BIBLIOGRAPHY

WEER, ADA R. April 2007. *The Use of Inductive and Deductive Method in Teaching Tertiary Physical Education in Selected Private Schools of San Fernando City*. Benguet State University, La Trinidad, Benguet.

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ABSTRACT

The study was conducted to determine the factors affecting the teaching process in using the inductive and deductive methods; find out the level of effectiveness of the inductive and deductive in teaching physical education; determine the effect of gender, age, birth order and income level on the level of effectiveness using the two methods of teaching; and determine the relationship between the factors affecting the kevel of effectiveness of the inductive and deductive methods in teaching physical education of six private institutions of San Fernando City, during the SY 2006-2007.

The study made used of a questionnaire to gather the needed data from 100 students and an achievement test prepared by the teachers. It utilized the descriptive and inferential statistics at 0.05 level of significance.

The significant findings of the study are the following:

Regardless of methods used in the teaching of physical education, environment, facilities and materials/equipment were perceived very satisfactory by the students.

The level of effectiveness of the inductive method and deductive methods of teaching was satisfactory both in the pretest and posttest.

On the level of effectiveness of the methods used, there is a significant difference between the male and female students in the pretest in the inductive method. A significant difference was noted in the deductive method for both the pretest and posttest.

In the use of inductive and deductive methods, no significant differences existed between the different age groups, birth order and income level in the pretest and posttest.

There is a positive correlation between environment and level of effectiveness of the inductive method but negative correlation in terms of facilities and materials/equipment. There is a positive correlation between the factors affecting the teaching process and the level of effectiveness of the deductive method.

TABLE OF CONTENTS

APPENDICES

INTRODUCTION

Background of the Study

Quality education is the main thrust of the Department of Education. In fact the newest program of Department of Education is the program on the Refined Basic Education Curriculum (RBEC). Trainings, seminars or workshops were launched for classroom teachers, school heads, and supervisors nationwide in order to uplift their competence and equip them with the skill, knowledge, and capabilities. This Basic Education Program had been formally introduced in the classroom setting. Educators nowadays are very concerned about the future of the children or youths in society. They are trying to fill in the present need of the declining quality of education by introducing innovations.

Moreover, educators do not just guide learners to the right path and become knowledgeable they also take into consideration how to inculcate values or right attitude as a strong foundation in building oneself in order to get along well with peers, elders, parents, officials, other members of the family, and to everyone else. This is to further build a strong value-laden citizens, disciplined and with leadership capabilities. As stated by Delor (1985), education serves society as an instrument in fostering the creation, advancement and dissemination of knowledge, and the triple goals (equity, relevance and excellence) prevail in policy-making, planning and practice.

The critical need for quality education becomes even more pronounced in the context of the growing complexity of the roles of educational institutions as they operate in response to the evolving shift in the nature of social system and structures. Zubi (1988) quoted Hawkridge (1983) who labeled the year 2000 AD as the "learner's haven" which will result to a more critical and complex yet functional learning process particularly in institutions of higher learning (IHL). Higher education is expected to serve both as an agent of change and as a source of change agents. It is expected that quality education is readily accessible to all.

Tenedero (1998) on the other hand, said that in order to meet the holistic understanding of the learning process, teachers must strive to shift fallacies from facts and myths from realities; and that parents can best ensure learning to their children if they help teachers identify, bring out and nurture the individual genius that is in every child.

Modern education aims to develop the total person. It is concerned not only with mental banking but also with making provisions for the physical aesthetic, spiritual, moral and social growth; thus, man seeks for perfection as he strives towards total enjoyment. Man has a indomitable spirit which refuses defeat, knows only fortitude and endurance as he makes adjustments for a better life. Invariable people change their perspectives or attune themselves to the perspective of the environment (Bastian, 1999).

The vision of the Philippines in the 21st century concerns the quality of life of Filipinos and is anchored on a very strong global competitiveness. The greatest challenge of the 21st century is to discover how to make good use of the innovations and discoveries of the 20th century. When Churchill said that "empires of the future are empires of the mind" several decades ago, it could be that the age of information and technology was referred to. There is no stopping this global development, this emerging new world. It can only be met and welcomed with new ways of thinking which, in turn must be equal to the challenges and the opportunities of the unfolding global village: visionary dynamic, creative, liberating and transformative. Anything less would be disservice to man and would be a failure of education (Tenedero, 1998).

Statement of the Problem

This study aimed to determine the effectiveness of inductive method and deductive method used in teaching tertiary physical education in selected private schools of the City of San Fernando.

Specifically, this study sought answers to the following questions:

1. To what extent does the teaching of physical education using the inductive and deductive methods as affected by the following factors?

    a. Environment

    b. Facilities

    c. Equipment/materials

2. What is the level of effectiveness of the inductive method and the deductive method in teaching physical education as r in the pre-test and posttest?

3. What is the level of effectiveness of the inductive and deductive methods used in teaching physical education when students are grouped according to the following variables:

a. Gender

b. Age

c. Birth order

d. Income level

4. What is the relationship between the factors affecting the teaching process and the level of effectiveness of the inductive and deductive method used in Physical Education?

Objectives of the Study

This study had the following objectives:

1. To determine the extent of teaching physical education using the inductive and deductive methods as affected by the following factors:

a. Environment

b. Facilities

c. Equipment/materials

2. To find out the level of effectiveness of inductive method and deductive methods in teaching tertiary physical eEducation.

3. To determine the level of effectiveness of the inductive and deductive methods in teaching physical education when students are grouped according to the following variables:

a. gender

b. age

c. birth order

d. income level

4. To determine the relationship between the factors affecting the teaching process and level of effectiveness of the inductive and deductive methods in teaching physical education.

Importance of the Study

Educators have become keenly aware that there is a crisis in education; hence the crucial role of innovations to improve the educational enterprise. One such innovations is the process of inquiry which helps students how to think for themselves, how to formulate and test ideas, and in general involves the students in a lifetime learning technique.

Students in college are more independent than those in the elementary or secondary schools. Outside the classroom, they are practically on their own to manage their time, skills, and responsibility. The concern of educators in the tertiary level is to assist young people manage their time, skill, and study in preparating them as the future leaders and professionals of society.

This study would be of value to the teachers of physical education. Results of the study willate awareness of their responsibilities as teachers to improve their teaching methods and strategies appropriate to the learning styles of their students.

For curriculum planners, results of this study will provide them insights in terms of innovations in content, teaching strategies and techniques to improve the teaching of physical education.

Results of this study can contribute to the development of better teaching-learning process, and help develop students not only in the physical dimension but also developing their social awareness and thinking skills. Moreover, results of the study will make administrators realize that the success of the implementation of the physical education is dependent upon their administrative support. Positive attitude of administrators towards P.E. program will encourage teachers and bolster their morale to be more committed in their teaching responsibilities.

Scope and Delimitation of the Study

This twelve-week experiment is concerned with the effectiveness of inductive and deductive method used in teaching tertiary physical education. The subjects of the study were 100 students taking physical education subjects in the selected private schools in San Fernando City, La Union during the first semester of the school year 2006-2007. Two comparable classes were involved in the experiment. Students were equated based on their scores in the pretest and

posttest. The two classes went through the learning unit on "Rhythmic Activities" which included Philippine folk dances, physical fitness (gymnastics), individual dual sports.

It dealt with the factors affecting the teaching of physical education using the inductive and deductive methods. It also determined the effectiveness methods. It also determined the effectiveness of both methods as affected by some selected variables like gender, age, birth order and income level of family. Finally, the relationship between the factors affecting the teaching process and the level of effectiveness of both methods of teaching was determined.

REVIEW OF LITERATURE

Teaching Methods

A teaching method is an organized and systematic procedure employed by a teacher in making students learn. It consists of steps which are logically arranged. A teacher employs it to make it highly efficient, thus, maximizing the teaching output. Without it, learning becomes cumbersome and a big waste in terms of efforts, time and even money (Calderon, et. al., 1993).

Davis and Wallis (1989) referred to method as a set of procedures that are carried out according to some rules. To know the rule is to know "how to" carry out procedure, to have gone through the procedure many times not only helps to make sure that one knows the rule, but also that one can carry out the actions prescribed by it. With the use of the method, the teacher knows exactly what to do in guiding students go about and undertake a specific learning task.

Meanwhile, Harrison (1973) defined the teaching method as primarily a matter of organization of materials and effort to get certain definite things done. The organization to be taught and to be learned is part of this method. He also categorized such organization into two: logical and psychological.

Learning by discovery naturally employs the inductive method whereby students form the expected generalization toward the end of the lesson. It also recommends the use of the activity method where "learning by doing" takes place. Students to be able to find out things by themselves must be actively

engaged in undertakings like experimenting, observation, investigating and the like (Calderon, et. al., 1993).

The teaching methods may be classified according to some chosen criteria. First criterion is based on whether certain methods are addressed to the whole class or to groups of students or to individual students. Second criterion is based on whether certain methods are highly cognitive or highly psychomotor or even highly affective. Third criterion is based on whether certain methods are teacher-monopolized, student-monopolized, or teacher-students collaborated.

Lardizabal (1997) categorized teaching styles into two major areas; direct and indirect teaching. He defined the former as teaching wherein the teacher provides new or additional information to students in a number of ways, that is, by lecturing, showing a film or taking a field trip. The latter he elaborated as a pattern in which the teacher structures activities in which the learner is active and involved in a variety of situations, such as playing games, group role playing, training and laboratory work.

Another way of classifying teaching methods which primarily emphasize the acquisition of knowledge is whether they are convergent or divergent. The convergent mode of teaching makes students to come up together at point which means they are expected to accept an idea or a set of ideas like what is being done in the process of generalizing or jotting down the teacher's lecture notes. In this mode, ideas other than the expected ones are not acceptable. On the other hand,

the divergent way of teaching permits students to branch out to different ideas allowing them to share diverse opinions toward a certain topic or issue. Such mode is very evident in a socialized form of classroom discussion in which each student justifies or supports a point, argues and even criticizes certain ideas (Hidalgo, 1984).

Strategies, Methods and Techniques
in Teaching Physical Education

With regard to teaching methods in physical education, Andin (1995) observed that many teachers have been employing the usual methods of teaching the academic subjects. This fact has caused too much confusion and has resulted to ineffective teaching according to studies, it has also affected the attitudes of individuals towards the subject. While it is true that some of the usual methods of teaching are maybe effective in teaching the cognitive phase, they may be not be applicable in teaching the psychomotor program.

In the education process, the three most important factors are the child, the teacher and the subject matter. The primary concern of learning is to educate the child. The teacher is necessary to guide the educative process. Since the child is the center of the educative process, method must be suited to the learner. Age, grade, maturity level, abilities, needs, experiences, health and growth must be considered. The child has to acquire knowledge and information through subject matter. Transmission of subject matter from the teacher to child is done through

method. By means of method, the child is guided as to what parts of the subject matter to appreciate and what skills. In the final analysis, the outcomes of education are acquired through method with the changing educational goals. The choice of method becomes important. According to Bastian (1999), the following factors help determine how a teacher decides what method to be used in teaching: 1. The educational objective and the aim of the lesson. 2. Nature of the subject matter or the lesson. 3. The nature of the learners. 4. School equipment and facilities. 5. The teacher.

Aquino (1988) stressed that a teacher should make good use of teaching devices or materials. A teaching device is a "little method". It is a teaching aid or tool to facilitate instruction. It is any means, usually concrete used to make teaching clearer, more meaningful and more interesting. The teacher's procedure comprises the method of teaching. Technique refers to the art of skill of performance. Teachers become facilitators, calibrators, tour guides or coaches for the infor-sphere rather than omniscient leaders rested in air-conditioned rooms. Not only do they convey and conclude information but also they explain and expand the same. Teachers, indeed, should know how and why things happen (Qua, 1995).

