



ABSTRACT

Name of Institution: De La Salle University –
Dasmariñas

Address: Relationship Between the Actual
Grades in the Mathematics
Cognitive Ability Tasks and in the
Mathematics Portfolio of Grade
School Students in SouthVille
International School and Colleges
School Year 2003-2004

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STATEMENT OF THE PROBLEM:

The following questions were answered in the study:

1. What are the actual grades of students based on cognitive ability tasks in mathematics?
2. What are the actual grades of students based on their mathematics portfolio?
3. Is there a significant relationship between the actual grades in the cognitive activities and the actual grades in the mathematics portfolio of the students?
4. Based on the results of the study, what could be proposed to improve the Mathematics Portfolio of the grade school students in Southville International School and Colleges?

SCOPE AND COVERAGE:

The study focused on the significant relationship between the actual grades in the mathematics cognitive ability tasks and actual grades in the Mathematics Portfolio. The grades considered in the study were the mathematics ratings of grade school students of Southville International School and Colleges (SISC) during School Year 2003 -2004. The total population of 655 students corresponded to the actual number of grades considered in the study.



This study went on further to suggest ways on how the portfolio could be improved such that its use as an assessment tool could be maximized.

METHODOLOGY:

The descriptive correlational research design was used. Documents pertaining to students' grades were used in the study. The grades were subjected to Pearson Product – Moment of Correlation Coefficient (r) treatment to determine significant relationship between the actual grades in mathematics cognitive ability tasks and in the mathematics portfolio.

To obtain the other data needed in the study, statistical measures such as frequency count and percentages were applied.

MAJOR FINDINGS:

Problem 1. The Second Term Grades of the Grades 1 - 6 students in the cognitive ability tasks were as follows:

1.1 **Grade 1:** Almost half of the students (42.31 %) had grades that ranged from 91 to 95 (S).

1.2 **Grade 2:** There were more students (41.67%) who had grades that ranged from 91 to 95 (S) compared to those in other grade categories.



1.3 **Grade 3:** There was an equal percentage of students (31.30%) who had grades that ranged from 86 to 90 (HA) and from 91 to 95 (S), both of which comprised the majority.

1.4 **Grade 4:** There were more students (26.53%) who had grades that ranged from 80 to 85 (A) compared to those in other grade categories.

1.5 **Grade 5:** There were more students (24.14%) who got grades ranging from 86 to 90 (HA) compared to those in other grade categories.

1.6 **Grade 6:** There were more students (25.44%) who had grades ranging from 80 to 85 (A) among the Grade 6 students compared to those in other grade categories.

Problem 2. The following were the actual grades of students in Grades 1 – 6, based on their mathematics portfolio:

2.1 **Grade 1:** Majority of the students (57.69%) had mathematics portfolio grades that ranged from to 100 (VS).

2.2 **Grade 2:** Almost half of the students (47.22%) got grades in the mathematics portfolio that ranged from 96 to 100 (VS).

2.3 **Grade 3:** Almost half of the students (40.87%) had grades ranging from 96 to 100 (VS), which was the highest letter grade possible in the SISC grading system.



2.4 **Grade 4:** Almost all of the students (95.92%) had grades ranging from 96 to 100 (VS).

2.5 **Grade 5:** Almost half of the students (44.83%) had actual portfolio grades that ranged from 96 to 100 (VS).

2.6 **Grade 6:** There were more students (36.84%) who had grades from 91 to 95 (S).

Problem 3. In terms of significant relationship between the actual grades of the students based on the cognitive ability tasks in mathematics and the actual grades in the portfolio, the following findings were drawn:

3.1 **Grade 1:** There existed a moderately low correlation (0.3206) between the actual grades of the students based on the cognitive ability tasks in mathematics and the actual grades in the portfolio.

3.2 **Grade 2:** There existed no correlation (0.0000) between the actual grades of the students based on the cognitive ability tasks in mathematics and the actual grades in the portfolio.

3.3 **Grade 3:** There existed a low correlation (0.2687) between the actual grades of the students based on the cognitive ability tasks in mathematics and the actual grades in the portfolio.



3.4 **Grade 4:** There existed a moderately high correlation (0.6578) between the actual grades of the students based on the cognitive ability tasks in mathematics and the actual grades in the portfolio.

3.5 **Grade 5:** There existed a low correlation (0.2815) between the actual grades of the students based on the cognitive ability tasks in mathematics and the actual grades in the portfolio.

3.6 **Grade 6:** There existed a moderate correlation (0.5848) between the actual grades of the students based on the cognitive ability tasks in mathematics and the actual grades in the portfolio.

Problem 4. An improved Mathematics Portfolio was suggested. Suggested improvements focused on the purpose, specific contents, and modified rubric for assessing the portfolio.

CONCLUSIONS:

Based on the results of the study, the following conclusions were drawn:

1. Grades 1 and 2 students performed better than students in the other grade levels in terms of the actual grades in the cognitive ability tasks in mathematics.

2. Grade 4 students performed best among the students in the other grade levels in terms of actual grades in the mathematics portfolio.



3. There was no correlation between the variables tested among the Grade 2 students, while for the rest of the grade levels, correlation existed ranging from low to moderately high among the students from the rest of the grade levels.

4. An improved Mathematics Portfolio could be a better indication of the mathematics achievement of grade school students.

RECOMMENDATIONS:

The study has the following recommendations:

1. Grades 1 and 2 mathematics teachers should continue the effective teaching of mathematics in order to enhance the cognitive abilities of the students in these grades.

2. Grades 3 - 6 mathematics teachers should explore more effective ways of strengthen teaching mathematics among students to raise cognitive ability level in mathematics.

3. The Grade 4 mathematics teacher should carry on with the effective way of monitoring / evaluating the portfolio. However, he should also devise ways of maximizing its use as a significant part of mathematics learning.

4. Mathematics teachers in general, should regard the use of the mathematics portfolio as an effective assessment tool in monitoring the progress of the students.



5. The specific contents of the Mathematics Portfolio should be reviewed objectively to determine what artifacts should go into it.

6. The grade in the mathematics portfolio should be given a more significant weight in the overall grade of students in mathematics.

7. The Administration of the school and the mathematics teachers should conduct a seminar to review of the existing practices on the use of the mathematics portfolio.

8. A more detailed, specific rubric for the mathematics portfolio should be developed for each grade level.

9. An orientation for students, faculty and parents on the significance and effective use of the portfolio should be undertaken.

10. A periodic visit and revisit of the mathematics portfolio should be appropriately scheduled to make it relevant.

11. Mathematics teachers should allow students to bring home their portfolio periodically for review purposes and feedback to parents.

12. A further study on other factors that relate to or influence student achievement in mathematics should be conducted.

13. Future researchers should venture on the use of portfolio as an assessment tool in other subject areas.