementation of the City Council Resolution No. 096 series of 2010*

Indicator	Weighted Mean	Verbal Interpretation
1. Strengthen the system for watershed monitoring and evaluation of plan performance in the area of watershed management and protection.	2.50	Slight Participation
2. Organize an Inter-Agency Task Force on Informal Settlers in Forest Reservations	2.12	Slight Participation
3. Fast-Track the Implementation of Engineering Interventions in Critical Watersheds.	2.23	Slight Participation
4. Enact and Implement a Comprehensive Environmental Code for Baguio City	2.57	Much Participation
5. Initiate the Organization of Forest Reserve Citizen Action Group.	1.96	Slight Participation
6. Strengthen the Baguio Re-greening Movement (BRM) and Expand its Eco Walk Project to Cover as well other Watersheds and Forest Reservations.	2.16	Slight Participation
7. Prepare and Implement an Integrated Watershed Management Plan for Each of the Forest Reservations in Baguio City.	2.11	Slight Participation
Overall Mean	**2.29**	**Slight Participation**
Standard Deviation	**0.69**	

The aspect of organizing an Inter-Agency Task Force on Informal Settlers in Forest Reservations involves several stakeholders. The CEPMO, CENRO, BWD, and barangay officials are the expected agencies to participate in this Inter-Agency Task Force. All the four agencies were not successful in fully participating in this endeavor. There are, however, different mean scores among the four agencies with the CENRO obtaining the highest followed by the BWD, the barangay officials, and lastly, the CEPMO. The CENRO garnered the highest mean score among the respondents probably because the issue at hand is about informal settlers and the respondents find the CENRO to have the prime legal mandate on environment matters.

The barangay official is deemed to have a slight participation as well in the implementation of engineering interventions in critical watersheds with a mean of 1.88. The specific participation identified by a respondent

is the coordination and cooperation that the barangay officials extend to the different concerned agencies concerning the different projects and activities within the watershed area.

It is noted that the BWD has the highest mean score of 2.50 while the barangay has a mean total of 1.99. The reason behind this is that the BWD personnel are the ones who are in direct control of certain structures within the watershed area. Hence, several tangible projects are being employed by the agency while the barangay officials may not have the technical skills to employ engineering intervention within the watersheds. However, it is worthwhile to note that a respondent cited that the barangay officials are recognized for their cooperation and coordination when it comes to watershed projects and activities as they are their area of political jurisdiction.

The rather low participation perception of the stakeholder respondents on engineering intervention in critical areas of the Baguio watershed could have been an issue of low administrative collaboration among the agencies and some issues concerning budget allocations.

Baniaga (1999), stated that the administrative support vis-a-vis provisions for sufficient budget and manpower are the most effective supporting activity to manage the watershed.

The CENRO had the highest mean of 2.93 in the aspect of the preparation of the Code while the barangay officials had the lowest mean at 2.29. This resulted because of the technical nature of the work on the preparation of an environmental code where the highly technical aspect is expected to come from environmental think tanks from the office of the CENRO. The barangay officials may have the political clout over its political jurisdiction, but the necessity of corning up with a comprehensive environmental code lies in the hands of the technical individual on the environment.

The implementation stage of the Environmental Code shows that that the CEPMO has the highest mean at 2.52. Meaning, there is much participation from the agency, while the lowest mean score goes to the

barangay officials at 2.21. Meaning, there is a slight participation on the implementation of the Environmental Code of Baguio. The matter at hand on the Comprehensive Environmental Code of Baguio City is that there is already the presence of such code, but it was still not formally enacted. Hence, the implementation phase would still have to kick off.

Indicator number five presents the organization of Forest Reserve Citizen Action Group. The CEPMO's participation is perceived as the highest followed by the CENRO and barangay officials while the BWD is perceived to be the last in the organization of the Forest Reserve Citizen Action Group.

The relatively low participation of the respondents in organizing the Forest Reserve Citizen Action Group may lead to several implications specifically on the noninterest to accommodate the private sector in the forest and watershed protection. The private sector could play a huge role in the protection and vigilance of our watersheds and forest reservations.

Indicator number six explains the strengthening of the Baguio Regreening Movement and expands its Eco Walk Project to cover as well other watersheds and forest reservations. Specifically, the City Council Resolution No. 096 Series of 2010 asks the coordination of the different concerned agencies to the Baguio Regreening Movement for these projects.

Among the agencies, the highest in this area is the CEPMO, followed by the CENRO, the BWD and lastly the barangay officials. The relatively low participation by the respondents in this area undermines the purpose of duplicating the efforts of the Baguio Regreening Movement at the Busol watershed to also include that of the Buyog watershed and Camp 8 watershed.

Indicator number seven states the preparation and implementation of an Integrated Watershed Management Plan for each of the Forest Reservation in Baguio City. In the participation for the preparation phase of the Integrated Watershed Management Plan for each of the Forest Reservation in Baguio City, the CEPMO has the highest followed by the

CENRO, the barangay officials and lastly the BWD. On the other hand, the participation on the implementation phase of the Integrated Watershed Management Plan for each of the Forest Reservation in Baguio City, the CENRO and the BWD has the highest participation rating followed by the CEPMO and lastly the barangay officials.

Over-all it indicates that there is a relatively unenthusiastic participation on the part of the respondents on the preparation and implementation of an Integrated Watershed Management Plan for each of the Forest Reservation in Baguio City.

In the study of Apil (1998), participation is a vital key in the progress of a watershed management plan. The study stated that man had always and will always be an important factor in watershed management since it is his activities towards nature that contribute greatly to condition of watersheds. All the people in the watershed are valuable assets who can actively and meaningfully participate in the effective management of watershed resources.