In addition, method cannot be standardized simply because children do not belong to the same world. There is no single best method, but there are many good methods. A teaching method is good if: 1. It makes use of the principles of

learning and permits the operation of these principles such as readiness, exercise and effect as provided for. 2. It utilizes the principle of "learning by doing". 3. It provides for individual differences. 4. It stimulates thinking reasoning. 5. It provides for growth and development

The urges of children represent broad traits that are typical of children regardless of age, sex or race. Varied teaching strategies are utilized to hold interest and to enhance teaching. Physical education as a subject applies various methods and techniques that develop the three learning domains: cognitive, psychomotor and affective in varying degrees. The domains of learning are ways of classifying educational objectives (Cunning, 1995).

Bucher and Wues (1979) stated that physical education in an educational process that has its aims the improvement of human performance through physical activities selected to analyze this outcome. Physical Education includes acquisition, refinement development and maintenance of motor skills development and maintenance of fitness for optimal health in well-being: attainment of knowledge; and growth of positive attitude.

The selection of instructional strategy is never an easy task for teachers as every class has students with any number of preferences for learning. Learners respond in various ways to various strategies (Harrison and Blakenmore, 1992). Some students respond better to lecture but others used group works and even other prefer debates. Many instructional strategies are available to teachers for

the presentation of fitness and formation inn a concept-based fitness course. The instructional strategies are educational gain demonstrations, debates, and discussion, group work, cooperative learning group, brainstorming, concept mapping, lectures, panels and forums.

Serrano (1978) cited other methods and techniques in teaching physical education. The direct – study method relates to assignment of outside work to students. This help students learn activities and develop interest in them. In the direct practice of motor skills, students practice more to master skills than can be provided during scheduled class period the socialized class methods depends upon the students willingness to work together in the development of their skills of both leadership and followership in the ability of instructors to assume role of democratic guidance and supervision. The individualized instructional method is based upon the principle that leaning is highly individualized and each students does his own learning. This is usually applied and combative events and gymnastic with the supervision of the trainor or coach.

According to Camat (2002) the circuit training method is made up of an exercise program consisting of a number of stations arranged in the form of circuits. Each station demands an exercise tasks from the students who move from station to station in sequential order. This is done during team events and group dancing practice.

Corpuz (1998) said that the poorest method of teaching, according to many educators is the lecture method because children easily get bored and they lose interest. Sometimes however, when special topics need to be presented with authority, lecture method should be used. The person who lectures most from the lecture is the lecturer himself.

Another method which is deemed to be one of the most effective methods in teaching physical education is the demonstration method. Its use can enhance learning or retention of students. It must be well-planned and the equipment and materials to be used must be organized at the place where demonstration is provided. Tinipac (2005) found that demonstration method serves as excellent way of teaching physical education and that the teacher should demonstrate the skills perfectly as possible. It is highly suggested that the lecture method should be combined with demonstration method to make information in physical education more interesting and effective. This can be an effective way to provide opportunities to discover the talents of students in the field of creativity.

Factors Affecting the Physical Education Program

Laconsay (1989) pointed out that adequate venue/classroom should be provided for various education activities in order to attain the objectives of physical education.

Klap (1977) mentioned that what is important to any sports program is the maximum effective use of equipment and utilization of facilities and best means of buying and storing supplies. Gymnasium equipment are very important in any sports or physical education program. Facilities sanitation is also important in sports facilities management. The training room is a special room designed to meet the requirement not only of the sports training program but also the general physical education program when the need arises to accommodate the various functions of a training program. It must be designed as a multi-purpose area in which first aid can be administered, physical examinations conducted, programs and pre practice bondaging and taping band to be done, and re-conditioning carried out.

Salvador (1978) found that factors that affect the physical education was lack of facilities, equipment and supplies. She stressed that the physical education program needed re-examination in relation to its urgent needs, and that teaching techniques, class supervision and evaluation of the program needed improvement.

Level of Effectiveness According
to the Different Variables

Age is important because the older the person, the more mature they are likely to be. If most students are older in the grade, they probably will have an advantage on the physical fitness test (Echave, 2005).

West (2006) stated that female and male athletes seem to respond to training in a comparable manner. As the quantity or intensity of training increases, aerobic capacity shoots upward, body fat tends to decrease and performance improves, regardless of gender. Males frequently achieve better performance than similarly trained females. Part of the reason for this is that males routinely engage in a perfectly legal, natural form of blood doping.

In terms of performance measurement, men are taller than women and therefore take longer strikes. Since being taller seems to give men an unfair advantage.

Birth order and its impact on the individual have been a maller of great debate. Many say that the first-born children are the smartest out of all the other siblings in the family. Evans (2006) discovered that birth order does have a slight impact on IQ. Overall, first-born children and only children scored higher on the IQ test than did later born children. Therefore, her study suggests that first-born and only children perform better on IQ test and overall are more intelligent.

Schemo (2006) said that the private school students have long scored higher on the national assessment, commonly referred to as “the nations report card”, the new study used advanced statistical techniques to adjust for the effects of income, school and home circumstances.

Andin (1988) stated that teaching strategies are methods, techniques or approaches for the effective teaching of physical education. A method of

teaching is a general way of guiding and controlling learning experiences. In addition to the foregoing ideas, it is highly necessary for the teacher to have a repertoire of teaching strategies. Even though a program of education is founded on worthy aims, it cannot achieve a satisfactory degree of success unless direct understanding of workable skills may be met in actual practices.

Two general methods of teaching motor skills have been derived from experimental students and these are the "whole part methods" and the "part whole methods" of teaching. This method leads themselves to the teaching of special skills in sport, dance, gymnastics, as well as the basic game skills. For example, in teaching of serving volleyball, the teachers demonstrate the whole pattern of the activity first before doing it step by step. Then any size of the preparatory position is made, such as the stance, the trunk position and how the ball is held, after which comes an analysis of the movement in hitting the ball. The whole activity may be demonstrated again in order to put the parts all together for a better impression.

The premise of this method of teaching is that part is more important than the whole since the parts make the whole. This is based on the stimulus-response theory of Thorndike. Learning the parts and mastering them lead to learning the whole activity. Although this method cannot be superior to the whole part method, it lends itself satisfactorily to the teaching of a dance or a set of exercise where it would be very uneconomical and considered impractical for the teacher

to demonstrate the whole dance or the whole set of exercise first before he teaches the different figures. In addition to this research, the strategy may proceed from part to part (part method), may encompass the entire skill (whole method) or may employ a combination of the part and whole methods.

Most experts agree that both part and whole methods should be used, that at times a combination is feasible, and that alert teachers employ all three depending on the background of the students, the complexity of the skill and objectives guiding immediate instruction. The principal steps in teaching strategy for developing motor skill are as follows: 1) Clarify need for the skill. 2) Demonstrate the skills, or have a student demonstrate them. 3) Provide for immediate practice, observing to not those in need of guidance. 4) Provide individual assistance as needed. 5) Provide for immediate use of the skill.

According to Matt Lochen (2005) he prefers inductive methods to deductive approaches. He recently turned an old deductive – based lesson into an Inductive lesson. He learned through a combination of lectures and funny looking drawings on the chalk board, but instead of subjecting the students to the pain of another lecture he gave them some models and a work sheet. With minimal instruction, almost each of the students was able to do the correct structural formula, then he decided to incorporate more and more inductive lessons into topic.

Conceptual Framework

The paradigm (Figure 1) of the study shows the three major variables independent variables, dependent variables, and the intervening variables. The independent variables revolve around the teaching method, the result of the post test and pre-test. The dependent variables are the effectiveness of the inductive and deductive method used in teaching tertiary physical education after the experiment. The intervening variables are the socio-economic profile of students in terms of age, gender, birth order and income level. Included also are the factors like environment, facilities, materials/equipments.

Definition of Terms

The following terms are operationally defined.

Method refers to the way an educator in physical education teacher carry out the objective of the lesson such as lecture method, demonstration method, whole-part method. and part-whole method.

Inductive Method is a procedure through which one may arrive at a fact, principle, truth or generalizations. Many instances or cases are studied, observed, and compared and the common elements in them discovered and generalized.

Deductive Method is the reverse of inductive procedure. It starts with generalization, principle, or rule that is then applied to specific cases.

Effectiveness is the ability of a teacher to create a meeting and an interaction between the physical, intellectual and psychological interest of

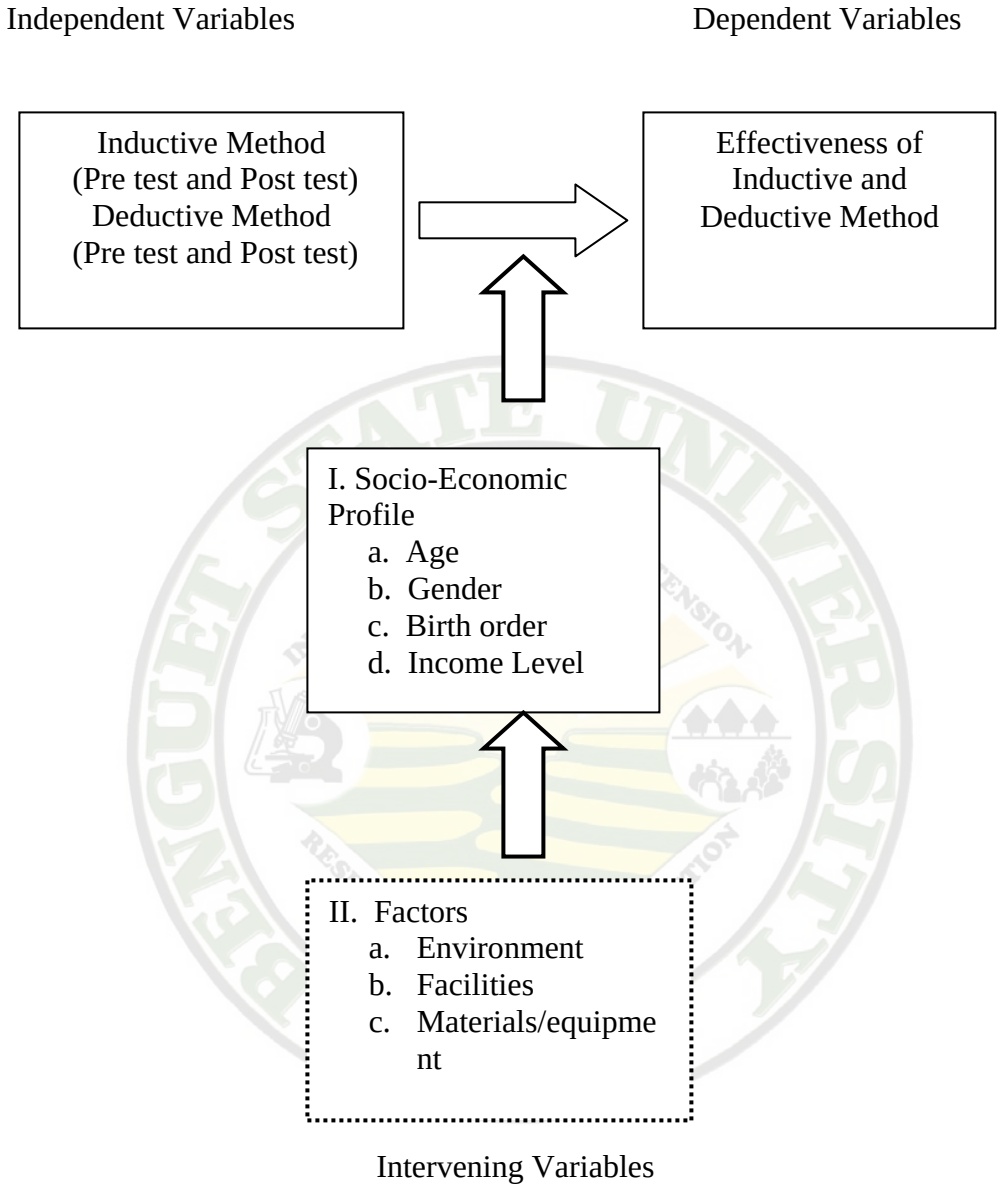

Figure 1. Paradigm showing the effectiveness of inductive and deductive method used in teaching tertiary Physical Education.

students or learner and some given subject matter content; the ability of a teacher to relate the learning activities to the developmental process of the learners and to their current immediate interest and needs.

