

Mathimatical knowledge and a link to the real world

[Profession](#), [Teacher](#)



Outside school, real-life jobs and state of affairss for which mathematical cognition may be utile frequently do non show themselves in such familiar signifiers. The single must interpret the state of affairs or job into a signifier that exposes the relevancy and utility ofmathematics. If pupils are unpracticed at such a procedure, the possible power of mathematics to assist cover with the state of affairss and jobs of their life may non be to the full realized and may besides ensue to jobs.

Researchs have shown that bulk of pupils are sing jobs in mathematics. The importance of mathematics is likely ignored because of pupils ' public presentation over the topic (Kulak, 1993) .

Globally, about all pupils are kicking aboutfailurein mathematics because of negative attitude over the topic. (Betz, 1978 ; cited by Zakaria, 2010) .

Ashcraft (2002 ; cited by Hopper, 2010) supposes, because of math anxiousness which has developed because of negative experience about mathematics, pupils tend to avoid mathematics which could take to failure.

Harmonizing to a research conducted in Florida, the per centum of pupils who failed in math additions ([hypertext transfer protocol: //www2. tbo. com/content/2009/oct/21/college-students-need-help-required-math-classes/news-breaking/](http://www2.tbo.com/content/2009/oct/21/college-students-need-help-required-math-classes/news-breaking/)) .

Harmonizing to Tobias (1993 ; cited by Philips, 2010) , 1000000s of grownups are blocked from professional and personal chances because they fear or perform ill in mathematics, these negative experiences remain throughout their grownup lives. Furthermore, negative attitudes towards mathematics can do cryings of defeats (Sollesta, 2007) . This could ensue

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to ignorance of Numbers which could take to battles in simple minus and add-on.

In the Philippines, Filipino pupils are holding jobs when it comes to math proficiency (Malipot, 2009) . In fact, merely a few per centum crossed the 75-percent degree in math in the 2006 National Achievement Test ([hypertext transfer protocol: //www. undp. org. ph/ ? link= news & A ; news_id= 231 & A ; fa= 1](http://www.undp.org.ph/?link=news&A;news_id=231&A;fa=1)) . In add-on, A figure of pupils are dropping mathematics aside from scientific discipline classs normally before and even after scrutiny (E. Senajon et Al ; in [www. philjol. info/index. php/EACRB/article/viewPDFInterstitial/ ... 1286.](http://www.philjol.info/index.php/EACRB/article/viewPDFInterstitial/...1286)) . This is an indicant of an bing perennial job because of negative mathematics attitude that has been overlooked by concerned offices and section.

The job of mathematics attitude leads to the preparation of different schemes to bring on the involvement of the pupils to analyze mathematics. In fact, the Department of Education(Ronda, 2009) created a scheme to promote public school kids to read every bit good as appreciate mathematics.

On the other manus, failure because negative attitude over mathematics can take to miss of assurance to most Filipino pupils (Chua, 2006) , which is possibly a greatest obstruction to acquisition because beliefs govern a individual. The belief that they can non make something may force pupils unable to execute a undertaking of which they are genuinely capable.

Locally, peculiarly in Cor Jesu College, a figure of pupils failed in mathematics topics specifically in the Division of Business and Accountancy based from the bluebook where failed pupils are listed.

This research is conducted for the intent of cognizing the relationship between mathematics attitude and mathematics public presentation to selected first twelvemonth BachelorSciencein Accountancy pupils.

Theoretical Model

In old researches (Di Martino & A ; Zan, 2001, 2002, 2003 ; Zan & A ; Di Martino, 2003) deficiency of theoretical lucidity that characterizes research on attitude has been the issue of most research workers. The deficiency of theoretical model that characterizes research on attitude toward mathematics is partly shown by the fact that a big part of surveies about attitude do non supply a clear definition of the concept itself: attitude tends instead to be defined implicitly and a posteriori through the instruments used to mensurate it (Leder, 1985 ; Daskalogianni & A ; Simpson, 2000) .

