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優勝作品專輯

國家：South Africa

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作品名稱

Bodmas action!

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作者姓名

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Abstract 2011:

BODMAS/BOMDAS: the secret code...

(Sally-Anne Smart Gr12)

Purpose of the Research:

- 1) To determine whether a poor understanding and inability of Grade 7 and 8 learners to apply the BODMAS principle in mathematics, influences scores obtained in a mathematics test.
- 2) To determine whether scores obtained in the given mathematics test can be improved with a BODMAS learning tool.

Procedures:

1. Get the educators opinion on mathematics in schools. Send a total of 50 questionnaires to four schools.
2. Determine what percentage of a mathematical test/examination requires the application of BODMAS
3. Do a pre-test at two schools, a total of 370 grade 7 and 8 learners.
4. Design a BODMAS learning tool and verify it with three educators.
5. Implement the tool at the two schools.
6. Do a post-test at the two schools.

7. Get all the educators who were at the implementation session to evaluate the session.
8. Investigate two other schools, by sending 270 pre-tests to those two schools, to determine whether applying the BODMAS principle correctly is also a problem for learners in those schools.
9. Implement the BODMAS learning tool into the intermediate phase syllabus.

Data:

1. Of the 41 educators in the sample, 52% think the standard of maths in their schools is average.
2. 38.9% of a grade 8 mathematics examination paper and 46% of grade 8 mathematics tests contains questions that are BODMAS related.
3. The learners achieved an overall average of 22.57% in the pre-test
4. The educators evaluated the BODMAS learning tool as very good as it is.
5. Learners and educators enjoyed the implementation session of the BODMAS learning tool.
6. In the post test learners did much better, the overall average increased by 21.00% to 43.57%.
7. Educators were positive about the way in which the tool was explained.
8. The learners in the other two schools also struggled with applying the BODMAS principle.

9. A second pilot study is being done in four primary schools by the Department of Education for the implementation in the Free State mathematics 2013 syllabus.

Conclusion:

My hypothesis is supported.

- 1) A poor understanding and inability of Grade 7 and 8 learners to apply the BODMAS principle in mathematics, influenced scores obtained in a mathematics test.
- 2) Scores obtained in the given mathematics test were improved with a BODMAS learning tool.

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評語

Science is based on discoveries. Scientific discovery is the most valuable part of the science education. Joy and the excitement are the signs of a true scientific discovery; they cannot be disguised. In a science fair the students are given opportunities to share the discoveries to people they have never met. This project has done just that after a long travel.

This project studies how the BODMAS/BOMDAS principle has improved the scores of Grade 7 and Grade 8 learners in a mathematics test. In Taiwan a similar problem has occurred. Parents are asking : why we don't ask students to memorize multiplication table at school? The controversies so arise have widened the misunderstanding and mistrust among parents and teachers. The innocent students are sandwiched between the confrontations. As a consequence a revision of the math textbooks and a revision of the revision have taken place.

We do sincerely wish the BODMAS/BOMDAS principle is of help to students in South Africa. It is suggested that before carrying out such a method the social impact be studied in addition to look at it from the educational point of view.