

Chemistry Department Supported Experiment

Q What we chose for our supported experiments and why?

Problem: It was apparent that most students were not revising their notes soon after a lesson. As a result they were losing over 90% of their newly acquired knowledge. Also, they were not identifying areas they were finding difficult so they did not always seek tutorial help.

- Aim:
- To stop the loss of information that a student acquires during the course of a lesson.
 - To encourage students to review their lesson notes.
 - To identify weak students for tutorial support.

Q What brief we set for ourselves? How did we carry out the supported experiments.

- Setting short tests at the beginning or end of lessons.
- The short (5 min) tests were of varying styles and quick and easy to mark.
- All classes were to experience short testing but some more than others
- The data collected included the average end of unit test mark for each class and the percentage of students obtaining each grade.

Q Evaluation of supported experiment. How successful was it and in what ways? How do we know? What conclusions?

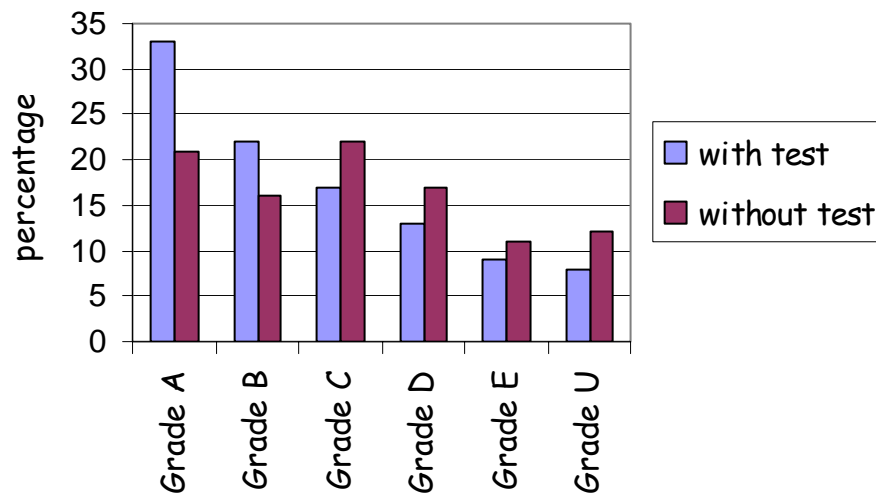
Topic test analysis: Mann-Whitney U-test - shows a significant difference between students' end of topic test results when they have been short tested compared to those not short tested.

- More students getting A & B grades in end of unit tests.
- Has less effect on weaker students. (Is this because there is an underlying problem of understanding the concepts?)
- Very time consuming. We had to give up short testing in the end because we needed to speed up with the teaching of the syllabus

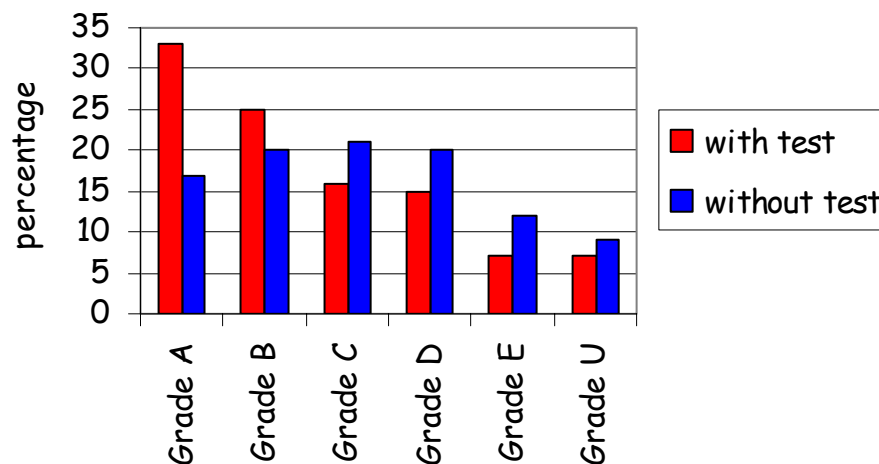
Unit 1	fully completed
Unit 2	broke down
Unit 4	fully completed
Unit 5	broke down

Investigation	6L		6U	
	Short test		Sort test	
	Yes	No	Yes	No
Average end of topic test result %	69	63	69	63
% of students getting A grade average	33	21	33	17
% of students getting B grade average	22	16	25	20
% of students getting C grade average	17	22	16	21
% of students getting D grade average	13	17	15	20
% of students getting E grade average	9	11	7	12
% of students getting U grade average	8	12	7	9
% of students getting grades A-C	72	59	74	58

Supported experiments 6L



Supported experiments 6U



- Improvements occurred with students who re-sat short tests
- Where teacher kept a detailed record of the short test results it was possible to identify students needing extra tutorial support. (Ref. tutorial register and staff mark books)
- Students comments from focus group:
 - a. Some students get continuously low marks and they find this demoralising.
 - b. Demotivating if surprise tests are used all the time.
 - c. The tests mean that revision has been done throughout the year and less has to be done for the real thing.
 - d. When there are lots of tests of good and bad results, your potential is known and it motivates you to pull up if you have performed badly.
- When the tests were done at the beginning of the lesson, the start of the lesson was more purposeful. It gave the teacher opportunity to hand back work and comment individually to students.

Q Where do we want to go next?

- Compare last year's AS results with this year's results. (Note: last year's students were weaker in general.)
- Analyse value added for this cohort.

Q What, if any, tasks/objectives would we like to set ourselves for the future?

- Look more closely at the style and nature of the short tests, i.e. test application of knowledge and ability to problem solve as well as factual recall.
- Run a student focus group to gain more student perceptions of short testing.

Q How successful was the process? (as a model for staff development/developing teaching and learning). What could have made it better?

- We have all had the opportunity to share ideas and put new teaching methods into practice. Good to have a project we are all working together on - team building.
- We have built up a bank of short tests
- Difficult testing with our time constraints.

- Gained very little data from other schools involved although they did give their observations concerning testing.
- Formalise exchanges of good practice and ideas.