CONCLUSION

Policies are made to safeguard a particular interest. However, it is not often that policies are fully implemented. The slight implementation of the City Council Resolution No. 096 series of 2010 will have repercussions to the plight of the watersheds in Baguio City eventually leading to the dwindling of water supply in a city that has since experienced a shortage of water. The slight participation of the people is also an indication of the weak sense of stewardship of the people. With this scenario, there is a possibility that the City of Baguio will be experiencing compounded problems associated with the non-protection of watersheds.

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Text Clan: The emergence of an imagined Community

by

Michael D. Benter

Abstract

The pervading ubiquity of social networking sites has given rise to the reconfiguration of traditional forms and norms of expressions and impressions. Hence, from the gaze of cultural studies, this paper discoursed on how technologically-mediated communications became a medium and a mobile cultural platform in fostering and bolstering one's sense of personhood and social affiliative attachments. The study sought to identify the nature of a text clan regarding its membership/motives in joining, organizational arrangement, interactions, themes of interactions, and consequences of joining. The descriptive qualitative research method was utilized in this study. Key informant interviews, focus group discussions and open—ended semi-structured informal interviews were used to gather information from the participants. There were twenty research informants that agreed to be 'cultural consultants.' Findings revealed that the recurring theme from the limitless flow of their digitized and 'face time' interactions is conventional anomic sentiments (like longing for an emotional attention, support or comfort, as well as suppressed curiosities). Consequently, a text clan became a strand that led to a confluence of people that are undergoing certain emotional issues and setbacks. A text clan has become an imaginative socio-cultural outlet to ventilate certain emotional sentiments. As a result, a text clan became a platform to escape momentarily the day-to-day norms, pressures, and expectations that the informants are experiencing in their real-world socio-cultural milieu.

Key words: *Text clan, personhood, anonic, ludic imagination, clanhood, clanners, imagined communities, anonymity*

I. INTRODUCTION

The phenomenon that was brought about by texting has created "fundamental transformations in the way individuals perceive themselves and their communities, and to the way they construct the world (Ellwood-Clayton, 2006). Akin to the technological breakthroughs in mobile communications is the surfacing of new communicative practices that reshape and reconfigure how people act under certain conditions and within particular socio-cultural spaces.

Mobile communication is recognized as the fastest diffusing medium on the planet ever (Castells, Fernandez-Ardevol, Sey, & Qui, 2006). The Philippines was regarded the "texting capital of the world" during the late 1990's until the early 2000s (Cruz, 2003). The connectedness brought about by a socio-technological phenomenon that set off a decade ago left a digital footprint that is creatively utilized by the young today. Text messaging became the hub of social activity among the Filipino youth that is greatly bolstered by the use of SNSs. Also, the popular breakthrough of the internet at the beginning of the 1990s brought more new communication media into the daily lives of people over the course of a decade than the previous century combined (Helles, 2013).

These developments led to the incipience of text clans ---a group of people, who had come together and formed their social entity. An offshoot of internet chatrooms and online forums, text clans became the gateway for various motivations, intentions, and negotiations of those who create and join this socially constructed community (Crystal, 2009).

From various online sites, text clans are identified as a group of people who have cell phones and SIM (Subscriber Identity Module) numbers belonging to the same network. It is established for all people who love texting ("Textersclan," 2010). Moreover, one blog site stated that text clans are a group of text mates who share the same interest (Tonijr555, 2010).

Although a text clan is a medium to create a forum, the above mentioned definitions of this kind of mobile community are inadequate to provide a sufficient panoramic cultural portrayal of its existence. It can be opined that when the given definition of a text clan as "belonging to the same network" was posted online, it preceded the arrival of unlimited text promos for all networks. Considering the mediatized nature of this kind of mobile community, the researcher attempted to adopt Rheingold's (1993) theorizing of virtual communities as cited in the book of Kozinets (2010) to provide an operational definition and description of a text clan.

The lure of the socio-technological influences and implications of texting as a mobile cultural platform in "creating new forms of sociability" (Silva, 2013) can function and operate in various physical spaces and contexts. Through texting-mediated connectivity, their interactions tend to take place in the contexts of their kinship networks, their community, and various socially connected groups (Wei, 2013).

One Filipino blogger theorized that text clans came about because of the growing need of the gay community whose composition are members of the sad and lonely queers, the looking-for-a-BF, the queens, or my-parents-will-kill-me-if-they-found-out types of text clan members (Tonijr555, 2009). This theory of the Filipino blogger presents a discourse of how digitally-mediated communication can re-shape social ties and cohesion.

In view of the preceding studies, this phenomenon of text clan emergence was undertaken in the City of Pines, Baguio City. It presents the nature of a text clan regarding membership/motives in joining, organizational arrangement, interactions, themes of text interactions, and consequences of joining.

II. METHODOLOGY

There were 20 research informants that agreed to participate in this study. These research informants are called 'cultural consultants' -a term that refers to individuals an ethnographer gets to know in the field, the people who teach him or about their culture, providing the emic perspective (Kottak, 2010). The primary criterion for the consideration of

their inclusion and contributions in the study was that they are or were a member of a text clan or text clans for a considerable amount of time.

Open-ended and semi-structured questions served as the interview guide for the three-part series of the interview process. Their responses were noted down (ad verbatim transcriptions) during the duration of the three-part informal interview. Moreover, key informants from the communications media such as bloggers were sought to come up with sufficient perspectives needed in the analysis of the data. A personality from one station of the airwaves and the management of one Cable Company in the region was also interviewed. Personnel from the local government agencies like the City Social Welfare and Development Center (CSWD) and the Women and Children's Protection Desk (WCPD) of the Baguio City Police Office (BCPO) were also interviewed.

