AN ACTION RESEARCH ON RAISING STUDENTS' PERFORMANCE IN MATHEMATICS

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Introduction

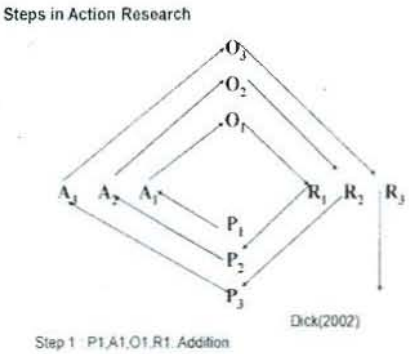
The purpose of this study is to examine the effects of the collaborative approach in raising the students' performance in mathematics using flow charts and tables (i.e. addition, subtraction, multiplication). The action plan that was used in this study was divided into three cycles that focused on numbers, additions, subtraction and multiplications in mathematics along with teacher designed assessment tests in mathematics to measure their achievement levels. We also took an attitude survey to gauge their feelings about using mathematics activities. This information was used to assist us in planning and implementing a collaborative approach in using selected activities in teaching mathematics.

Methodology

Collaborative action research method has been used within the study. Two University academics and 15 newly recruited graduate teachers participated in the study. A sample of 85 students was selected according to their performances in mathematics. The following steps were taken during the action research.

Further, the following tables were used:

1. Addition, Table i
2. Subtraction, Table ii
3. Multiplication Table iii



Data Collection

In the process of collecting Qualitative and Quantitative data the Journals maintained by teachers and results of the student's performance tests were employed. The examples of the classroom activities completed by students have been used. The results of the pre and post tests were also considered. Students took pre and post tests as well as daily observations to measure their achievements levels.

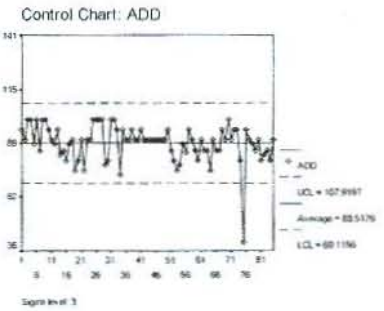


Chart 1: Reflection 1

SPSS, Minitab packages were used for the data analysis. Flow charts for solving mathematics problems (Minimum usage of language) the classroom activities completed by students were used.

Results

Students have shown remarkable performance in mathematics when using the tables and flow-charts in learning selected mathematics tasks.
Students worked independently and showed high competence in solving mathematics tasks. This can be seen in the following charts:

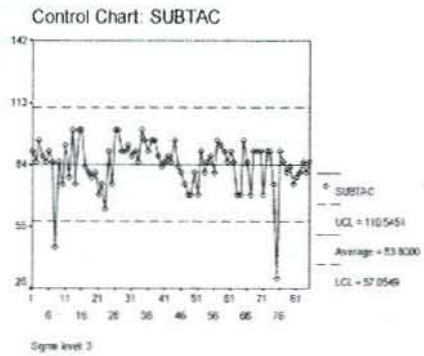


Chart 1: Reflection 2

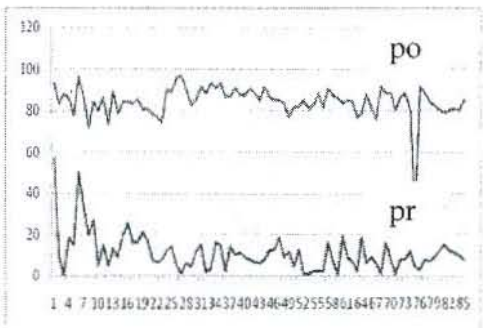


Chart 2: Performance of students in pre and post Tests

Conclusion

As can it is seen from the reflections, LCL (Lover Control Limit) of the sample was marked as 69, 57 and 57 in each step respectively. Only one student in circle one, two students in circle number two and three. According to the results of the post test, almost all the students have shown remarkable improvements in performance in mathematics when compared with the pre test of the study.
This change was noticed within a short period of time. Further, it was found that language was not so important within the activities. Based on the findings of the study the following recommendations are made. The performances of students with low levels of achievements in mathematics can be improved using this type of collaborative approaches. There is a possibility to change the attitudes and develop the student confidence in mathematics.

References

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