Achievement refers to the number of correct responses/answers a particular students gets in an administered test constructed by the researcher.

Achievement Test is a test developed on the basis of educational objectives that have verbal or mathematical aspects and are assigned to measure the degree which the students have achieved those objectives.

Tertiary Student refers to an individual who is admitted and enrolled as a student in a institution of higher learning

Teaching is a process of stimulating, directing and guiding the learner.

Physical Education an integral part of educational programs designed to promote the total development of individual.

Hypotheses of the Study

This study was guided by the following hypotheses:

1. There is no significant difference in the factors affecting the teaching process using the inductive and deductive methods:

    a. environment
    b. facilities
    c. equipment/materials

2. There is no significant difference in the level of effectiveness of inductive method and deductive method in teaching physical education in the pre-test and posttest.

3. There is no significant difference in the effectiveness of inductive and deductive method used in teaching tertiary physical education according to the following variables:

a. Age

b. Gender

c. Birth order

d. Income level

4. There is no significant relationship between the factors affecting the teaching process and the level of effectiveness of the inductive and deductive method used in teaching tertiary physical education:

a. Environments

b. Facilities

c. Materials/Equipment

METHODOLOGY

Locale of the Study

The study focused on the selected private tertiary schools in San Fernando City, La Union and conducted during the first semester 2006 – 2007. The different selected private tertiary schools considered were: Saint Louis College, Union Christian College, Lorma Colleges, Sea and Sky College, La Union College of Nursing, and Systems Technology Institute. Figure 2 shows the map of San Fernando City showing the location of the study

Respondents of the Study

Subjects of the study were 100 tertiary students enrolled in physical education in six selected private tertiary schools of San Fernando City chosen through stratified sampling. They took the pre-test and post-test and their scores were arranged from highest to lowest.

Table 1 shows the information about the respondents. There were more female (71) than male (29) and their age ranged from 17 years old and below to more than 19 years. Classified according to their birth order, theree were 38 who were the first child in the family, 32 in the middle and 30 the last. With regard to family income per month of the family, 42 families had Php 11,000 and above, 36 with Php 5,100-Php 10,999 and 22 with less than Php 5,000.

Figure 2. Map of San Fernando City showing the location of the study

Table 1. Background information about the respondents (100)

PARTICULAR	NUMBER OF RESPONDENT	PERCENT (%)
a. Gender		
Male	29	29
Female	71	71
TOTAL	100	100
b. Age		
19 and above	12	12
18	58	58
17 and below	30	30
TOTAL	100	100
c. Birth Order		
First child	38	38
Middle child	32	32
Last child	30	30
TOTAL	100	100
d. Family Income/month		
Less than P5,000	22	22
P5,100 – P10,999	36	36
P11,000 and above	42	42
TOTAL	100	100

Research Design

The experimental research design was used in this investigation consisting of two treatments. Treatment 1 was taught by inductive method and Treatment 2, the deductive method. The experiment was conducted for 12 weeks.

Two sets of lesson plan were formulated, one was for the inductive and the other was deductive method (Appendix D).

Instrumentation

The main instrument used in the study was a 50-item multiple choice pre-test and post-test. There were 20 items for dance, 15 items for gymnastics and 15 items for table tennis. The table of specification provided the learning content, knowledge and skills to be developed (Appendix E). The test which was constructed by the researcher was personally administered by the P. E. teachers to their students under the study.

The original test which consisted of 50 items was submitted to experts for critiquing and improvement. These experts consisted of five physical education specialists and three college professor/instructor from selected private tertiary schools of San Fernando City who were considered competent along test construction for content validity (Appendix C). Comments/suggestions became the basis for revision of the test before it was finally administered. The best was tried out to the Physical Education 4 students of Union Christian College, who finished P.E. 1, 2 and 3 and were not included in the study for reliability. Using the Kuder-Richardson Formula 20, the test was reliable at 0.84, described as very high reliability.

Item Analysis of the Achievement Test

The final form of the test was administered to the 100 students for item analysis using the procedure by Ebel 91975).

The number of correct responses of the low-scoring group was subtracted from the number of correct responses of the high-scoring group. The quotient which is the index of discrimination was expressed as a decimal fraction. The formula which was used to compute the index of discrimination is as follows:

$$D = \frac{U - L}{N}$$

where:

D = index of discrimination

U = number of students in the upper group who answered the test item correctly

L = number of students in the lower group who answered the test item correctly

N = Number of students in each group

The computed values for the index of discrimination was compared with the accepted norm. In this study, the items with discriminating indices of at least 0.30 were considered and included in the final form of the test (Appendix B).

The difficulty of the test items was determined by the numbers of examinees who answered the test items correctly. The number of correct responses to an item for both the high scoring group and the low-scoring group

were added. The quotient was considered as the index of difficulty of the item and is expressed in percent. The formula for the index of difficulty is as follows:

$$ID = \frac{U - L}{N} \times 100$$

Where:

ID = Index of difficulty

U = the number of students in the upper group who answered the test item correctly

L = the number of students in the lower group who answered the test item correctly

N = the total number of students in both upper group and the lower group

The researcher considered the index of difficulty of each item as guide in arranging the items from easiest to the most difficult.

Treatment of Data

The achievement of the 100 students by treatment was described in terms of the mean from their scores in the pretest and post test.

The 75% cut-off level was used as the criterion in describing further the achievement of the students. This was the mastery level set in the selected private tertiary schools of San Fernando City, La Union.

The t-test and the F-test were employed to determine whether or not significant differences existed in the physical education performance of students in the achievement test when they were taught the inductive and deductive approaches when they are grouped according to some variables. The Pearson Product Moment Correlation Coefficient (r) was likewise used to determine the relationship among variables.

A 5-point scale was used for the factors affecting the teaching process as follows:

5 – Outstanding

4 – Very Satisfactory

3 – Satisfactory

2 – Unsatisfactory

1 - Poor

For the level of effectiveness the following was used:

47 and above – Outstanding (O)

36 – 46 – Very Satisfactory

25 – 35 – Satisfactory

13 – 24 – Fair

0 – 12 - poor

RESULTS AND DISCUSSION

This section presents the analysis and interpretation of results on the factors affecting the teaching process, level of effectiveness of the inductive and deductive method, effect of gender, age, birth order and family income on the level of effectiveness using the inductive and deductive, and the relationship between the factors affecting the level of effectiveness of the inductive and deductive methods in teaching physical education.

Factors Affecting the Teaching Process

The Inductive Method

Table 2 shows the factors affecting the teaching process using the inductive method as reflected in the results of pretest and posttest. As shown in the table, environmental, facilities and materials or equipment. In terms of environment, conduciveness of the area for sports activities is perceived 3.98 in the pretest and 4.06 in the posttest; both are described very satisfactory and the present arrangement of the area is perceived 3.72 and 3.82, both in the pretest and posttest, respectively. In general, the environment is perceived very satisfactory in teaching physical education using the inductive method of teaching as indicated by the weighted means of 3.85 and 3.94, during the pretest and posttest, respectively. Furthermore, the difference in the perception of the respondents regarding environment as a factor that may affect the teaching

Table 2. Factors affecting the teaching process using the inductive method

FACTOR	INDUCTIVE METHOD PRETEST Xw	DE	POSTTEST Xw	DE
a. Environment				
Conduciveness of the area for sports activities.	3.98	VS	4.06	VS
Present arrangement of the area.	3.72	VS	3.82	VS
MEAN	3.85	VS	3.94	VS
$tc = 0.932^{ns}$		prob. = 0.356		
b. Facilities				
Cleanliness and orderliness.	4.08	VS	4.04	VS
Ventilation and lighting.	3.68	VS	3.66	VS
MEAN	3.88	VS	3.85	VS
$tc = 0.302^{ns}$		prob. = 0.764		
c. Materials/Equipment				
Adequacy of physical education equipment.	3.94	VS	3.90	VS
Quality of materials for physical education activities.	3.76	VS	3.78	VS
MEAN	3.85	VS	3.84	VS
$tc = 0.114^{ns}$		prob. = 0.909		
OVERALL MEAN	3.86	VS	3.88	VS
$tc = 0.254^{ns}$	prob. = 0.800		ns-not significant	

Legend:

4.50 – 5.00 – Outstanding (O)
3.50 – 4.49 - Very satisfactory (VS)
2.50 – 3.49 – Satisfactory (S)
1.50 – 2.49 – Unsatisfactory (U)
1.00 – 1.49 – Poor (P)

process is not significant as evidenced by the computed t-value of 0.932 with a probability of 0.356 which is higher than 0.05 level of significance. Thus, the students do not vary in their perception on the method used by their teacher. This finding implies that the students are satisfied with the existing area in their physical education classes for whatever method of teaching the teacher employs.

Another factor is the facilities used in teaching physical education. These are cleanliness and orderliness as well as ventilation and lighting. These factors are perceived very satisfactory as evidenced by their respective weighted means. Facilities is perceived very satisfactory as perceived by the students with weighted means of 3.88 and 3.85, respectively both in the pretest and posttest taken by the students. The difference in the perception of the students is not significant as revealed by the computed t-value of 0.302 with a probability of 0.764 which is higher than the 0.05 level of significance. The findings imply that among the institutions considered in this study, the students are very satisfied with the facilities in their physical education classes. Furthermore, the different institutions the teachers are aware of the facilities they need for a better teaching and learning process in physical education.

Another factor that may affect teaching-learning process is the availability of materials/equipment they need in teaching physical education. The materials and equipment the teachers used in physical education are perceived very satisfactory with the overall weighted mean of 3.85 and 3.84, respectively during

the pretest and posttest period of the students. The results indicate that the students are very satisfied with the available materials and equipment the teachers are use in physical education. As indicated by the computed t-value of 0.114 with a probability of 0.909, the difference in the perception of the students is not significant.

Generally, the difference in the perceptions of students on the factors affecting the teaching process using the inductive method of teaching by the teachers in teaching physical education is not significant. This is indicated by the computed t-value of 0.254 with a an exact probability of 0.800 which is higher than 0.05 level of significance, hence, not significant. Thus, the hypothesis that there is no significant difference in the factors affecting the teaching process in physical education using the inductive method of teaching in the pretest and posttest, is accepted. This means that the factors do not affect whenever the students' performance in the examinations. This may be attributed to the availability of facilities, materials and equipment and the area where they conduct physical education activities. In addition, a better performance of the students sometimes depends on the teaching methods, techniques and strategies used by the teacher.

According to Calderon et. al. (1993) a teaching method is an organized and systematic procedure employed by a teacher in making students learn. It consists of steps which are logically arranged. A teacher employs it to make it

highly efficient, thus, maximizing the teaching output. Without it, learning becomes cumbersome and a big waste in terms of efforts, time and even money.

Davis and Wallis (1989) also referred to method as a set of procedures that are carried out according to some rule. To know the rule is to know "how to" carry out procedure, to have gone through the procedure many times not only helps to make sure that one knows the rule, but also that one can carry out the actions prescribed by it. With the use of the method, the teacher knows exactly what to do in guiding students go about and undertake a specific learning task.

The Deductive Method

Table 3 shows the factors affecting the teaching process in physical education using the deductive method of teaching. The deductive method is the reverse of inductive procedure. It starts with generalization, principle, or rule that is applied to specific cases.

The table shows the perceptions of the students regarding the factors of environment, facilities and materials/equipment the teachers use in teaching of physical education.

