



PHILIPPINE COUNCIL OF
MATHEMATICS TEACHER EDUCATORS (MATHTED), INC.

MATHTED 2017

An International Conference on Mathematics Education

11th Biennial Conference
De La Salle University - Dasmariñas
October 19-21, 2017

Emerging Trends and Challenges in Mathematics Education

hosted by



De La Salle University - Dasmariñas
MATHEMATICS AND STATISTICS DEPARTMENT

CPD Accreditation No: 2016-021-134
8.5 CPD Credit Units

through the



ATNEO TEACHER TRAINING CENTER (ATTC)
Ateneo de Naga University
PRC Accredited CPD Provider for Professional Teachers

Conference Program

MODIFIED RECIPROCAL TEACHING, LANGUAGE PROFICIENCY, AND STUDENT METACOGNITIVE SKILLS IN MATHEMATICS

Rachel Dorcas A. Lim¹, Ma. Nympha B. Joaquin²

¹Faith Christian School, ²University of the Philippines, Diliman

¹rdal02@icloud.com, ²mbjoaquin@up.edu.ph

The study investigated the effects of two teaching methods, the Modified Reciprocal Teaching (MRT) and the Conventional Teaching (CT) on student metacognitive skills. In addition, the study probed the extent to which the students' language proficiency moderated the effects of modified reciprocal teaching on metacognitive skills. The study involved 64 grade six students from a private school in Cainta, Rizal during the First Quarter of School Year 2016 – 2017. Two classes with 32 members each were randomly assigned to two teaching methods groups. The study utilized a pretest-posttest quasi-experimental research design using quantitative and qualitative methods of research. The instruments in the study were: the Jr. Metacognitive Awareness Inventory (Jr. MAI) which was adopted from the study of Sperling, and the Language Proficiency Test (LPT). The two-tailed independent-samples t-test was used to compare mean scores of the two classes in pre- and post-assessment instruments. One-way analysis of variance (ANOVA) was also performed to determine whether language proficiency moderates the effects of the teaching methods on metacognitive skills. Results showed that Modified Reciprocal Teaching and Conventional Teaching are both effective in improving the metacognitive skills of students. However, deeper analysis revealed that the Modified Reciprocal Teaching is superior over the Conventional Teaching in terms of increasing the students' mean scores in the metacognitive skills. Moreover, language proficiency did moderate the effects of the MRT on student metacognitive skills. It is recommended that mathematics teachers consider using metacognitive instruction to guide the students in monitoring their comprehension. Future researchers are encouraged to conduct a similar study on reciprocal teaching with other grade levels by continually modifying the stages of MRT to investigate the effects of academic-related factors and contributing variables such as learning styles, gender, interest and attitude toward mathematics on the performance of the students.

2C-2I-1R APPROACHES: WAY TO REDUCE MATH ANXIETY AMONG SENIOR HIGH SCHOOL LEARNERS

Elymar A. Pascual

Talangan Integrated National High School

elymarpascual@rocketmail.com

This paper aimed at determining the possible solution to the Math anxiety of Senior High School learners of Talangan Integrated National High School. Alongside with teaching, the teacher-researcher explored different activities which promote the 2C-2I-1R approaches that the Department of Education mandated to be used for 21st century learners. These activities are Think-Discuss-Act-Reflect (collaborative), Recall-Model-Familiarize-Decide (constructivist), Activity-Analysis-Abstraction-Application (integrative approach), Ask-Investigate-Create-Discuss-Reflect (inquiry-based), and Think-Talk-Read-Ask (reflective).

A survey on Math anxiety level among 100 SHS learners of TINHS was conducted and it was found out that they have a moderate level of Math anxiety (mean of 2.96). Different teaching approaches in teaching Mathematics, specifically Statistics and Probability, which is a core subject offered last 2nd semester of school year 2016-2017, are applied in classroom teaching. After exploring the different approaches in teaching and learning for a period of one month, the Math anxiety level was again measured using the survey question. Learners' Math anxiety level was computed to be at low level, as shown by the mean of 2.26. The difference between the level of Math anxiety before the application of different approaches in teaching (2.96) and the level of Math anxiety after the application (2.26) was deemed significant (p-value of 0.00), using T-test for paired sample means at alpha 0.05.

The study concluded that using the different approaches in teaching, the 2C-2I-1R, Math anxiety level of students can be reduced significantly. This implies that Math teachers should continue using different approaches in teaching as these set the readiness of the learners in grasping concepts in Math in a way free from worry or anxiety. Other recommendations to master teachers, school heads, district heads and officials, and future researchers were also given at the end of this study.