The main data came from field research. An important component of the field notes derived from the participant-observational approach was the three-part series of interviews with the research informants. These are an initial interview, a follow-up interview, and focus group discussions. The initial interview was undertaken in a face-to-face manner. This interview was done to introduce to the research informants the purpose and procedures of the conduct of the study. The follow-up interview was in a digitally-mediated interaction. Hence, it took place in diverse settings. With the research informant's prerogative and availability, the follow-up interview was either in the form of text messaging, chat or video chat through the online social networking site Facebook. Focus group discussions emanated from the researcher's participation in the in-person group's social interactions and their social events or activities.

The data that was collated were treated by way of a three-pronged process: coding, noting, and theorizing. Coding involves the breaking down of data into units which then are grouped according to their characteristics. It is rather like a filing system (Meethan, 2008). Affixing codes also allowed the data and personal information from the research informants to be anonymized. Noting is a process in making reflections on the data or other remarks noted in the margins of the data (Kozinets, 2010). This lead to the researcher's theorizing, a process of confronting generalizations gathered

from the data with a formalized body of knowledge that uses constructs or theories (Kozinets, 2010).

III. RESULTS AND DISCUSSIONS

The Nature of Text Clans

Membership/Motives in Joining

It can be posited that the membership identification of a clanmate will greatly predicate the various motive/s on why they join a specific text clan. The reason/s that they were motivated to join is the central dimension of their level of involvement and participation. Such reason is the basis of a particular clanmate if he or she is going to pursue, nourish social ties and value or cherish his/her membership in this social entity. Subsequently, if he or she finds that the expectation is not realized, a clanmate's relationship to this imagined community will be short-lived and distanced. If a member finds that a clan is likely to promote his or her personal motives, the deeper and more meaningful will be his or her interest level to participate in the group's activities. A seasonal clanmate is a type of member that maintains a passing interest in the participation of the communicative practices of a clan. Thus, he or she maintains a shallow affiliative relationship with other members of the group. This case implies that he or she is acquainted with the members of the group and is familiar with the group's interactional format and the dynamics of a clan, but interacts irregularly. He or she just comes and goes as he or she pleases. Thus, he or she superficially establishes bonds or ties with other members of the group because he or she reconnects once in a while. This type of clanmate lasts only for a short duration of time.

Regulars maintain an intimate self-identification with the group. They strive to be fully invested and dedicated to the cause of their clan and in the group's interactive dynamics like GMs and GEBs.

A superficial encounter with these clanmates will give an impression to an outsider that there is nothing culturally significant or contextually relevant from joining a text clan. At surface value, one can see the levity

of the essence of why text clans exist and why they are inclined or lured to join. Considering the "truthiness" (the truth from their perspective) of why they join, one can infer that it is just a group of young people who wants to have an active social life. But uncovering the divergent voices of the informants would signify that their "clan-ness" is closely intertwined with their attempt to create a perception of cultural affinity that will bolster the way they define and re-define their sense of self-identification. Ileto (1979) and Rafael (1988) as cited in the work of Manalansan (2003) posited that these kinds of self-making meaning processes are primarily about locating oneself in a circle of social relationships and obligations. This implies that their membership gives them a platform to meet people "like us." Subsequently, it gives them an avenue to foster an affiliative relationship to meet people "like them." Only by immersing oneself in the microcosm of social relations and interactions can one be able to locate himself or herself among or between other members of their clan. For them, it is a form of obligation to be regularly connected to their affiliated clan in their social life.

The single most important reason certain individuals are lured and motivated to take part in this type of community is anonymity. This reason paves the way for certain mobile phone users to have an assumed or multiple social identities in interacting in a digitized space. With anonymity, their behaviors reveal various strategies of self-presentation negotiations so that they can be seen in a favorable light by the people in their group (Goffman, 1959). For example, if a clan sets an age limit that only 21 years old and below can be a member, some individuals will present a persona as a teenager even though he is in his late adolescence. This socio-technological affordance leads some cell phone users to live "a secret second life in the back alleys of the virtual world" (Kozinets, 2010). This implies that their membership allows them to take part in the space of digitized interaction of a text clan that provides them an opportunity for liberating insecurities and inhibitions. As a consequence, this allowed them 'identity flexibility' and 'identity experimentation' (Kozinets, 2010). Interactions

The text clans' interactive platform is predominantly texting unlimited general messages. It became a vista for clanmates to synchronize their social activities, resulting in real socio-cultural experiences that stem from the group's interactional format. Interactions then stem from digitized mediums to 'face time' interactions among the participants of this community.

Crumlish (2004), as cited in the work of Kozinets (2010), explained that online and face-to-face interactions are essential in the formation of a sense of a community. His postulations can be contextualized in the communicative dynamics of a text clan.

Text clans in the City of Pines have three kinds of 'face time' interactions. These are 1) GEB- Group Eye Ball; 2) MEB- Mini Eye Ball; 3) SEB- Sex Eye Ball. It does not purport that in every text clan in Baguio City, these three kinds are being practiced.

The word 'eyeball' is a colloquial term for face-to-face interactions. It disproves the notion that in the original formations in which online communities manifested, participants invariably were assumed to maintain their anonymity (Kozinets, 2010) vigilantly.

Called as Group Eye Ball, GEB is also be termed as Grand Eye Ball. Grand Eye Balls happen if two or more text clans meet and greet in person. But in the City of Pines, GEBs do not happen too often because of differences in personality traits, competition, and envy. As a rule, GEB should happen at least once a week, probably on the weekend, to accommodate members who are working on weekdays and have a rest day on Saturdays and Sundays.