In terms of environment, the students perceived very satisfactory both the conduciveness of the area for sports activities and present arrangement of the area in their physical education classes with means of 3.59 and 3.66, respectively in the pretest and posttest period. The difference in their perception is not significant as evidenced by the computed t-value of 0.603 with a probability

Table 3. Factors affecting the teaching process using the deductive method

FACTOR	DEDUCTIVE METHOD PRETEST Xw	PRETEST DE	POSTTEST Xw	POSTTEST DE
a. Environment				
Conduciveness of the area for sports activities.	3.56	VS	3.60	VS
Present arrangement of the area.	3.62	VS	3.72	VS
MEAN	3.59	VS	3.66	VS
tc = 0.603^{ns}		prob. = 0.549		
b. Facilities				
Cleanliness and orderliness.	3.90	VS	3.76	VS
Ventilation and lighting.	3.38	S	3.38	S
MEAN	3.64	VS	3.57	VS
tc = 0.673^{ns}		prob. = 0.504		
c. Materials/Equipment				
Adequacy of physical education equipment.	3.56	VS	3.70	VS
Quality of materials for physical education activities.	3.58	VS	3.50	VS
MEAN	3.57	VS	3.60	VS
tc = 0.381^{ns}		prob. = 0.705		
OVERALL MEAN	3.60	VS	3.61	VS

tc = 0.120^{ns} prob. = 0.905 ns-not significant

which is higher than 0.05 level of significance.

The facilities in the conduct of physical education classes is also perceived very satisfactory by the students as revealed by the weighted means of 3.57 and 3.60, described as very satisfactory. The students are satisfied of the facilities the teachers used regardless of the method they employ.

The same result (very satisfactory) was obtained in the materials and equipment available in teaching physical education as perceived by the students. This is supported by the result of the t-test with a computed value of 0.381 with a probability higher than the specified level of significance, hence, not significant.

In general, the perception of the students of the factors affecting the teaching process in physical education is not significant as evidenced by the computed t-value of 0.120 with a probability higher than 0.05 level. Thus, the hypothesis that there is no significant difference in the perceptions of students on the factors affecting the teaching process in physical education, is accepted. This means that the students are very satisfied with the available materials, facilities and equipment as well as the area where they hold physical education classes regardless of what method of teaching employed by physical education teachers.

Andin (1988) stated that teaching strategies are methods, techniques or approaches for the effective teaching of physical education. A method of teaching is a general way of guiding and controlling learning experiences. In addition to the foregoing ideas, it is highly necessary for the teacher to have a

repertoire of teaching strategies. Even though a program of education is founded on worthy aims, it cannot achieve a satisfactory degree of success unless those direct understanding of workable skills may be met in actual practice.

Inductive and Deductive Methods

Table 4 shows the factors affecting the teaching process using the inductive and deductive method of teaching physical education in terms of environment, facilities and materials/equipment available. As seen in the table, the students do not differ in their perceptions regarding the area where they hold the physical education classes. The students perceived very satisfactory the environment as indicated by the weighted means of 3.94 and 3.66, respectively, regardless of the teaching method utilized by the teachers. Furthermore, there is no significant difference on the use of inductive and deductive method of teaching by the teachers. This is supported by the computed t-value of 1.851 with a probability higher than 0.05 level of significance. This indicates that regardless of the method employed by the teachers the area where they hold classes plays a significant role.

In terms of facilities, the students perceived very satisfactory regardless of the teaching method used by the physical education teachers. This is evidenced by the weighted means of 3.85 and 3.57, respectively in the inductive and deductive method of teaching. The difference is not significant as supported by the t-value of 1.967 with a probability higher than 0.05 level of significance. This

Table 4. Teaching process using the inductive and deductive methods

FACTOR	METHOD			
	INDUCTIVE		DEDUCTIVE	
	Xw	DE	Xw	DE
a. Environment				
Conduciveness of the area for sports activities	4.06	VS	3.60	VS.
Present arrangement of the area.	3.82	VS	3.72	VS
MEAN	3.94	VS	3.66	VS
tc = 1.851^{ns}		prob. = 0.068		
b. Facilities				
Cleanliness and orderliness.	4.04	VS	3.76	VS
Ventilation and lighting.	3.66	VS	3.38	S
MEAN	3.85	VS	3.57	VS
tc = 1.967^{ns}		prob. = 0.052		
c. Materials/Equipment				
Adequacy of physical education equipment.	3.90	VS	3.70	VS
Quality of materials for physical education activities.	3.78	VS	3.50	VS
MEAN	3.84	VS	3.60	VS
tc = 1.621^{ns}		prob. = 0.108		
OVERALL MEAN	3.88	VS	3.61	VS

tc = 2.149* prob. = 0.034 *-significant ns-not significant

is an indication that regardless of the teaching methods used by the teachers, the students believed that the availability of facilities used by the teachers are considered important.

The availability of materials/equipment in teaching physical education is very satisfactory in using the inductive and deductive method of teaching. This is supported by the weighted means of 3.84 and 3.60, respectively. The difference in the perceptions of the students regarding the availability of materials/equipment in teaching physical education whether using the inductive or the deductive method of teaching, is not significant. Thus regardless of what teaching methods, techniques or styles teachers use, the students believed that availability of materials/equipment is deemed significant.

Generally, the difference in the perception of the students regarding the factors affecting the teaching process in physical education, is significant. This is supported by the computed t-value of 2.149 with a probability of 0.034 which is lower than the 0.05 level of significance, hence, significant. This means that there is a significant difference in their perception on the availability of facilities, materials/equipment and environment using the inductive an deductive method of teaching. They believed that the factors considered like available materials/ equipment, facilities and area are more suited using the inductive method than the deductive method of teaching. This implies that the teachers utilized the inductive method more than the deductive method with the available

materials/equipment, facilities and the area where they conduct physical education classes.

Two general methods of teaching motor skills have been derived from experimental students and these are the "whole part methods" (inductive) and the "part whole methods" (deductive) of teaching. The whole part lends itself to the teaching of special skills in sports, dance, gymnastics, as well as the basic game skills. For example, in teaching serving volleyball, the teachers demonstrate the whole pattern of the activity first before doing it step by step. Then any size of the preparatory position is made, such as the stance, the trunk position and how the ball is held, after which comes an analysis of the movement in hitting the ball. The whole activity may be demonstrated again in order to put the parts all together for a better impression.

The premise of the part-whole method of teaching is that the part is more important than the whole since the parts make the whole. This is based on the stimulus-response theory of Thorndike. Learning the parts and mastering them lead to learning the whole activity. Although this method cannot be superior to the whole part method, it lends itself satisfactorily to the teaching of a dance or a set of exercise where it would be very uneconomical and considered impractical for the teacher to demonstrate the whole dance or the whole set of exercise first before he teaches the different figures. In addition, the strategy may proceed from

part to part (part method), may encompass the entire skill (whole method) or may employ a combination of the part and whole methods.

According to Matt Lochen (2005) he prefers the inductive method to deductive approaches. He recently turned an old deductive – based lesson into an inductive lesson. He learned through a combination of lectures and funny looking drawings on the chalk board, but instead of subjecting the students to the pain of another lecture he gave them some models and a work sheet. With minimal instruction, almost each of the students was able to do the correct structural formula, then he decided to incorporate more and more inductive lessons into the topic.

Level of Effectiveness of Methods Used in Teaching Physical Education

Tables 5 to 7 show the level of effectiveness of methods used in teaching physical education.

Effectiveness of the Inductive Method

Table 5 shows the level of effectiveness of the inductive method shown in the results of the pretest and posttest.

The table shows that the level of effectiveness of inductive method is satisfactory as indicated by the scores of the students in their achievement test in physical education in the pretest and posttest examinations. As shown in the

Table 5. Level of effectiveness of inductive method in teaching physical education

	INDUCTIVE			
	PRETEST		POSTTEST	
LEVEL	n	%	n	%
47 and above	0	0	0	0
36 –46	3	6	8	16
25 – 35	33	66	39	78
13 – 24	14	28	3	6
0 – 12	0	0	0	0
TOTAL	50	100	50	100
MEAN	27	S	32	S

tc = 6.005* prob. = <0.01 *-significant

Legend:

47 and above – Outstanding (O)

36 – 46 – Very Satisfactory (VS)

25 – 35 – Satisfactory (S)

13 – 24 – Fair (F)

0 – 12 – Poor (P)

significant. This means that the inductive method used by the teachers improved the performance of the students. This implies that the method is effective.

Therefore, the hypothesis that there is no significant difference in the level of effectiveness using the inductive method of teaching in physical education, is rejected.

According to Matt Lochen (2005) he prefers inductive methods to deductive approaches. He recently turned an old deductive – based lesson into an Inductive lesson. He learned through a combination of lectures and funny looking drawings on the chalk board, but instead of subjecting the students to the pain of another lecture he gave them some models and a work sheet. With minimal instruction, almost each of the students was able to do the correct structural formula. He then decided to incorporate more and more inductive lessons into the topic.

Effectiveness of the Deductive Method

Table 6 shows the level of effectiveness of the deductive method in teaching physical education.

The table shows that 38 or 76 percent of the students obtained scores from 25 to 35 (satisfactory); only 1 or 2 percent with scores from 36 to 46 (very satisfactory); and 11 or 22 percent from 13 to 24 (fair). The mean score of the student in their pretest is 28 falling within the satisfactory level.

In the posttest, 29 or 58 percent got scores from 25-35 (satisfactory); 17 or 34 percent, very satisfactory; and 4 or 8 percent, fair. The average score of the students in the posttest is 32 (satisfactory). This shows that the scores of the students increased with the used of the deductive method. This increase is significant as indicated by the computed t-value of 5.624 with a probability of less than 0.01 which is less than the 0.05 level of significance, hence, significant. This

Table 6. Level of effectiveness of deductive method in teaching physical education

	DEDUCTIVE			
	PRETEST		POSTTEST	
LEVEL	n	%	n	%
47 and above	0	0	0	0
36 –46	1	2	17	34
25 – 35	38	76	29	58
13 – 24	11	22	4	8
0 – 12	0	0	0	0
TOTAL	50	100	50	100
MEAN	28	S	32	S

tc = 5.624* prob. = <0.01 *-significant

means that the deductive method improved the performance of the students in physical education.

Therefore, the hypothesis that there is no significant difference in the level of effectiveness using the deductive method, is rejected. This implies that the performance of the students using the deductive method by the teachers enhanced learning.

Effectiveness of Inductive and Deductive Methods

Table 7 shows the level of effectiveness of the both the inductive and deductive methods in physical education.

Table 7. Level of effectiveness of the inductive and deductive method in teaching physical education

	METHOD			
	INDUCTIVE		DEDUCTIVE	
LEVEL	n	%	n	%
47 and above	0	0	0	0
36 –46	8	16	17	34
25 – 35	39	78	29	58
13 – 24	3	6	4	8
0 – 12	0	0	0	0
TOTAL	50	100	50	100
MEAN	32	S	32	S

$tc = 0^{ns}$ prob. = 1.00 ns-not significant

For the inductive method, the table reveals that 39 or 78 percent scored from 25 to 35 (satisfactory); 8 or 16 percent got scores from 36 to 46 (very satisfactory); and only 3 or 6 percent with scores from 13 to 24 (fair). The average score obtained by the students in the inductive method is 32 which falls under the satisfactory level.

In the use of the deductive method, scores ranging from 25 to 35 were obtained by 29 or 58 percent (satisfactory); 17 or 34 percent within the score 36 to 46 (very satisfactory) and 4 or 8 percent (fair). The differences on the mean scores of the students between the two methods of teaching using the t-test reveals a computed t-value of zero with a probability of one which is not significant. This

means that there is no significant difference between the two methods of teaching in the performance of the students in their posttest. Thus, the hypothesis that there is no significant difference in the level of effectiveness of the two methods of teaching by the physical education teachers, is accepted. This implies that both methods of teaching showed favorable results in the students' performance in the test.

Most experts agree that both part and whole methods should be used, that at times a combination is feasible, and that alert teachers employ all three depending on the background of the students, the complexity of the skill and objectives guiding immediate instruction. The principal steps in teaching strategy for developing motor skill are clarify need for the skill; demonstrate the skills, or have a student demonstrate them; provide for immediate practice, observing to not those in need of guidance; provide individual assistance as needed; and provide for immediate use of the skill (Andin, 1988).