This survey is anchored with Cognitive-Gestalt theory. Harmonizing to Burns (1995 ; cited in hypertext transfer protocol: //www. brookes. ac. uk/services/ocsd/2_learn/theories. html) the accent of this theory is on the importance of experience, significance, problem-solving and the development of penetrations. Which proves that the public presentation of the pupil depends on their experiences either at place or in school and how they give intending to it. s

In the facet of instructor 's behaviour and its scheme, Weiner 's ascription analysis supposes that pupils ' operation is affected by the instructors ' emotional and behavioural reactions (Stipek, 2002 ; p-73) which means, pupils ' public presentation in the schoolroom can be brought about by instructor 's behaviour or attack towards the pupils and the topic itself. In add-on, Weiner 's ascription analysis brings in clear beliefs that the schoolroom is the topographic point where judgement is conveyed, non merely when it comes to pupils ' behaviour but besides the instructor 's response toward the pupils (Stipek, 2002 ; p-73) . Silva, Tadeo, Delos Reyes, & A ; Dadigan ([hypertext transfer protocol: //math. usm. my/research/OnlineProc/ED12. pdf](http://math.usm.my/research/OnlineProc/ED12.pdf), 2009) , assume that despite how knowing the instructors are in learning math, it is still non plenty to learn the pupils and incorporate that cognition towards acquisition.

On the other manus, public presentation in mathematics can besides be rooted from anxiousness. Harmonizing to Stodolsky (1975 ; cited by Stipek, 2002) mathematics direction that is fostered in pupils stating that mathematics is something that is learned from an authorization which can non be figured out on one 's ain. Stodolsky supposes that the pupils perceive the topic as hard to analyze on 1s ability and instead necessitating an authorization to larn the topic. This authorization is the instructor as mentioned by Stodolsky.

The conceptual model of the survey elaborated the relationship between Mathematicss Attitude (independent variable) which was measured into three dimensions: (a) Cognitive dimension, (B) Behavioral dimension, and

(degree Celsius) Affective dimension ; and Mathematics Performance of Bachelor of Science in Accountancy Freshmen, school twelvemonth 2010-2011 in the topic, College Algebra and Accounting 1. The See Fig. 1

Conceptual Model

Independent Variable Dependent Variable

Mathematicss Attitude

Affectional Dimension

Behavioral Dimension

Cognitive Dimension

Mathematicss Performance in

College Algebra

Accounting 1

Fig. 1. Conceptual Paradigm of the Study

Statement of the Problem

This research was examined the relationship between mathematics and mathematics attitude and mathematics public presentation of Bachelor of Science in Accountancy (BSA) freshers, school twelvemonth 2010-2011.

Specifically, it will besides try to happen the replies of the undermentioned sub-problems:

What is the profile of the pupils ' mathematics attitude in footings of:

Cognitive,

Behavioral, and

Affective?

What is the pupils ' mathematics public presentation in capable countries:

College Algebra and

Accounting 1?

Is there a important relationship between mathematics attitude and mathematics public presentation?

Hypothesis

Holmium: There is no important relationship between mathematics attitude and mathematics public presentation.

Significance of the Study

The importance of this survey is to steer the undermentioned people:

Students. The consequence of this survey will assist the pupils in cognizing the possible grounds why they are dying in math.

Parents. The result of this survey will assist the parents know the possible ground for their kid 's failure in math. It will be helpful for them to be cautious with their kid 's public presentation.

Teachers. The findings if this survey will function as a manual for the instructors peculiarly math instructors in finding what scheme to utilize cognizing the information given in this survey. The consequence of this research can be used as a footing to decrease, if non extinguish failures by set abouting alterations and inventions in instructions and the course of study in general. This will function as an oculus opener toward absorbing advanced thoughts in instruction.

Psychologists and School counsellor. The consequence of this survey will be used as a footing for the school counsellors every bit good as the psychologists to better understand why pupils behave or misbehave in math.

Administrators. The findings of this survey can function as one of the bases for curricular rating and planning. It will besides steer the decision makers in their witting attempt to undergo planned alterations in pulling up systematic strategy of measuring pupils ' public presentation.

Researcher. The consequence of this survey will supply a foundation for new research.

Scope and Restrictions of the Study

The survey is limited to freshers pupils who are enrolled in topics College

Algebra and Accounting 1during the first semester, peculiarly the Bachelor of Science in Accountancy, Cor Jesu College confined to period of 2010-2011.

The range of the survey is more likely for the benefit of the instructors sing

the per centum of pupils in footings of their mathematics attitude in relation to mathematics public presentation of the pupils.

Findings of the survey would therefore, be true merely for the topics concerned and for the given period of clip, although these could be used as footing for similar surveies that would be conducted at the different colleges in the state.

Definition of Footings

Cor Jesu College refers to the premier Catholic establishment in Southern Mindanao, peculiarly located in Digos City, Davao del Sur.