The members usually meet and hold their programs (like an open forum and a showcase of talents like dancing and singing) in public places. One text clan's GEB, which the researcher attended, started their meeting by attending the afternoon church mass at Baguio Cathedral. Their membership was a concoction of various demography in which the tweens and teens comprise the majority of the clanmates. They were distracted as they intermittently fiddle and snoop with their mobile phones. After the mass, they once again convened outside the church and conducted a little bit of "housekeeping." Their secretary checked their attendance

after which the founder reminded everybody of their clan's rules and regulations. The founder also facilitated a brief open forum about how they can improve their cohesion.

Drinking alcoholic beverages is a part of the lifestyle of the clanmates when they spend their GEB in a recreational/entertainment establishment. Moreover, the researcher also noticed the same observation by Austero (2009) who attended a GEB somewhere in the National Capital Region (NCR) that, "intimacy was very much in the air and that it was very clear that for most of the people in that place, the evening would end in bed." This observation was very common to some GEBs which the researcher attended. Later, their GEBs shifted from gatherings in public places to private gatherings. This shift is mainly attributed to three factors: 1) They were villainized and implicated in gang-related incidents; 2) Issues about curfew; 3) Issues about monetary expenditures during GEBs.

The clanmates' public or private 'face time' gatherings are an avenue in which their personal lived experiences and sentiments are manifested. This is a spatial symbolism that represents the affirmation of their existence (Cela, 1994), an act of verifying their relevance that they presently exist. It motivates them to imagine and re-imagine a space away from the particular circumstances in the immediate social circle they belong. These performances in their socio-cultural gatherings evoke a sense of embedded communality. This is in the context that most informants and clanmates that the researcher met and had the opportunity to converse with are undergoing certain emotional issues from their immediate family. Most of them come from broken or dysfunctional families ---parents are separated, raised by a single parent (commonly by a single mom), or have 'daddy issues' (the father is a drunkard, unemployed or has fidelity concerns). The second kind of 'face time' interaction is MEB ---Mini Eye Ball. It can also be considered as a mini GEB. This usually transpires because of two reasons. First, if there are rifts among some of the clanmates, this mini-gathering can be a venue to patch things together. Leaders or officers are present to check the development of unifying concerned members. Second, and the most common reason MEB transpires, is factionalism ---the formation of a group of their group. Specific clanmates who consider themselves "cliques" coordinate their own 'eye ball' without the knowledge of the officers (particularly the founder and the co-founder) and the rest of the members. This is against one of the agreed principles of their communicative dynamics, "Huwag mamimili ng mga ka-clan na kakausapin." (Do not choose clanmates to talk with). This is in the context that they should GM everybody and anybody who is a member of their community. This principle is also true to their 'eye balls.' Factions break their cohesion because it can lead one to leave the group and start their clan. This is the main reason the longevity of text clans in Baguio City is only short-lived.

The third kind of 'face time' interaction is SEB ---Sex Eye Ball. This transpires to a very selected few members. The reasons vary on why a certain clanmate engages in sexual acts.

The risky sexual behaviors among some of the participants of this community can be argued to what Pittman (2012) uncovered that, "Sexting appears to be a reflection or an indication of actual sexual behavior and that what they're doing in their offline lives is what they're doing in their online lives." This implies that there is a direct link between sexting and teen pre-marital sex.

Findings in this study showed that from the 20 informants who were asked if they performed a SOT and SOP, 11 of them admitted being engaged in such digitized perversions. Their reasons vary on why they performed a SOT and SOP. Other informants said that they were titillated to perform these acts out of curiosity because sex commonly alludes directly and indirectly in their GM's. From the eleven informants who performed these digitized perversions, four of them admitted that they engaged in actual sex as a direct result of doing SOT and SOP. Their common reason is that they were enticed to do such things to find out what would be the actual feeling or sensations they are going to experience if they will engage in it.

Findings show that this social group has become a forum for suppressed emotions like sexual curiosities spawning from their perverted activities. From the younger informants (i.e. teens) these imagined (SOT and SOP) and actual (SEB) perversions are their platforms to test sexual curiosities.

Themes of Text Interactions

The liminal experience of SMS interactions allows the members of this community to talk about anything and everything under the sun. Liminality is a condition from which people see other versions of themselves (Strathern, 1995). The aspect of anonymity in this communicative dynamics greatly bolsters this kind of condition.

These factors of liminality and anonymity allow the participants of this community a platform for "an opportunity for self-expression or empowerment" (Meikle & Young, 2012). Moreover, Crystal (2010) observed that the ramifications of anonymity in a digitally mediated communication had been greatly amplified. This opportunity has found its medium in the digitized communications of a text clan. Because there are types of people who want their voices to be heard and their life stories to be shared, being a clanmate satisfies these kinds of wanting.

Because there is no moderator or mediator in their digitized interaction, a clanmate can send a GM with whatever topic he or she wants to convey. Moreover, having no moderator allows their unlimited general text messaging as a medium for an unfiltered mode of interaction. The common superficial themes that emanate from this mediatized dynamics are poking and jeering fun with one another, flirting, gossiping, and ranting about the things that did not go well their way and lastly, texting the mundane aspects of their lives. For example, texting a GM, "JGH pipz." (Just got home people). Informants conveyed that these were the things that they commonly talked about because a text clan is meant really "just for fun."

In examining the substance of their GM's, the researcher uncovered another lingering theme of their text interactions that is embedded in their imagined spatial interaction. GMs have become their platform to ventilate genuine conventional sentiments. According to Tonijr555 (2010), "Text clans also serve as a substitute for diary since members can send messages to everyone about how they feel…."