Level of Effectiveness of the Methods Used in Teaching Physical Education According to Some Variables

Tables 8 to 11 show the level of effectiveness of the methods used in teaching physical education according to gender, age, birth order and family income.

Effectiveness of Method and Gender

Table 8 shows the level of effectiveness of methods used in teaching physical education according to gender.

As reflected in the table, the scores of the female students (29) in the pretest under the inductive method is higher than the male students (22). The same trend was also obtained during the posttest with scores of 33 and 31, respectively. The female performed significantly different during the pretest but not during their posttest. This is indicated by their respective computed t-value. This implies that the use of the inductive method improved the performance of the male students. In addition, the inductive method enhanced learning among the male students.

On the other hand, the deductive method showed no significant difference between male and female students in the pretest as well as in the posttest. Results showed an improvement of the performance of the students, however, gender is not a significant factor in the performance of the students.

Therefore, the hypothesis that gender does not affect the level of effectiveness of the deductive method, is accepted but rejected in the inductive method in the pretest.

Lardizabal (1997) categorized teaching styles into two major areas; direct and indirect teaching. He defined the former as teaching wherein the teacher provides new or additional information to students in a number of ways, that is,

Table 8. Level of effectiveness of the methods used according to gender

METHOD		GENDER MALE Xm	FEMALE Xm	tc	prob.
a. Inductive					
	Pretest	22	29	3.613*	0.002
	Posttest	31	33	1.537^{ns}	0.139
b. Deductive					
	Pretest	25	29	2.015^{ns}	0.056
	Posttest	31	32	1.187^{ns}	0.246

*-significant ns-not significant

by lecturing, showing a film or taking a field trip. The latter he elaborated as a pattern in which the teacher structures activities in which the learner is active and involved in a variety of situations, such as playing games, group role playing, training and laboratory work.

Effectiveness of Method and Age

The level of effectiveness of the methods used in teaching physical education according to age is shown in Table 9.

The table shows that the performance of the students regardless of age is not significant as evidenced by the computed t-value of 0.963 with a probability higher than 0.05 level of significance in both the pretest and posttest taken by the students using the inductive method of teaching. This is the score trend in the deductive method of teaching. This is supported by the respective computed t-

Table 9. Level of effectiveness of the methods used according to age

METHOD		AGE GROUP 17 and below Xm	18 Xm	19 and above Xm	tc	prob.
a. Inductive						
	Pretest	25	28	25	0.963^{ns}	0.389
	Posttest	34	32	32	0.256^{ns}	0.776
b. Deductive						
	Pretest	26	29	27	1.598^{ns}	0.213
	Posttest	31	32	34	1.203^{ns}	0.309

ns-not significant

values in the pretest and posttest scores of the students. In the pretest scores of the students, the 18 years old students had the highest scores compared to the 17 years and below and 19 and above. In the posttest using the inductive method, the younger students obtained higher achievement scores than the older ones. Using the deductive method in the pretest, 18 years old students obtained the highest score, however, the students who are older obtained highest scores in the posttest compared to the younger ones. The differences of the scores of the students showed no significant difference which imply that age does not significantly affect the level of effectiveness of methods used. Thus, the hypothesis that age does not affect the level of effectiveness of the inductive and deductive methods, is accepted.

Modern physical education activities are based on the natural physical education activities of primitive times. Even the more recent activities, when analyzed, are found to be developed from natural activities. For example, playing American football involves such basic skills as running, dodging, leaping, striking, throwing, and swimming a club. In fact, it is probable that the greater the variety of basic natural skills employed in a single game, the greater the resulting satisfaction and educational value of the game or sports. Among the contributions of many nations to the accumulated heritage of large-muscle or physical education activities were those of the early Greeks of the Homeric era. These includes javelin throwing, chariot racing, speed and distance running, discus throwing, weight throwing, boxing, wrestling and shooting the bow and arrow.

The mastery of life's varied activities can be directly attributed to physical education. This development starts with the skills learned in the simple play and games of childhood and increases gradually with the more complex coordination of team and individual sports of later years. It develops thinking, interpreting, and problem-solving processes of the individual. It starts with exploratory play of infancy and adulthood and continues through all physical education activities as well as others. It is developed particularly in teams sport through learning the rules and signals and the special techniques for such skills as pitching a curve

ball; punting a spiral; executing a particular football block; and diagnosing the opponent's offence or defense quickly.

Effectiveness of Method and Birth Order

Table 10 shows the level of effectiveness of methods used in teaching physical education when compared according to birth order.

In the inductive, the first born students obtained higher scores in the pretest than the middle and last child in the family. However, the last child had highest scores in the posttest in the inductive method. No significant difference among the first, middle and last child was noted in the achievement test scores both in the pretest and posttest. This is supported by the computed t-values of 0.220 and 1.254, respectively with probabilities higher than the 0.05 level of significance.

Using the deductive method of teaching, the scores of the middle born students obtained higher scores than the first and last born students in the pretest and posttest. However, these differences of scores among the students is not significant as evidenced by the computed t-values of 0.601 and 1.468, respectively. Both computed values have probabilities higher than the 0.05 level of significance, hence, not significant. This means that regardless of birth order of the students, their scores are not different from each other.

Therefore, the hypothesis that birth order does not affect the level of performance of the students using the inductive and deductive methods, is

Table 10. Level of effectiveness of the methods used according to birth order

METHOD	BIRTH ORDER First Xm	Middle Xm	Last Xm	Fc	prob.
a. Inductive					
Pretest	29	27	26	0.220^{ns}	0.803
Posttest	32	31	33	1.254^{ns}	0.295
b. Deductive					
Pretest	28	29	27	0.601^{ns}	0.552
Posttest	31	34	31	1.468^{ns}	0.241

ns-not significant

accepted. This implies that birth order of the students do not affect the performance of the students in physical education regardless of the method of teaching employed by the teachers.

Effectiveness of Method and Income Level

Table 11 shows the level of effectiveness of the methods used in teaching physical education when compared according to income level.

The table shows that the students with income level of Php 5,100 to Php 10,999 obtained the highest score of 29 as compared to those with income level of less than Php5,000 and Php 11, 000 and above in the pretest. However, the students with the highest income level obtained the highest scores in the achievement test in the posttest. The difference in the performance of students in

Table 11. Level of effectiveness of the methods used according to income level

METHOD	INCOME LEVEL Less than P5,000 Xm	P5,100 - P10,999 Xm	P11,000 and above Xm	Fc	prob.
a. Inductive					
Pretest	25	29	26	1.959^{ns}	0.152
Posttest	31	31	33	1.469^{ns}	0.241
b. Deductive					
Pretest	27	28	28	0.164^{ns}	0.849
Posttest	31	33	32	0.771^{ns}	0.468

ns-not significant

the achievement test is not significant as evidenced by the computed t-values of 1.959 and 1.469, respectively using the inductive method.

Using the deductive method, of teaching the students who belong to the income level Php 5,100 to Php 10,999 obtained the highest scores in the achievement test given to them both in the pretest and posttest. However, the difference in their scores is not significant as revealed by the result of the t-test. The computed t-values are all not significant as shown in the table. This implies that family income is not a significant factor in the performance of the students in the deductive method of teaching.

Therefore, the hypothesis that income level do not significantly affect the level of effectiveness of the the two methods of teaching, is accepted.

The development and maturing of impulses and emotions are brought about through physical activities. An athlete controls his emotions because of his desire to stay in the game. Inherent in team sports are fear, anger, joy, and other powerful emotions which are experienced. One of the purposes of teaching physical education is to produce individuals who can contribute to economic well being through the improvement of proper work habits and attitudes related to punctuality, cooperation, reliability, precision and accuracy, open-mindedness (Bahr, 1995).

Relationship Between the Factors Affecting the Teaching Process and Level of Effectiveness in Teaching Physical Education

Tables 12 and 13 show the relationship between the factors affecting the teaching process and level of effectiveness of the inductive method and deductive method of teaching physical education.

Factors and Inductive Method

Table 12 shows the relationship between the level of effectiveness and factors affecting teaching process using the inductive method.

As shown in the table, a positive correlation exists with environment as indicated by the correlation coefficient of 0.043. This result means that the availability of the area where the students perform their physical education activities the higher is their performance. This correlation, however, is not

Table 12. Relationship between the level of effectiveness and factors affecting teaching process using the inductive method

FACTOR	Correlation Coefficient (r)	prob.
Environment	0.043^{ns}	0.765
Facilities	-0.143^{ns}	0.321
Materials/Equipment	-0.173^{ns}	0.229
OVERALL	-0.128^{ns}	0.375

ns-not significant

significant. The availability of the area where the students perform their physical education activities increases their performance.

In terms of facilities, there is a negative correlation with r=-0.143, described as low correlation which is not significant. Using the inductive method of teaching, the use of more facilities by the teachers tend to decrease the students' scores in the achievement test.

Similar results are obtained in terms of materials/equipment. There is a negative relationship between the level of effectiveness of methods and factors. This means that the more materials/equipment the teachers use tend to decrease the performance of the students. However, this claim is not significant. This may be true because if more materials/equipment were used in teaching a particular topic it might confuse the students.

Tinipac (2005) stated that demonstration method serves as excellent way of teaching physical education and that the teacher should demonstrate the skills perfectly as possible. It is highly suggested that the lecture method should be combined with demonstration method to make information in physical education more interesting and effective. This can be an effective way to provide opportunities to discover the creative talents of students.

Factors and Deductive Method

Table 13 shows the relationship between the level of effectiveness of deductive method and factors affecting it.

The table shows that there is a positive correlation between the availability of environment, facilities, materials and equipment with the students' performance in the achievement test in physical education. This is indicated by their respective correlation coefficients of 0.166, 0.009 and 0.160, respectively for environment, facilities, materials/equipment with respective probabilities of 0.250, 0.951 and 0.268. These computed probabilities are all higher than 0.05 level of significance, hence, not significant. This means that there is no significant relationships between the factors with the level of effectiveness of the deductive method. The scores of the students increased with the availability of resources, although the improvement is not significant.

Thus, the hypothesis that there is no significant relationship between the level of effectiveness of deductive method and factors affecting it, is accepted.

Table 13. Relationship between the level of effectiveness of deductive method and factors

FACTOR	Correlation Coefficient (r)	prob.
Environment	0.166^{ns}	0.250
Facilities	0.009^{ns}	0.951
Materials/Equipment	0.160^{ns}	0.268
OVERALL	0.127^{ns}	0.380

ns-not significant

There is a relationship, however this relationship is not significant.

Another method which is deemed to be one of the most effective methods in teaching physical education is the demonstration method. Its use can enhance learning or retention of students. It must be well-planned and the equipment and materials to be used must be organized at the place where demonstration is provided.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The study was conducted to determine the factors affecting the inductive and deductive methods; find out the level of effectiveness of the inductive and deductive methods; determine the effect of gender, age, birth order and family income on the level of effectiveness using the two methods of teaching; and determine the relationship between the factors affecting the kevel of effectiveness of the inductive and deductive methods different private institutions of San Fernando City during the SY 2006-2007.

The study made use of a questionnaire to gather the needed data from 100 students and an achievement test prepared by the teacher. It utilized the descriptive and inferential statistics at 0.05 level of significance.

The significant findings of the study are the following:

1. Environment, facilities and materials/equipment were perceived very satisfactory in both the inductive and deductive methods in the pretest and posttest by the students. The difference is not significant in the pretest and posttest using the inductive and the deductive methods.

2. The level of effectiveness of the inductive and deductive methods was satisfactory both in the pretest and posttest although no significant differences were noted between the two results.

3a. The level of effectiveness of the methods used revealed a significant difference between male and female students in the pretest but not significant in the posttest.

3b. No significant differences existed among the age groups in the pretest and posttest using the inductive and deductive methods.

3c. There were no significant differences in the pretest and posttest according to birth order in the two methods of teaching.

3d. In terms of income, no significant difference were found among income groups in the two methods of teaching in both pretest and posttest.

4a. There is a positive correlation between environment and level of effectiveness of the inductive method but positive in terms of facilities and materials/equipment.