Mathematicss attitude refers to the pupils ' reaction towards mathematics as a topic and as an application. Specifically determined into three dimensions: (a) cognitive, (B) behavioral, and (degree Celsius) affective.

Cognitive dimension refers to the mental facet of attitude which concerns the thought procedure approximately mathematics as a topic and as an application.

Behavioral dimension refers to the action facet of attitude which concerns mathematics as a topic and as an application.

Affectional dimension refers to the emotional facet of attitude which involves in the pupils ' perceptual experience about mathematics as a topic and as an application.

Mathematics public presentation refers to the pupils' competency in mathematics peculiarly in topics College Algebra and Accounting 1.

Mathematics Attitude and Mathematics Performance refers to the relationship of the pupils' perceptual experience,

Chapter 2

REVIEW OF RELATED LITERATURE AND STUDIES

This chapter presents subjects on mathematics attitude, mathematics public presentation, and the relationship of Mathematics Attitude and Mathematics Performance as related literatures and surveys.

Related Literature

Articles and some write-ups concerning mathematics attitude, mathematics public presentation, and the relationship between mathematics attitude and mathematics public presentation are abundant. Majority of these articles draw a fact that mathematics attitude and mathematics public presentation show an important connexion in mathematics public presentation.

Mathematics Attitude

Mathematics is the linguistic communication of engineering. It is used to explicate, construe, and work out jobs in fields every bit diverse as technology, economic sciences, communicating, seismology, and ecology. It is the bedrock for the computing machine revolution. Mathematics provides us with powerful theoretical and computational techniques to progress our apprehension of the modern universe and social jobs and to

develop and pull off the engineering industries that are the anchor of our economic system.

Attitude. Harmonizing to Liska (cited in ; hypertext transfer protocol: //www.nd.edu/~rwilliam/xsoc530/attitudes.html) , attitude is either be favourable or unfavourable appraising reaction toward something or person, exhibited in 1s beliefs, feelings, or intended behaviour. It is a societal orientation - an implicit in disposition to react to something either favourably or unfavourably.

The mundane impression of attitude refers to person 's basic liking or disliking of a familiar mark. These surveies have shown that, for illustration, misss tend to hold more negative attitudes towards mathematics than male childs (Frost et al. , 1994 ; Leder, 1995) , and that attitudes tend to go more negative as students move from simple to secondary school (McLeod, 1994) . The general attitude of the category towards mathematics is related to the quality of the instruction and to the social-psychological clime of the category (Haladyna et al. , 1983) .

The attempt to advance positive attitudes has been slightly successful on the single degree. For illustration, mathematics anxiousness can be reduced through systematic desensitization (Hembree, 1990) . On the whole category degree the attempts to reform learning to advance coveted attitudes have by and large been unsuccessful (McLeod, 1994) . However, recent grounds suggests that collaborative attacks can advance positive attitudes among pupils (e. g. Boaler, 1997a, B, 1998 ; Ridlon, 1999) . An of

import purpose of mathematics instruction is to develop in pupils positive attitudes towards mathematics. The impression of holding a positive attitude towards mathematics encompasses both wishing mathematics and experiencing good about one's own capacity to cope with state of affairs in which mathematics is involved. In this sense, attitudes are perceived as being closely linked to beliefs, emotions, and motive to persevere in the topic.

(Australian Education Council, 1991 ; cited in,)

Harmonizing to Lopez (cited in hypertext transfer protocol: //www. articledashboard. com, February 15, 2011) , attitude is a permanent rating of people, objects, or thoughts which may be positive or non. The construct of attitude is composed of three constituents which include cognitively-based attitudes, affectively-based attitude, and behaviorally-based attitude.

Attitude toward mathematics is defined as a general emotional temperament toward the school topic of mathematics " (Haladyna et al. , 1983, p. 20) .

Maple and Stage (as cited in Schiefele & A ; Csikszentmihalyi, 1995) found that `` attitude toward mathematics significantly influenced pick of mathematics major. `` One of the most of import grounds for fostering a positive attitude in mathematics is that it may increase one's inclination to elect mathematics classs in high school and college and perchance to elect callings in a math related field " (Schiefele & A ; Csikszentmihalyi, 1995)

Mathematicss Attitudes Attempts in the schoolroom to right the common social perceptual experience that `` mathematics is hard " are frequently

exacerbated no less due to the already entrenched attitudes and feelings that pupils have by the clip they reach secondary degree.