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Consequences in Joining

There were incidents that the informants shared that some of the participants of their community got "catfished" as a consequence of joining a clan. Catfish is a term minted to a person who assumes somebody else's identity. The usage of this word has become endemic among netizens. This came from a documentary film entitled Catfish.

Aside from the probability of being victimized by a potential catfish, the monetary expenses are also considered as a result of being in this community. A member is obligated to always check-in with other members of the group by sending a GM. This requires that they should always have a load to register for unlimited text. To scrimp money for load, some tweens and teens shared that they would rather walk going home instead of riding a passenger jeep. Others shared that they would usually bring food from their house to eat during lunch break instead of buying food from their school canteen. The most imposing consequence in joining a text clan is the totality on how they view their self. The emancipatory potentials of creating, re-creating and re-imagining in a mediatized platform with its essential features such as anonymity and liminality empowered them to voice out certain fragments of their conventional sentiments.

The causal relations that are inflected in their participation define and re-define their self-identification and their definition of reality that they are engulfed. Their different realities in different ways and the meanings that they attach to it are "purposive series of acts that build and create spaces for negotiating location and positionality (Manalansan, 2003)." This signifies the social constructions of a clanmate's imagination to locate or position and creates certain spaces for a platform of his or her voice that is deeply rooted on how he or her self-identifies with certain meanings that he or she personifies.

IV. CONCLUSION

Text clans are social aggregates that interact in a digitally-mediated communication emerging through the usage of unlimited text messaging. These are composed of enough people optimizing the group's interactional format, by way of repetitive, continuous interaction and their exposure over a period to establish a sense of community. These are a group that is open to public discussion and were created and re-created to address a specific human need: mainly, to bolster one's self-identification and to gain social attachments from the group's collective experiences.

From the context of the informants, a text clan has become an imagined playful space for identity experimentation and bolstering one's self-identification. Moreover, a text clan has become an imaginative socio-cultural outlet to ventilate certain anomic sentiments like emotional attention and support, as well as suppressed curiosities. Thus, a text clan has become an avenue to escape momentarily, shake off, or have a release from the ethos of mainstream society's norms, obligations, pressures, and expectations.

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A comparison of the musical structure and musical instruments of Ifugao and Palawan

by

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*"For no matter what style of music may interest you -
all styles of music utilized the same basic elements,
and all musical sound has the same characteristics."*

(Duckworth,2007)

The music of Ifugao and Palawan may differ in texts but share the same elements. The music of Ifugao is authentic and has no touch of foreign influences. According to Madarang (1991), the Ifugaos do not have an idea of how old their music is, but they are certain that it originated from their ancestors. The topographical and archaic terms used in the lyrics of their songs are indicative of the antiquity of their music.

The Ifugaos preserved the inherent quality of their music since they were not subjugated by the colonizers. Palawan music, on the other hand, is inspired by Spanish influence - from the textual content to its basic elements.

Rhythm

Rhythm is the flow of music through time (Kamien, 2002). It is the beat and therefore the life of music. Without the rhythm, music is impossible. Music cannot exist without the rhythm, but the rhythm can exist without the music. As stated by Nelson (2006) *"we can recognize many pieces just by their rhythmic patterns alone, and it follows that rhythm is an important element in making music memorable. "*

Rhythm makes up the "skeletal system" of music structure. It serves as the heartbeat and the lifeblood of music. Kamien (2002) says that *"rhythm is basic to life. We see it in the cycle of day and night, the four*

seasons, and the rise and fall of tides. We find it in our heartbeat, and we feel it when we breathe and walk. The essence of rhythm is a recurring pattern of tension and release or expectation or fulfillment."

The rhythm of Palawan music is stable and is usually in duple, triple and quadruple. *"Toting," "Ploning," "Napopongao Ako"* are examples of quadruple (4/4); *"Nagpamasiar Ako,"* is in duple (2/4) while *"Kingking," "Ang Saya Saya,"* and *"Layang Pasiak"* are all in triple rhythm. If not in quadruple, most of Palawan folk songs are in triple rhythm. They are characterized by their gracefulness otherwise known as Waltz. The dance-like music makes Palawan folksongs admirable and easy to learn. The counting is 1, 2, 3 in a measure and usually, has the emphasis on the down beat equivalent to sway balance and Mazurka step in the dance. Duple counts 1,2 in a measure and quadruple counts 1,2,3,4 in a measure.

Aside from Palawan and Ifugao folk songs, other songs in triple rhythm are *"Bahay Kubo," "Paru-parong Bukid," "Manang Biday," "Atin Cu Pung Singsing," "Rosas pandan," "Sarung Bangui"* and *"Lawiswis kawayan."* Other songs in duple meter are *"Leron-leron sinta," "Magtanim ay 'di biro"* and *"Pamulinawen." Quadruple rhythm songs are "Bomala ka ay Bowan,"* the original version of *"Lupang Hinirang"* and *"Ang Sakayan ni Rufino."*

Ifugao folk songs are usually in simple Duple (2/4), Quadruple (4/4) and some in triple (3/4) while others are non-metric due to their chant-like nature. Typically, when one listens to Ifugao folk songs, they all sound like duple and quadruple. Triple rhythm is not obviously heard even if the song is in the triple time since there is a strong emphasis on the syllabications. Folksongs from Palawan are recited smoothly to make a light emphasis on the waltz rhythm of the triple, duple and quadruple.

Most of Ifugao melodies are sung in common time signatures such as 2/4, 3/4, and 4/4. The chants, some ballads, and satires are non-metric. The songs are chanted or sung in slow, moderate or fast tempo (Madarang, 1991). While in Kalinga, their famous ullalim is characterized by its almost uniform high pitch and its allegro (fast) tempo or rhythm (Lambrecht, 1957).