4b. There is a positive correlation between the level of effectiveness of the deductive method and the three factors.

Conclusions

Based from the findings of the study, the following conclusions are drawn:

1. The factors affecting the teaching process in physical education do not affect the performance of the students regardless of the methods used in teaching.

2. There is an improvement in the performance of students using the inductive and deductive methods in teaching physical education.

3. Regardless of methods used, the performance of students is not affected by selected variables like age, gender, birth order and income of family.

4. That the factors affecting teaching process and level of effectiveness using the inductive method and deductive method both contribute to the enhancement of students performance.

Recommendations

Based on the findings and conclusions drawn; the following recommendations are offered:

1. The institutions included in this study need to improve and maintain facilities and procure additional materials/equipment in teaching physical education and consider other areas conducive in the conduct of physical education activities.

2. Teachers in physical education do not only consider the inductive and deductive methods in teaching physical education. A variety of methods depending on the needs of students and subject matter to be taught is highly recommended.

3. The physical education teachers should attend seminars, trainings and conferences regularly to update their knowledge in the area especially if these teachers are not majors in physical education. These teachers likewise must pursue higher studies to be upgrade themselves in the field of physical education.

4. School administrators identify needed resources in teaching physical education to enhance learning.

5. Another study may be conducted considering other variables and other methods used in teaching physical education.

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APPENDIX A

LETTER TO THE RESPONDENTS

Benguet State University
INSTITUTE OF PHYSICAL EDUCATION AND SPORTS
La Trinidad, Benguet

June 1, 2006

_____
_____

Sir/Madam :

I am presently engaged in gathering data for my thesis entitled "THE USE OF INDUCTIVE AND DEDUCTIVE METHOD IN TEACHING TERTIARY PHYSICAL EDUCATION IN THE SELECTED PRIVATE SCHOOLS OF SAN FERNANDO CITY, LA UNION".

This study is conducted as a requirement for my completion of my Master's degree (Master of Arts in Physical Education).

In view hereof, I wish to solicit your cooperation by answering honestly all the questions in the interview guide. Rest assured that the data gathered in this study shall be held strictly confidential.

Thank you very much for your cooperation. God Bless!

Respectfully yours,

(SGD.) ADA R. WEER
Researcher

Noted by:

(SGD.) RUSSEL B. DOLENDO, M.A.P.E.
Adviser

(SGD.) TESSIE M. MERESTELA, D. AGR.
Dean

APPENDIX B

Achievement Test

Name:_____ Date:_____
Score:_____
Gender: _____ Age:_____
Economic Status: _____

Birth Order: Please check		Income Level:	
First born	_____	less than P 5,000.00/month	_____
Middle born	_____	P5,100.00 – P10,999.00/month	_____
Last child	_____	P11,000.00 and above/month	_____

Factors Affecting the Teaching Process

Please check the column which you have observe that applicable to each item, wherein 5 - outstanding; 4 - very satisfactory; 3 - satisfactory; 2 – unsatisfactory; 1 – poor.

	5	4	3	2	1
1. Environment					
Conduciveness of the area for sports activities	___	___	___	___	___
Present arrangement of the area.	___	___	___	___	___
2. Facilities					
Cleanliness and orderliness	___	___	___	___	___
Ventilation and lighting	___	___	___	___	___
3. Materials/Equipments					
Adequacy of physical education equipments	___	___	___	___	___
Quality of materials for physical Education activities	___	___	___	___	___

Direction: This is an exam in Physical Education with reference to and mental ability. Answer this test to your best. Here are some ideas that will guide you in answering

1. Read and understand clearly the direction before answering. You may ask questions if it is not clear.
2. Your total score will be the number of correct answer. You must answer all the question.
3. All the question will have four choices. Choose the best answer and encircle the letter only.

Example:

1. The foot away from ones partner
   a. back foot c. inside foot
   b. front foot d. outside foot

1. The other term of Rice Thrashing
   a. Paggapas c. Paglulugas
   b. Paghangin d. pagiik
2. Dances that were performed in connection with religious vows, practices and ceremonies.
   a. Regional c. Ceremonial
   b. Occupational d. Courtship
3. The foot not bearing the weight of the body.
   a. Inside foot c. Instep
   b. Free foot d. Outside foot
4. Oldest dance and song.
   a. Komintang c. Komentang
   b. Kumintang d. Kumentang
5. Dance where in the male dancer beat drums, dance, and perform stunts to drive way evil spirit.
   a. Sinurog c. Sinorog
   d. Sinulog d. Sinolog
6. Weigth of one foot hit the floor with the ball or heel of the other foot and lift that foot from the floor to any direction.
   a. Leap c. Inside foot
   b. Brush d. Outside foot
7. To turn palms up and down alternately, hands at waist level in front, elbows close to waist
   a. Masiwak c. Bilao
   b. Panadyak d. Jaleo

8. Bring the right arm overhead so that both arms are up
    a. 2nd position
    b. 3rd position
    c. 4th position
    d. 5th position
9. The heel of the right is in contact with the toes of the left foot
    a. 5th position
    b. 4th position
    c. 3rd position
    d. 2nd position
10. To place one forearm in front and the other at the back of the waist
    a. Panadyak
    b. Hayon – hayon
    c. Patay
    d. Sarok
11. Heels close; toes open
    a. 2nd position
    b. 4th position
    c. 1st position
    d. 3rd position
12. To turn with the ball, heel or whole foot
    a. Cut
    b. Draw
    c. Place
    d. Pivot
13. To glide smoothly along the floor
    a. Slide
    b. Stamp
    c. Set
    d. Sarok
14. Swinging the arm downward – upward passing in front of the body on the other foot
    a. Sarok
    b. Salok
    c. Saludo
    d. Stamp
15. Open position with the heels in line
    a. 1st position
    b. 2nd position
    c. 3rd position
    d. 4th position
16. Arms raised and encircle in front, hands hanging naturally
    a. 1st position
    b. 2nd position
    c. 3rd position
    d. 4th position
17. A dance formation like square or a unit formation composed of two or more pairs
    a. Pivot
    b. Place
    c. Set
    d. Slide
18. Dances intended to show imaging combat
    a. Ceremonial
    b. Religious
    c. Festival
    d. War
19. Cross the R(L) foot in front of the Left (Right) bend the body slight by forward and cross the hands down in front with the Right (Left) hand over Left(Right)
    a. Sarok
    b. Salok
    c. Saludo
    d. Stamp

20. Partners facing each other or standing side by side, join their hands together and Right(Left) and together
    a. clockwise
    b. Crossed arms
    c. Cross-over
    d. Counter clockwise
21. Activities in the form of play that tests one's strength, flexibility, balance, agility, endurance and coordination.
    a. Pyramid Building
    b. Rhythmic Gymnastics
    c. Tumbling
    d. Stunts
22. Movements done by a part of several parts of the body in stationary place.
    a. Scale movements
    b. Axial movements
    c. Locomotor movements
    d. Arch movements
23. First American contributor to gymnastics.
    a. Jacob Riis
    b. Jessie Bancroft
    c. Dudley Sargent
    d. Adolf Spiess
24. Stunt used by a performer to get off the apparatus.
    a. Dismount
    b. Routine
    c. Scale
    d. Mount
25. Person who helps a performer to go about a scale for the first time.
    a. Split
    b. Spotter
    c. Scale
    d. Spotting
26. To touch the floor with the whole of the foot with slightly body weight on it.
    a. Point
    b. Step
    c. Place
    d. Spring
27. Invented the stall bars in the vaulting box.
    a. Perh Ling
    b. Gustaf Nybleus
    c. Lars Branting
    d. Niels Bukh
28. Routines or exercises accompanied with music.
    a. Medical gymnastics
    b. Military gymnastics
    c. Primitive gymnastics
    d. Rhythmic gymnastics
29. Devised a wooden equipment used in gymnastics similar to the back of the horse.
    a. Greeks
    b. Romans
    c. Chinese
    d. Egyptians
30. A position where the body is curved like an arc of a circle, with the hip forward and the head and trunk bend backward.
    a. tuck
    b. twist
    c. arch
    d. scale
31. To spring on both feet and land on one or both feet.
    a. Jump
    b. Leap
    c. Hop
    d. Skip

32. A skill in gymnastics that requires sufficient strength of the arms and flexibility of almost all parts of the body.
    a. Tumbling
    b. Stunts
    c. Pyramid Building
    d. Apparatus Exercise
33. To touch the floor with the toes open, the knees well extended.
    a. Step
    b. Point
    c. Walk
    d. Run
34. Developed the word “Naked Art”
    a. Filipino
    b. Swedish
    c. Greeks
    d. Chinese
35. Great grandfather of gymnastics.
    a. Johann Basedow
    b. Adolf Spiess
    c. Hjalmar Ling
    d. Johann Guts Muths
36. A method of holding the racket.
    a. Grip
    b.Drive
    c. Smash
    d. Service
37. Manufacturer of an indoor tennis kit.
    a. John Jacques
    b. Viktor Barna
    c. Parker Brothers
    d. James Gibb
38. A line which divides the table.
    a. center line
    c. boundary line
    c. side line
    d. end line
39. Equipment that has a three basic parts.
    a. net
    b. table
    c. ball
    d. racket
40. Registered the trade name Ping Pong.
    a. John Jacques
    b. Viktor Barna
    c. Parker brothers
    d. James Gibb
41. Year when International Table Tennis Federation was organized.
    a. 1925
    b. 1926
    c. 1927
    d. 1928
42. Year when American Ping Pong Association was organized.
    a. 1930
    b. 1931
    c. 1932
    d. 1933
43. The measurement of the table.
    a. 2.73 meters x 1.51 meters
    b. 2.74 meters x 1.51 meters
    c. 2.73 meters x 1.52 meters
    d. 2.74 meters x 1.52 meters
44. A shot that does not count where a re-serve is required.
    a. Set
    b. Let
    c. Deuce
    d. Match

45. Simple throw-up of the ball from an open palm of the hand directed onto one's court before it crosses the net.
    a. Service
    b. Drive
    c. Smash
    d. Block
46. The first world championship tournament of table Tennis.
    a. India
    b. South Africa
    c. London
    d. England
47. The line which marks the edge of the table.
    a. Center line
    b. End line
    c. Boundary line
    d. Side line
48. A unit of match
    a. set
    b. Deuce
    c. Let
    d. Rematch
49. A light top spin stroke that produces a low ball trajectory and the primary offensive strokes.
    a. Block
    b. Push
    c. Smash
    d. drive
50. Known as the put-away stroke of table tennis.
    a. Drive
    b. Smash
    c. Block
    d. Push

APPENDIX C

QUESTIONNAIRE

A QUESTIONNAIRE TO ESTABLISH THE CONTENT VALIDITY OF THE TEST THROUGH THE JUDGEMENT OF COMPETENT PHYSICAL EDUCATION TEACHERS

Name: _____
Designation: _____
Station : _____

Directions: Following is a set of questions to establish the content validity of the attached achievement test.
Please evaluate the test by filling out the blanks with a check ( ) mark on the appropriate spaces.

Scale

3 – Very Effective (VE) – 80% -100%
2 – Effective (E) – 50% - 79%
1 – Not Effective (NE) – below 49%

A. INDUCTIVE METHOD

	VE 3	E 2	NE 1
1. How well are the test items representative of the unit on "Fundamentals of Rhythm and Philippine Folk Dances, Gymnastics and Table Tennis" as contained in the students textbooks?			
2. How well are the test items representative of the objectives for the unit " Fundamentals of Rhythm and Philippine Folk Dances, Gymnastics and table Tennis"?			
3. How well are the test items suited to the vocabulary level of college students?			
4. How well are the test items suited to the average behavior patterns of the college students			
5. How well are the items clear & unequivocal?			

	VE 3	E 2	NE 1
6. How well are the number of items adequate enough to collect data about all aspects of the study?			
7. How well are the questions interesting & not boring?			
8. Are all the items relevant to the research problem?			
9. Is the questionnaire not too long?			
10. Are the directions clear?			
11. Are the number of options from which you selected your response enough?			

