

This research project has been chosen by the National College/CfBT to be one of 50 small-scale trials run by schools as part of the Closing The Gap initiative. As a result of this, the Redhill Teaching School Alliance has secured funding that can be used to help other schools take part in this research.

Revision techniques that aid in memorising and recall are becoming more and more important to students as the assessment in their qualifications moves increasingly towards terminal exams.

'Learning by doing' (students actively constructing something themselves) is often seen by some as a crucial aspect of students' mastery of knowledge and skills, as opposed to just having students engage in 'learning by viewing' (such as using pre-prepared examples). However, when introducing revision techniques, using a 'learning by doing' approach requires a significantly greater time investment in an already tightly packed

curriculum. We want to research whether using a 'learning by doing' approach makes this extra time investment worthwhile: whether it has an effect on how much students subsequently use revision techniques independently.

A range of revision techniques are already taught to our students and the curriculum time being devoted to their teaching is growing as their importance is recognised. However, the impact that they have upon the revision that those students then carry out independently has not yet been investigated.

What we plan to do

Classes involved will be randomly assigned to one of two groups. Classes in one group will be taught how to use the first revision technique and given examples of how that technique can be used. They will then be taught how to use the second revision technique, again they will be given examples of how that technique can be used but in addition they will then be given time to create their own materials using this second technique.

Classes in the other group will do the opposite. They will be taught the first revision technique, given examples and then in given time to produce their own materials using the first technique. They will then be taught how to use the second revision technique followed by examples of how that technique can be used (with no time devoted to creating their own materials using it).

	Revision technique 1	Revision technique 2
group A	Review examples only (15 minutes)	Review examples; create their own (25 minutes)
group B	Review examples; create their own (25 minutes)	Review examples only (15 minutes)

After two weeks, both groups will then be asked about the amount of time they spent using the technique independently (outside of lesson time) using a questionnaire.

This is known as a within-subject research design whereby all students involved experience being part of the control group (examples only) and the intervention group (examples and create their own). Random allocation of classes will help to reduce any bias.

Revision techniques

This research project is not investigating which revision techniques are the most effective but whether independent usage is influenced by giving students time to create their own materials (which would reduce curriculum time for other activities).

However, we think that particular techniques lend themselves better to the way we plan to deliver these sessions. We plan to use flashcards and summary sheets as the two revision techniques.



Lesson materials

All of the lesson materials will be created beforehand and provided for each of the classes involved to ensure a consistent approach. Further guidance in how to deliver the sessions will also be provided using videos of sessions.

When this project can happen

The timing of carrying out this project is crucial. To accurately investigate students' independent usage of revision techniques it has to be in the run up to an examination period. We plan to use two such time periods:

- Year 11 students in the run up to their GCSE exams (late March/April)
- Year 10 students in the run up to their mock exams (early March or other suitable time)

Sharing our findings

In addition to sharing our findings across the alliance, the results of this project will be published nationally as part of the National College's Closing The Gap project.

Want to take part yourself?

We would like to have the largest possible sample size for this research so are actively looking for other teachers in schools across the alliance to take part. Contact us using the details below.

Current research in this area

There has been some research carried out already into the impact of using 'learning by doing' versus 'learning by viewing' approaches when teaching. However, so far these have not been focused on the teaching of revision techniques. They have also focused on the performance of students in a particular subject area whereas we want to measure the impact on students' subsequent use of the techniques they have learned.

Stull and Mayer (2007) looked at the effect of giving students graphic organisers for a particular Biology topic versus asking the students to produce their own. As expected they found that the students generating their own took longer to learn the material but it was those who had been given the graphic organisers who showed the best learning of the topic. They concluded that the extra cognitive processing required to produce their own graphic organisers had meant that there was less capacity remaining for the students' processing of the actual content. By contrast, the other students were engaged by being challenged to see how the content had been converted into a graphic organiser.

In addition, Sweller and Cooper (1985) found that learning was faster and better when some Maths practice questions were replaced with worked-out examples.

It will be interesting to see if these differences in students' performance are also seen in their independent usage of revision techniques following their exposure to them.

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This project has been carried out as part of a range of professional development opportunities offered by the Redhill Teaching School Alliance, enabling staff to engage in their own research to investigate what works best in schools like ours.

Find out more by visiting www.redhilltsa.org.uk