Palawan and Ifugao folk songs use the common and simple time but differ in the emphasis on the syllabications.

Form

Form is the organization of musical elements in time (Kamien, 2002). The form becomes clearer as awareness and recall of these parts are developed through repeated listening. Composers have traditionally organized musical ideas by using certain forms or patterns, and listeners can respond more fully when they recognize this pattern. There are techniques that create musical forms. These are repetition, contrast, and variation. The two most common forms are the three-part form called ternary (A B A) and the two-part form called binary (A B).

Most of Ifugao and Palawan folk songs are in binary if not in strophic form. Strophic form means repeating the same music for each stanza of the poem, while binary uses different melody in each stanza. In the case of Ifugao songs, introductory verses or introductory refrains do not affect the form.

Examples of Palawan folksongs in strophic are *"Layang Pasiak"* and *"Taringting"*.

Layang pasiak	Taringting
Ako ay mi layang Pasiak	Taringting paglayog don
Panamban tamban mi pamalanak	Ay kaw tataeban don
Porabil ako mapilak	Pagsot sa liyang liyang
Kung naga sulong don ngani	Sa batong malinanglinang
ang dagat	

Ifugao Indigenous songs in strophic forms are *"Ed-eddoy"* and *"Tudde."*

Ed-eddoy

Ed-eddoy	Page day nalagita'-a'-an
Hi bugan 'nak dammita'-a'-an	Babuy day nabakgita'-a'-an
Dola da'd namuldita'-a'-an	Manuk day napaghinga'-a'-an
Bale day nahulita'-a'-an	Ed-eddo'-o'-oy

Tudde

Tudde mi'n mapuy-uk	Ot ihakyat mi boble
Tudde min matatyunuk	Ikalladang mi boble
An kon mi laninglingnon	Ot kon mi mi anam-amhon
Kon mi anap-appadon	Kon mi hanughuggudon
Ya kina mi on tektek	Ot kon mi puntolgayon
Y a kon ot bokon tektek	Kon mi banalbalkawan
Kon ot bokon hamuti	Ya dayyuna'y kitnodan
Te kon ot bo damdamayyon	Bayyu na'y kitin-udan

An example of Palawan folk song in binary form is *"Ploning."* The song has two different parts. The first part that can be classified as music A is the line: *"Ploning nga laning maleban, ang gegma mo ploning nga ing kandadoan."* The second part that can be classified as music B is the part: *"Lisensiya ko Ploning kung sarang togotan, mapamasyar ako sa marayeng logar."* Each stanza is composed of two different tunes which make the music binary.

Ploning

Ploning nga labing maleban	Lisensya ko Ploning
Ang gegma mo Ploning	Kung sarang togotan
Nga ing kandadoan	Mapamasyar ako sa marayeng Logar

Harmony

Harmony refers to the way chords are constructed and how they follow each other (Kamien, 2002). When folk singers accompany their singing with a guitar, they add support, depth and richness to the melody. This is called *"harmonizing."*

It is very seldom that Ifugao indigenous songs are harmonized. An example is *Ed-deddoy,* a folk song that has been sung by choirs all over the Philippines. All Ifugao indigenous songs are monophonic or songs sung in single melodic line. These monophonic songs are usually in a pentatonic scale whose notes are only do, re, mi, sol, and la. Most Ifugao indigenous songs are originally monophonic and have no instrumental accompaniments.

However, with the fast changing world of music, arrangers might attempt to alter the Ifugao songs in the future through the use of hummings and additional melodic lines. The music of Ifugao is based on five-tone scale and four tone scale which is difficult to harmonize. When Ifugao songs are harmonized, the sound will be changed into a western sound and authenticity will be altered if not totally eradicated.

Palawan folk songs, on the contrary, are homophonic, a single melodic line accompanied by a musical instrument. They are ideal for harmonization because of their European diatonic nature. They have complete scale and are easy to harmonize. Palawan folk songs that are harmonized are soothing to the ears and have colorful texture. The most common examples of these are *Ploning* and *Cuyo Balitaw.*

Melody

Melody is the element which is the easiest to remember in the structure of music. It is the succession of tones having different pitches and durations. Melody is the result of the organization of tones that ends with the so-called music. It creates emotion depending on its structure as to major or minor. For instance, music played in a major key is funky and cheerful; played in minor keys, music tends to be melancholic and dreamy; music played in the major seventh chords is tense and nervy. In other words, music is emotional.

The melodic lines of Palawan folk songs are beautiful. Its progression is in disjunct (skip-wise) and conjunct (stepwise). Most Palawan folk songs are inspired by European tune that is based on diatonic scale, a seven tone scale and some accidentals on the notes. The melodic direction is in upward and downward movements. According to Kamien (2002), a melody begins, moves, and ends; it has direction, shape, and continuity. The up-and-down movement of its pitches conveys tension and release, expectation and arrival. This is the melodic curve or line.

Static melody is not commonly observed in Palawan folk songs and register is moderate. Anybody can sing it in different keys. Its range is from narrow to wide and depends on the interpreter. Palawan folk songs are flexible regarding range.

The melody of Ifugao indigenous songs have no signs of foreign influences and are built mostly on a five-tone scale. The melodies progress in disjunct, repeated movements, and conjunct. Their direction is upward and downward. Some static melodic line is commonly mixed in chants and non-metric songs. The melody of Ifugao indigenous songs are narrow in range and contain no embellishments (Madarang 1991). Most Ifugao melodies are best characterized by the ties and slurs.