Suggestions/ Comments:

B. DEDUCTIVE METHOD

	VE 3	E 2	NE 1
1. How well are the test items representative of the unit on " Fundamentals of Rhythm and Philippine Folk Dances, Gymnastics and Table Tennis" as contained in the students textbooks?			
2. How well are the test items representative of the objectives for the unit "Fundamentals of Rhythm and Philippine Folk Dances, Gymnastics and Table Tennis"?			
3. How well are the test items suited to the vocabulary level of year college students?			
4. How well are the test items suited to the average behavior patterns of the college students.			

	VE 3	E 2	NE 1
5. How well are the items clear and unequivocal?			
6. How well are the number of items adequate enough to collect data about all aspects of the study?			
7. How well are the questions interesting & not boring?			
8. Are all the items relevant to the research problem?			
9. Is the questionnaire not too long?			
10. Are the directions clear?			
11. Are the number of options from which you selected your response enough?			

Suggestions/ Comments:

_____

_____

APPENDIX D

LESSON PLANS

Lesson Plan (Rhythmic Activities)

I Objectives (Inductive Method)

At the end of the lesson the students shall be able to:

1. Discuss the history of Philippine folk dance.
2. Identify the geographical origin and nature of folk dance.
3. Know the different dance terms.
4. Create a dance taken from the different dance terms.
5. Appreciate that Philippine folk dance has a great contribution in the development of dances.
6.

II. Subject Matter (Rhythmic Activities and Folk Dance)

III. Materials an References
Hand-Out
Physical Activities for Filipina by Sofia Ravello
Today's Physical Education by Aquillino Rivera

IV. Procedure

Teacher's Activity	Student's Activity
A. Motivation	
Can you describe the position/location of the Philippines?	Ma'am the Philippines is located in Asia The Philippines is scattered The Philippines is composed of islands and islets.
Very good Since the Philippines is composed of islands, do we have a variety of dances? Why?	Yes ma'am, because of the different customs and traditions that were existed in the different regions.

B. Lesson Proper

1. Preparation

Let us imagine that we are primitive dancers, what are the dances that we perform?

Tribal and ethnic dances.

2. Presentation of Details

We all know that before the coming of the Spaniards our country was inhabited by 3 racial groups.

Can you enumerate them Jana?

Ma'am the Pygmies, Indonesians and Malays.

Because of them, they introduce dances in the country and dances became part of their religious activity.

In your own idea why did they perform dances?

For thanksgiving to their god, to have a bountiful and plentiful harvest, for a victorious battle, they dance in order for them to have a prosperous voyage and recovery from sickness.

Bright idea.

What is sinulog?

A dance of primitive duel using bolos.

Dancing were also part of social activities especially during the Spanish regime.

Kindly give the dances that were performed during Spanish regime?

Komintang, Pampango, Fandango, Lanceros, rigodon, Carinosa and Curacha

Among those dances which are considered the oldest dance and song?

Ma'am the Komintang.

How about Pampango?

A dance characterized by the movements of loins and clapping of the hands.

Because of the Spaniards we were influenced by a lot of music and dances.

Do you agree that we Filipinos are fun of dancing and singing?

Yes Ma'am.

Give reasons why we are fun of dancing and singing?

In order to entertain ourselves for relaxation during occasion and other celebration.

That's why it increased in popularity

Who became the mother of Philippine folk dances?

Mrs.Francisca Reyes Aquino

Will you give me some ideas why she was considered the mother of Philippine folk dance?

Because she was able to published books all about folk dance.

Because of her interest, skill and devotion to work. She was able to traveled all over the Philippines to gathered music and steps for the dances.

What are the different dance troupes that she organized?

University of the Philippines folk song and dance, Filipiniana, Barangay, Bayanihan and Filipinescas.

The different dance troupes have gone outside the country performing the different Philippine dances.

What are the geographical origin of dances?

National and Local or Regional Dances

William, compare the 2 geographical origins.

National dances these are traditional dances throughout the Philippines while Local or Regional these are dances found in certain localities or region.

We have also nature of dances,

Write down on the board the nature of dances.

Occupational, religious, Courtship, Wedding, Festival, War, Comic and Game dances.

Can you tell something about each nature.

1. Occupational dance it depicts action characterizing certain occupation.
2. Religious dance, dances in connection with religious vows, practices and ceremonies.
3. Courtship dance it depicts love making or love themes.
4. Wedding dances performed by newlyweds, friend and relative of bride and groom.
5. Festival dance performed in connection with celebration.
6. War dances performed to show imaginary combat.
7. Comic dance are dances with funny and humorous movement.
8. Game dances these are dances that have play elements.

What are the examples of dances?

Pabirik, Kin-aras, Rice festival, Sinurog, Pandang-pandang, Makongo and Kinoton

Does this dance belong to one nature?

No Ma'am.

What is pabirik?

An occupational dance that depicts the different stages of gold panning.

How about the other dances?

Kin-aras depicts the different stages of catching mudfish in the field.

Rice festival depicts the different stages of planting rice to winnowing.

It became the largest number of dances

What else?

Sinurog, Pandan-pandang, Makongo and Kinoton.

Can we apply a step pattern for the different dances that you mention?

Yes Ma'am.

Give an example

step brush, step close, step point

Class bring out your hand out" The common Dance Term and Step" and read it one by one (The other dance term may be taken in like manner).

3. Comparison and Abstraction

Without the Spaniard can we develop/ create a lot of dances?

Yes ma'am as we discuss a while ago that the Philippine is composed of a lot of islands we can create a lot of dances because of our strategic location, tradition that existed in the different region.

4. Generalization

Why does this generation nowadays like to perform foreign dances rather than our own dances?

Ma'am just because dances now a days has a fast movements and they can easily adopt.

5. Application

You have to group into 5 with 10 members each and create or choreograph your own dances taken from your hand out.

Lesson Plan

I. Objectives (Deductive Method)

At the end of the lesson the students shall be able to:

1. Discuss the history of Philippine folk dance.
2. Identify the geographical origin and nature of folk dance.
3. Know the different dance terms.
4. Create a dance taken from the different dance term.
5. Appreciate that Philippine folk dance has a great contribution in the development of dances.

II. Subject Matter (Rhythmic Activities and Folk Dance)

III. Materials an References

Hand-Out
Physical Activities for Filipina by Sofia Ravello
Today's Physical Education by Aquillino Rivera

IV. Procedure

Teacher's Activity	Student's Activity
1. Introduction	
What is folk dance?	Folk dance are traditional dances of a country which were evolved naturally, spontaneously in connection with everyday activities and experiences of the people who developed them
	Dances that originate in our country with different step pattern, rhythm and dance term
Give the step pattern that you know?	Step ,close, step Step ,point Step, brush Step, brush, hop Slide, cut, hop
Without the step pattern and rhythm	

Can we create dances? — No ma'am because in every dance step pattern and rhythm is very important in order for as to have a guide in performing the dances.

2. Giving the rule

From your hand outs (dance term and dance steps) create and choreograph your own dance with 10 members per group.

3. Explanation of the General idea

The history of Philippine folk dance started from primitive society to present,

What are the dances that were performed before? — Komintang, Pampango, fandango, Lanceros, Rigodon, Carinosa Curacha

How about at present? — Modern dances, interpretative dances.

Remember that our dances before were performed in special occasion not like modern dances that are performed anytime.

Our dances have their own geographical origin and nature.

What is the geographical origin? — National and Local or Regional Dances

How about the nature of the dances? — Occupational, religious, Courtship, Wedding, Festival War, Comic and Game dances

Enumerate the dances that belong to the different nature dances. — Pabirik Rice festival and Kin-ars belong to occupational dances Sinurog and Pandang Pandang belong to Religious dances Makongo and kinoton belong to the comic dance.

Our folk dances was also popularized by the Mrs. Francisca Aquino and considered the mother of folk dance

What are the groups she organized? — University of the Philippine folk song and dance, Filipiniana, Felipinescas Barangay and Bayanihan.

This dance troups have performed the different Phil folk dances.

4. Illustration

On the board write down the reasons why they perform dances?

5. Evaluation

Compare and contrast the dances before and the present?

Lesson Plan (Gymnastics)

I Objectives (Inductive Method)

At the end of the lesson the students shall be able to:

1. Discuss the history of gymnastics.
2. Enumerate and differentiate the phases and terms of the gymnastic Program.
3. Identify the different body movements used in gymnastics.
4. Appreciate that movement is very important in daily activities.
5. Create their own conditioning exercise in gymnastics.

II. Subject Matter (History of Gymnastics)

Reference – Gymnastics book

III. Procedure

Teacher's Activity	Student's Activity
A. Motivation (Let the teacher execute simple exercise)	
What did I do?	By creating movement executing exercise.
Why should we exercise?	to be physically fit to become stronger
B. Presentation/Comparison Activity I Exercise is one of the earliest recorded activities in gymnastics.	
Kindly give other earliest recorded activities in gymnastics?	Stunts, tumbling, resembling gymnastics, hanging, climbing ropes, swinging, balancing on stone and logs, flipping and turning.

And they were considered as the common activities during early civilizations.

What are exercises that were developed by the Chinese?

Kung Fu or (Medical Gymnastics)

How about in India and Greece?

In India they called it Yoga and in Greece they called it Naked Arts.

Very good, the word naked art means gymnastics for the Greeks.

Can you tell what did Egyptian and the Roman contribute?

The Egyptian had a balancing activities and the pyramids were inspirations for the said activity.

The Romans, because of love of war they devised a wooden equipment similar to the back of a horse. and they use it for mountingand dismounting.

The Germans are great contributors in gymnastic program.

Kindly give the different contributors and their contributions.

Johann Basedow, 1723 – 1790, he introduced gymnastics in the school curriculum.

Johann Guts Muths, 1759 – 1839, the great grandfather of gymnastics, wrote a book “Gymnastics for the Youth” and invent the outdoor apparatuses.

Freidrich Jahn, 1778 – 1852, the father of gymnastics and started the Turuerein movement.

Adolf Spiess, 1810 – 1858, he introduced marching and free hand exercises with music.

Perh Ling, 1776 – 1839, invented the stall bars and the vaulting box.

We can say that all their contribution have a great help in the gymnastics program.

Do the Americans contribute in this Program?	Yes ma'am, and they influenced by the European.
Who is the first American contributor to gymnastic?	Dr. Dudley Sargent.
In the Philippines, who are responsible in contributing gymnastic?	Director Candido Bartolome and Mrs. Francisca Aquino.
As of this time gymnastics is considered one of the most popular activities in physical education classes.	

Activity II

What is the meaning of gymnastics?	Gymnastic is a self-motivating activity where one can manipulate the different parts of the body into varied positions or movements.
In this program grace, poise and dignity of movements are emphasized.	
Enumerate the phases of the gymnastics Program?	Conditioning program, Rhythmic Gymnastics, Stunts, Tumbling, Apparatus Exercises (Heavy) and Pyramid Building.
What is a conditioning program?	Selected exercises for the purposes of preparing the body for more complicated movements and skills.
Differentiate Rhythmic Gymnastics from pyramid building.	Rhythmic gymnastics are exercises/ routine accompanied with music while pyramid building is making pyramid structures out of positions in the floor skills and the tumbling skills.
How about stunts and tumbling?	Stunts are activities in the form of play while tumbling is a skill in gymnastics that requires sufficient strength of the arms and flexibility of almost parts of the body.

Apparatus Exercises include exercises done on the balance beam, vaulting horse, parallel bars, uneven bars, rings and the trampoline.

We need to consider the different terms in gymnastics

Kindly give the terms used in gymnastics.

The arch, Dismount, Routine/ Exercise, Static position, Mount, Press, Scale, Splits, Spotter and Tuck.

What is an Arch?

Arch is a position where the body is curved like an arc of a circle.

When a gymnast performs an arch and goes up to the apparatus, what term is it?

Mount.

How about if the gymnast gets off the apparatus?

Dismount.