Kloosterman & A ; Gorman (1990) suggest that the formation of the belief that some pupils learn more readily than others and non everyone will be high winners in school can lead to a impression that affects accomplishment in mathematics: the impression that it makes small sense to set forth attempt when it does non bring forth consequences that are considered desirable. Besides impacting larning and attitude are other factors such as motive, the quality of direction, time-on-task, and schoolroom conversations (Hammond & A ; Vincent, 1998 ; Reynolds & A ; Walberg, 1992) and as a consequence of societal interactions with their equals (Reynolds & A ; Walberg, 1992 ; Taylor, 1992) .

Many surveies have been conducted on mathematics attitudes and instruction (Leder, 1987 ; McLeod, 1992 ; Zan, Brown, Evans, & A ; Hannula, 2006) but for the intents of this undertaking, McLeod 's (1992) definition of attitudes is adopted: `` affectional responses that involve positive or negative feelings of moderate strength and sensible stableness '' (p. 581) . McLeod contends that attitudes develop with clip and experience and are moderately stable, so that hardened alterations in pupils ' attitudes may hold a durable consequence. Lefton (1997) besides argues that attitude is a erudite pre-disposition to react in a systematically favorable or unfavorable mode towards a given object. Positive and negative experiences of school activities produce learned responses which may in bend

impact on pupils' attitudes as they get older, when positive attitudes towards mathematics appear to weaken (Dossey, Mullis, Lindquist, & A ; Chambers, 1988) .

Harmonizing to Hart (1989) , mathematics attitude should be viewed as a sensitivity to react in an unfavourable or favourable manner to mathematics. By accepting this position, mathematics attitude includes relevant beliefs (e. g. `` Mathematics helps me understand scientific discipline lessons '') , behavior (e. g. `` I will use for a occupation affecting mathematics '') and attitudinal or emotional reactions (e. g. `` I like work outing mathematical jobs '' , `` I feel disquieted when work outing mathematical jobs '') . In other words, by generalizing from Key (1993) , it can be said that an instrument mensurating mathematics attitude should try cognitive, affectional and behavioural spheres, perchance represented, as the old analysis suggests, by assurance in larning mathematics, wishing mathematics and utility of mathematics, for illustration.

Cognitive. Mathematics is believed as an exceptionally hard topic that everybody needs some cognition acquired during the primary and in-between phase will do. Its survey requires particular ability and intelligence (Sidhu, 1995) .

The importance of math is likely ignored because of pupils' public presentation in the topic. The bulk of pupils referred for school psychological science services are sing someacademicjobs. Although reading accomplishments shortages are the common of these academic jobs,

researches have shown that the bulk of pupils sing jobs in mathematics (Kulak, 1993) .

Malipot (2009) believes that instructors and the authorities (Sabater, 2006) can assist pupils in bettering their ability in the field of mathematics. Dr. Balmaceda (Garcia, 2007) dispels the popular misconception that math is merely about measures (how many) . Most fail to see the originative facet of mathematics.

Affective. It is a phenomenon that is frequently considered when analyzing pupils ' jobs in mathematics (Hopper, 2010) . On the other manus, Chua (2006) supposes that math anxiousness is a merchandise of a instruction scheme. At first, anxiousness may non take topographic point. Skills which are developed based on drills, pattern, and memorisation seem honoring toteacherand pupil likewise. When lessons become more advanced and more complicated, the figure of points to be memorized gives an impossible load to pupils ' memory. The pupil would so experience that he has reached a phase at which his apparent success desserts him. Here ananxiety-provoking state of affairs starts to face the scholar. The harder the pupil tries, the worse he/she performs because the pupils will necessarily utilize the lone attack he/she knows, which is mathematics.

Emotions are seen in connexion to personal ends. Emotions are besides seen to affect a physiological reaction, as a differentiation from non-emotional knowledge. Third, emotions are besides seen to be functional, i. e. they have an of import function in human header and version. (E. g. Buck, 1999 ;

Lazarus, 1991 ; Power & A ; Dalglish, 1997 ; Mandler, 1989 as cited by Hannula, 2010)

Mathematicss Performance

Student battle in mathematics refers to pupils ' motive to larn mathematics, their assurance in their ability to win in mathematics and their emotional feelings about mathematics. Student battle in mathematics plays a cardinal function in the acquisition of math accomplishments and knowledge - pupils who are engaged in the acquisition procedure will be given to larn more and be more receptive to farther acquisition. Student battle besides has an impact upon class choice, educational tracts and subsequently calling picks

The Relationship Between Mathematics Attitude and Mathematics Performance

Ma and Kishor (1997) synthesised 113 study surveies of the relationship between attitude towards mathematics and accomplishment in mathematics. The causal way of the relationship was from attitude to the accomplishment. Although the correlativities were weak in the overall sample, they were stronger throughout class 7 to 12, and in surveies that had done separate analysis of male and female topics (Hannula, 2010) .