Similarities of Ifugao and Palawan folk songs are observed in their movements (upward and downward) or direction. Registers are both flexible and can be sung in the desired pitch. However, the pitch can be changed according to one's comfort.

Texture

Musical texture refers to how many different layers of sounds are heard at once, whether they are harmony or melody, and how they are related to each other (Kamien, 2002).

The typical Palawan folk songs are homophonic. A well-rounded voice for an adult is desirable for slow moving songs like *Ploning.* Folksongs for children are sung freely with the accompaniment of a guitar. As to basic textures, it depends on how it is being harmonized. It can be sung in homophonic or in a polyphonic manner. Many of Palawan folk songs have been arranged in two, three and four voices and are sung by choirs. They can be of thin or thick sounds and can be interpreted in the heavy or light way. On the other hand, Ifugao folk songs are sung a capella or no accompaniment and are, therefore, classified as monophonic or single melodic line without accompaniment.

Lyrics or textual interpretation of melody, on the other hand, is another element that is the basis of others in understanding the nature of music. Lyrics mean more than what it is because of the added emotion in the melody. Although the melody is expressive, lyrics define the specific emotion being conveyed in music.

Texts in Palawan folk songs are borrowed terms from Spanish, and a mixture of aborigine and Visayan languages. Some Spanish songs have

been transcribed into Cuyuno language (Fernandez, 1975). Ploning is a Cuyuno folksong that uses some Spanish terms such as *"solamente"* which means, "the only," *"requerdo"* which means "memory" or "souvenir" and *"dinero"* which means "wealth"

Ploning also uses some borrowed Visayan terms like "gegma" which originally came from the word *"gogma"* or *"gugma"* of the Visayans which means "love." Other Visayan terms are also used in the song like *"togotan"* (to allow"), *"pamasyar"* (to stroll), and "bulawan" *(wealth).*

Ifugao indigenous *s*ongs use archaic, mannerism, and repeated words to express themselves in songs. There are no borrowed terms used in the texts of Ifugao songs as far as history is concerned. In lyric composition (Ifugao Indigenous music), archaic terms, corrupted words, participial-like duplication, synonymous, and consonant words are used (Madarang, 1991).

It is through the lyrics of the songs that the composer and the singer express themselves. The lyrics are very important because they capture the very essence of what is needed to be expressed. It is the lyrics that captivate the mind of the singer and the listener. It is here where the dominant themes of the songs are embedded. It is in this aspect where Ifugao and Palawan songs are similar. Both have attractive lyrics.

Musical Instrument of Ifugao

The use of musical instruments and even the kinds of musical instruments can add to the beauty of music. Musical instrument refers to any mechanism other than the voice that produces musical sounds (Kamien, 2002). Musical instruments are important in enhancing performance and to help the singer or the performer reach the desirable quality performance. There are few musical instruments that were made and introduced by the Ifugaos. Some of these are the *"Bangibang," "Bikkung"* or *"Fi-ung,"* *"Palipal"* and *Lib-bit.* Other musical instruments such as gangsa, tungali or the nose flute, bunkaka or bamboo buzzer are borrowed from the neighboring provinces of Kalinga and Mt. Province. Each of the Ifugao musical instruments has its particular use depending on the occasion. The musical instruments are used to express the people's culture and are not

intended to accompany a song. Playing of musical instruments is usually accompanied with a dance which makes the message clearer. According to Madarang (1991), playing musical instruments is only used as a medium of expression rather than an accompaniment to what is vocally expressed. This means that playing musical instruments is simply a definitive action of Ifugao's culture.

Bangibang

Bangibang, also known as *"Pattong,"* is the most popular musical instrument among the Ifugaos. It is played as an ensemble. It is made out of old seasoned hardwood. It has an average of 4 inches of its widest part in the middle and around 2-3 inches thick. Holes are bored through the middle portion where the handle is tied. It is beaten on the ends (either left or right) using a piece of wood.   It is classified as idiophone.

According to Madarang (1991), *bangibang* is most commonly used during the performance of the ritual for the burial of a murdered person or Him-ung. In this ritual, the *bangibang* is strictly played by men-warriors (since men are usually the people capable of revenge against the enemy). It is used as part of the ceremony of him-ung. The *bangibang* instrument is purely for ritual purposes, especially to create a peculiar sound that incites a feeling of revenge for murdered person. The beating of *bangibang* creates a sound which is accompanied by a dance enacting how they would attack and kill the enemy with their spears.

Another use of *bangibang* is the *"Dog-al"* or driving the pests from the fields. The sound produced is used to scare or create fear among the rats infesting the rice fields.

Gangsa/Gangha

According to Madarang (1991), *Gangsa* or *Gangha* in Ifugao is a flat gong of the percussion type of musical instrument. *Gangha* can be made of bronze *(Giniling)* or Brass *(Paliha).*

Tallektek

Tallektek is a two-pieces iron rod striking each other producing a thin, bright sound. Tallektek is 6-8 inches long. It is played together with the group of *gangha.*

Kulibaw/Ulibaw/Kubing/Bikkung or Fi-ung

Bikkung or the Jew's harp is made out of a thin piece of bamboo strips that measures half centimeter. It measures around 4 inches long, and around half an inch in width. It is flexible. To play the *Bik-kung,* it should be placed between the lips of the player and striken by either the right or left finger to produce a sonorous sound. It is an idiophone because it has to be beaten using the finger to produce the sound (Madarang, 1991).

Bikkung can be used to entertain or can be played during night time as a means of courting. It is a wind instrument because the sound is produced by the vibration of air inside the mouth of the player.