Differentiate spotter from Spotting?

Spotter is a person who helps the performer to go about a skill for the first time while spotting is the act of helping a person to go about a skill for the first time.

Static and Split

Static these are positions held for two seconds while split is a position where the legs are extended forward and backward in a straight position.

Activity III

What are the two types of body movements?

Axial and Locomotor movements

How can you determine axial from locomotor?

Axial are movements done by a part or several parts of the body in stationary place while locomotor movements that brings the performer from one place to another.

I will group you into 5 with 10 members. Identify and perform the axial and locomotor movements.

But before doing that, what are the things that you should follow in a group work? Work with a group, cooperate, share ideas, and follow instructions.

Do it for 15 minutes. (The students will group themselves)

C. Activity Proper

Group Presentation

D. Evaluation

1. What are the things that you need to consider when you work in groups. Cooperation, and sharing our ideas..
2. Do you agree that movement is very important? Why? Yes, Because movements makes our body work .
3. React in the group presentation.

IV. Assignment

Create your conditioning exercises and find out the threes period of conditioning.

Lesson Plan (Gymnastics)

I Objectives (Deductive Method)

At the end of the lesson the students shall be able to:

1. Discuss the history of gymnastics.
2. Enumerate and differentiate the phases and terms of gymnastic Program.
3. Identify the different body movements used in gymnastics.
4. Appreciate that movement is very important in daily activities.
5. Create their own conditioning exercise in gymnastics.

II. Subject Matter (History of Gymnastics)

Reference – Gymnastics book

III. Procedure

Teacher's Activity	Student's Activity
A. Motivation Present a verse and let the teacher read it first followed by the students.	
	Gymnastic is good/gymnastic is fun and enjoyable. Gymnastic is exciting to everyone.
Suppose we are in military training I am your leader and you are my cadets. What will you do if your leader commands you?	We will follow.
If I tell you to run, you will run while you chant the verse with the proper intonation. (Integration of movements)	
Run…. Jump….. Hop….. Skip….. Leap…… Twist….. Swing….. Rotate….. Inhale, Exhale 5 times	The students will do the activity.

B. Presentation

What types of movement did you Execute? — Axial and Locomotor movement

How do you feel after performing the activity. — I feel hot, tire.

What did you feel right now is like a performer in gymnastics.

What is meant by gymnastics? — Gymnastic is a self motivating activity where one can manipulate the different parts of the body into varied positions or movements.

Very good, gymnastics was developed in different countries with different names.

Give examples. — In China they called it medical gymnastic or Kung Fu.
India – Yoga
Greece – Naked Arts

How about the Egyptians and The Romans? — The Egyptians participation of gymnastic were pyramid activities while the Romans because of love of war they devise a wooden equipments similar to horse where they could practice mounting.

In the development of gymnastics who were the greatest contributors? Enumerate them. — Johann Basedow, John Guts Muths, Freidrich John, Adolf Spiess, Perh Ling, Dudley sergeant, Candido Bartolome and Mrs. Francisca Aquino.

Because of them, equipment, materials in gymnastics were being used.

What are the phases of gymnastic program? — Conditioning, Rhythmic gymnastic, Stunts, Tumbling, Apparatus Exercises and Pyramid Building.

Each phase contributes to the various terms in gymnastics.

Give examples and their meaning. — Arch is a position where the body is curved like an arc of circle

Mount stunts performed by performer to go up on an apparatus
Dismount stunt performed by performer to get off the apparatus
Spotter a person who helps a performer go about a skill for the first time
Spotting is the act of helping a person to go about a skill for the first time

IV. Illustration

What ate the equipment or materials being used in gymnastics?

V. Evaluation

What are the objectives of gymnastics? How do you apply in your present life?

Lesson Plan (Table Tennis)

I. Objectives (Inductive Method)

At the end of the lesson the students shall be able to:

1. Tell and discuss the origin and equipment of table tennis.
2. Follow the given rules in the game.
3. Enjoy playing the table tennis showing sportsmanship.

II Subject Matter – Table Tennis

Reference: Book of Rules and PEHM for High School

III. Procedure

Teacher's Activity	Student's Activity
A. Motivation (Teacher present the 2 balls 1st ball- Table Tennis ball 2nd ball- Lawn Tennis ball)	
What makes the 2 balls different?	The size, color weight and the texture The bigger ball use in lawn tennis while the smaller ball is use in table tennis
Who among you in this class know how to play lawn and table tennis?	
B. Presentation	
Do you consider table tennis and lawn tennis the same?	No, because the history of table tennis is different than lawn tennis
The origin of table tennis has never been exactly pinpointed.	
What was the earliest known form of the sport?	It is called indoor tennis.
It was played in the early 1880's.	
Who played this game during early 1880's?	The British Army officers in India and South Africa
What are the materials that they used?	Lids from cigar, boxes as their paddles and rounded corks from

wine bottles as balls with a row of books set up across the middle of a table to form the net

The other version developed in England during the 1890's known as "Whiff Whaff" And "Gossima'

Who contributed this name? Parker Brothers

How about the name "ping pong"? James Gibb

Gibb is an Englishman who visited the United States in 1900.

Who registered the trade name "ping pong"? John Jacques

However because of this development associations were formed.

What are they? Ping Pong Association, Table Tennis Association and International Table Tennis Federation

This association was formed in order to govern the rules & regulation regarding table tennis.

When and where was the first world championship tournament for the game? It was in the year 1927 and held at London

From then a lot of countries and continents dominated the sport.

Enumerate the different equipment used in the game? Table, Net, Racket and the Ball

Kindly give the measurement of the table? 2.74 meters(9ft) in length and 1.52 meters (5ft) in width

The table shall be rectangular in shape And in a horizontal plane 76 cm. above the floor.

How can we determine if the table is used for the single or double? By the center line

What is the length and height of the net? Net shall be 1.83 mm in length with a height of 15.25 cm

The net is placed at the center dividing the table into two equal halves.

What is the size of the racket? The racket maybe of any size, shape or weight

The racket should be flat and rigid.

What is the weight of the ball? Generally weighs 2.7 grams and

spherical with a diameter of 40mm

The ball is also made of celluloid or plastic material.

In playing table tennis you need to know how to grip the racket.

How many methods of gripping? There are 2 methods of gripping.

What are they? The shake hand grip and the penhold

Can you differentiate the two methods of gripping? Shake hand grip the racket is gripped with all fingers with the thumb resting by itself on the opposite side as the index finger. Penhold grip the racket is gripped as one would grip a pen with the thumb and index finger, with the rest of the fingers being tucked away on the other side.

Write on the board the other basic skills. Service and the strokes.

Service is started by a simple throw-up of the ball from an open palm of the hand directed onto ones court before it crosses the net.

Enumerate the 3 kinds of service. Top-spin, under spin and the side spin service.

(Choose students who can perform the 3 kinds of service)

What is meant by drive, push, block and smash? Drives – a light top spin stroke that produces a low ball trajectory and the primary offensive stroke in the table tennis.

Push – the basic back spin shot

Block – allows the player to use the opponent's force against him/her and is done immediately after the bounce so that the maximum control and speed are retained.

Smash or kill – is the put away stroke of table tennis.

IV. Generalization

Suppose you are a player on the said event and you apply all the strokes you know, do you consider yourself a winner? Why?

V. Application

Mastery and execution of the different basic skills in table tennis.

Lesson Plan (Table Tennis)
Deductive Method

I. Objectives (Inductive Method)

At the end of the lesson the students shall be able to:

1. Tell and discuss the origin and equipment of table tennis.
2. Follow the given rules in the game.
3. Enjoy playing the table tennis showing sportsmanship.

II Subject Matter – Table Tennis

Reference: Book of Rules and PEHM for High School

III. Procedure

Teacher's Activity	Student's Activity
A. Motivation Suppose you are on the final match for the championship of the table tennis and you did not make it, what are the things that you will consider?	I will accept that It is not my time for winning. Probably, I use the wrong techniques and strategies in playing.
B. Statement of the Problem In that scenario, the player lacks strategies and techniques, why do you need to know the strategies and techniques in playing the game?	In order for us to be a good player. So that when we will play our opponent will be confused on the different strategies and techniques that we are going to apply.
How can you be a good player?	By knowing the history and facilities And equipment of the game. Learning the basic kills/strokes of the game.

Reading the rules and regulations.
Proper application/execution of the basic skills.

How does the table tennis start?

Table tennis has never been exactly pinpointed the origin but the British army officers in India and South Africa used lids from cigar boxes as paddles and rounded corks from wine bottles as the ball, with a row of books set up across the middle of the table to form the net.
Other version is that the England called the game “whiff whaff and gossima” and the Parker Brothers manufactured an indoor tennis kit.

What are the important developments by table tennis?

In 1900 James Gibb an English man apparently came up with the name ping pong.
John Jacques registered “Ping Pong” as a trade name in 1901.
E.C. Goode covered a wooden ping pong paddle with pebbled rubber, which allowed him to put spin on the ball.
Ping Pong association was founded in England in 1902.
The sport spread in England and Europe using the generic name of table tennis.
Table Tennis Association was established in 1921.
International Table Tennis Federation in 1926.
The first world championship tournament was held in 1927.
The top players of Hungarians were Maria Medyangky and Viktor Barna.
Asian players developed the penhold grip.
Table tennis become an Olympic sport in 1988.

Why do players upgrade their equipment?

To be in good condition during and after the game.
To make the player comfortable during the game.

What are the different equipment used during the game?

The ball, racket, and the table.

What are the measurement of the table and the net?

The table is 9 ft. (274 cm.) long and 5 ft. (1525 cm.) wide.
The net shall be 1.83 mm. in length and 15.25 cm. high.

The ball is made up of celluloid or plastic materials.

What are the basic skills in table tennis?

The grip, strokes and service.

C. Generalization

Why is gripping very important for the beginners?

In order to return the ball within the surface of the table.
To control the ball because the ball is made up of light materials that can easily travel through the wrong direction.

In your point of view, why is it that they called it Ping Pong?

Because of the sound made by the ball and the racket back and forth.

Why are Black and Red colors commonly used in table tennis?

Because red indicates the penhold grip and black indicates shake hand grip.

IV. Evaluation

Lets talk about it.

1, What will you do if you were cheated in your championship game? Explain.
2. Do you still participate in the next tournament? Why?
3. List down three ways of being a good athlete?

V. Agreement

1. Research and read the new rules of table tennis.

APPENDIX E

TABLE OF SPECIFICATION

LEARNING CONTENT	KNOWLEDGE	COMPREHENSION	APPLICATION	ANALYSIS	ATTITUDE	TOTAL ITEMS
I. Rhythmic activities						
History of Phil. Folk dance	2, 18	1, 4, 5				5
Dance Terms	17	19	3, 6, 7, 9, 10, 12, 14, 15	20	8, 11, 13	15
II.Gymnastics						
History of gymnastics	23, 27, 29, 34	22, 28, 35	21, 26	25		10
Phases of gymnastics		32		24		5
Body movements			30, 31, 33			10
III. Table Tennis						
Origin of Table Tennis	40, 48	37, 46, 47	38, 39, 43	41, 42		
Basic Skills		49, 50	44, 45		36	5
TOTAL	9	13	18	6	4	50

BIOGRAPHICAL SKETCH

The author, born on November 11, 1975 is the second among the three children of Mr. Henry P. Weer and Mrs. Jimena R. Weer of Santiago Norte, San Fernando City.

She finished her elementary education at the Santiago Elementary School, San Fernando, La Union in 1987 and her Secondary Education at La Union National High School, in 1992. She obtained from the Union Christian College, San Fernando, La Union in 1997 with the degree of Bachelor of Secondary Education major in History with units in Physical Education, Health and Music. She finished her Diploma in Physical Education at Benguet State University, La Trinidad, Benguet.

She was an instructor at the Systems Technology Institute College, San Fernando City from 1997 to 1998. In June 1998, she was hired at the Union Christian College, High School Department as a PEHM teacher. In 2001 she became a college instructor.