Harmonizing to Ma and Kishor (1997a) , there is a positive interaction between

mathematics attitude and mathematics accomplishment (Kadijevich, February 17, 2011)

Chapter 3

Methodology

This chapter presents the design, puting, participants, step, processs, and informations analysis.

Design

This survey made used of descriptive-correlation design (Ariola, 2006) since the purpose of the survey was to find whether or non there is a relationship between mathematics attitude and mathematics public presentation.

This survey determined the important relationship between mathematics attitude and mathematics public presentation of the Bachelor of Science in Accountancy freshers pupils who were enrolled in College Algebra and Accounting 1 during the first semester. The independent variable was the mathematics attitude, which has sub-variables viz. : cognitive, behavioural, and affectional. Furthermore, the dependent variable of the survey was mathematics public presentation which was determined from the concluding classs of the respondents in College Algebra and Accounting 1.

Puting

The survey was conducted in the premiss of Cor Jesu College campus located in the City of Digos, Province of Davao del Sur.

Participants

The participants of the survey were the indiscriminately selected Bachelor of Science in Accountancy freshers pupils who took up College Algebra and Accounting 1 in the first semester A. Y. 2010-2011.

The sampling process was done based on random choice from its entire population of 155. Slovin 's expression (Ariola, 2006) was used to find the sample size of 113 pupils. Using the expression below:

$$n = \frac{N}{1 + NeA}$$

$$1 + NeA$$

Where ;

n = sample size

N = entire size

vitamin E = desired border of mistake (0. 05)

Thereafter, the respondents were selected utilizing the lottery method (Ariola, 2006) . The entire population was arranged consecutive and assigned numerical designations. Matching Numbers were marked on separate checks and were put into a container. This was to guarantee that every person has the same opportunity of being chosen as every other single (Ariola, 2006) .

Measures

The research instrument used in the survey was the Mathematics Attitude Scale (MAS) , retrieved from the survey of Acejalado, Limjap. The writer of the survey was asked by the research worker a permission to utilize the questionnaire. However, the e-mail history of the writer was deactivated.

The study questionnaire was composed of 50 points with statements based from the dimensions of attitude, viz. : affectional dimension, behavioural dimension, and cognitive dimension of pupils ' perceptual experience about mathematics as a topic and as an application.

The respondents were asked to measure the statements through look intoing utilizing the undermentioned measuring (Likert 's graduated table) :

Strongly agree- 1, Disagree- 4, Agree- 2, Strongly disagree- 5, and Neutral- 3.

The graduated table of the reading of the average tons of the dimensions of mathematics attitude set by the psychometrician are as follows: 4. 4-5. 0 really high, 3. 6-4. 3 high, 2. 8-3. 5 moderate, 1. 9-2. 7 low, 1. 0-1. 8 really low.

Procedure

A missive of permission to the Dean of College bespeaking the blessing for the permission to carry on a research survey in the college section. After which, another missive of permission submitted to the Dean of the Division of Business and Accountancy, (DBA) . After holding the blessing, a requisition missive was sent to the caput registrar for the finding of the entire population of DBA freshmen pupils.

The information was gathered from the concerned establishments and offices such as the College Dean and the Dean of DBA through a formal missive. After holding the blessing, the names of the pupils who took up College Algebra and Accounting 1 during the first semester were asked from

the school registrar through a formal consent. After which, random sampling was made to place the respondents.

The instrument disposal was given in January 2011 based from the handiness of the respondents. The questionnaire was follow-upped every now and so.

After garnering the full answered questionnaire, each point was tallied in conformity to each respondent.

Datas Analysis

Chapter 4

RESULTS AND DISCUSSION

This chapter deals with the presentation, analysis and reading of the informations gathered utilizing research instrument. Consequences and treatments are presented harmonizing to the job and hypothesis of the survey.