Lib-bit

Lib-bit is a wooden drum. It is a membranophone and perhaps the most popular drum instrument among Ifugaos. It is made out of a hollow wood covered with animal skin particularly the cow-skin. *Lib-bit* comes in different sizes and design (Madarang, 1991). The wood is applied with grease to protect it from termites. It has etching designs on its body. It can be played with the use of the palms or a pair of sticks.   The small *lib-bit* has a string.   It can be carried on a shoulder like a handbag while playing using the hands.

Bamboo Clapper/Palipal

Palipal is a ritual clapper, made from the matured hollow bamboo tube. It is around 25 inches long and 1-1.5 inches in diameter. It has an open 6-7 inches elongated hole on the middle part on both sides. The other half is separated by a fissure to allow the bamboo to flex and produce a clap-like sound. According to Dulawan:

> *"The palipal is exclusively used during the harvest ritual. However, instead of the gongs, the clapper is also used in the burial of an ordinary Ifugao".*

Musical instruments play an important role in identifying the identity of every indigenous group in the country. This attests to what Rivadelo(1994) said that instruments served as the people's memorable summary of their culture.

When played, musical instruments express deep feelings. Playing musical instrument is not only done for the sake of producing music. It is an activity that develops human values and provides aesthetic necessity (Rivadelo, 1994).

Ifugao musical instruments play a very important role in their ritual ceremonies. They are not used to accompany a song to express their feelings. An example is the bikkung which is played during courtship and the bangibang percussion's sounds invite a feeling of revenge.

Both the musical instruments of Ifugao and Palawan are made according to the materials available in the place except for some that are readily purchased like the violin. The rest of these musical instruments are made manually using indigenous materials such as animal skin, bamboo, wood, and metal. Mostly, the materials used in the making of the musical instruments depend on what can be found in their surroundings.

Musical Instruments of Palawan

Bass drum

Bass drum is similar to the normal bass drum in size. The body is made of the hollowed wood and covered with animal skin. It has strings tied on the sides to hold both ends of the rim side. Bajo or the bass drum creates a deep, low, and sonorous sound which carries the rhythm of the Tipanu band. Nowadays, it is altered with the use of a modern bass drum made from artificial materials such as fiber materials.

Redoblante

This is a small drum equivalent to that of the snare drum but has a different sound. The redoblante, a membranophone is made of wood and covered with animal skin. The sound is thick, rich and deep. Strings are tied on the rim side of the drum to support both ends. With the bajo, redoblante is played with the rhythm of the band. Though readily available in music stores, some make it on their own and would use hollow wood and animal skin because these materials are available in the place. In case a typical redoblante is not available, a snare drum can replace it.

Batingting

Batingting or triangle is one of the instruments used in Tipanu band and is also commonly used for brass band and orchestra. Classified as an idiophone or solid percussion, it is made up of solid iron in a triangular shape. It is played to enhance the sound of the band and strengthen the rhythm. *Batingting* is not manufactured in the province. It is purchased from the music stores. In instances that *Batingting* is not available, iron is used instead as a substitute.

Tipanu

The *Tipanu* is classified as an aerophone. It is a woodwind instrument made of bamboo with six holes and measures around 8-12 inches long. It is played by blowing through the use of lips and used to play the melody in a Tipanu band. *Tipanu* is popular particularly in Cuyo due to the abundance of materials like bamboos that are available in any part of the province. However, only a few bother to make one because people prefer to use the modern musical instrument.

Violin

The violin is a chordophone that consists of four strings played through the use of the bow. However, it can also be plucked with the use of the fingers called "pizzicato." It is the musical instrument nearest to the human voice. It helps the *Tipanu* play the melody. The violin is not manufactured in the province of Palawan. However, it is readily available from the music stores.

Guitar

A guitar is another chordophone that consists of six strings. The strings can produce sounds either by plucking or strumming thus it is usually played using a plectrum or "pick" and the fingers. The guitar is a favorite musical instrument of all times. Historically, it was the first

instrument introduced by the Spaniards to the Filipinos. It became the most popular musical instrument among the Filipinos especially during social gatherings such as fiestas and other celebrations. The guitar is used during "harana" when a group of men expresses their love to women through songs.

The musical instruments of Palawan are made from raw materials available in bamboo, animal skin, and wood. Most of these musical instruments were influences of the Spaniards. The Tipanu is the most popular musical instrument in the province of Palawan that has no manifestation of any foreign influence.

To a great extent, most Ifugao and Palawan music are similar in form because both use binary and strophic. The similarity is also seen in their melodic structure particularly the use of upward and downward direction. Both seldom use the static melody. Other similarities are also evident in the rhythm. The music of both provinces uses simple duple, simple triple and simple quadruple meter. The strong contrasts in their music are in the use of musical instruments and accompaniment, lyrics or textual interpretation and texture. Musical instruments in Ifugao are used separately particularly in rituals and other related ceremonies and are intended to accompany the singing. As such, it is classified a monophonic texture. The musical instruments of Palawan are made to accompany the singing and playing music for entertainment thus, it is classified as homophonic and polyphonic texture. Another difference can also be seen in the use of text or lyrics in their music. Palawan applied borrowed words to their folk songs while Ifugao used archaic words.

CONCLUSION

The similarities in the musical structure of Ifugao and Palawan may be seen in the content of the songs which feature their characteristics as people and in the same basic elements of music such as rhythm, melody, harmony, timbre, texture and form. The rhythm of Palawan music is stable and is usually in duple, triple and quadruple. Ifugao folk songs are usually in simple Duple (2/4), Quadruple (4/4) and some in triple (3/4)

while others are non-metric due to their chant-like nature. The musical instruments of the two provinces are very much different. Ifugao musical intruments are indigenous while those in Palawan are Spanish in origin.

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