Using supported experiments to improve teaching and learning

In an attempt to engage teaching staff in sharing good practice with colleagues and experimenting with different approaches, **Joanne Miles** and colleagues embarked on a supported experiments project. Here she discusses its impact on teaching and learning.

Project context and aims

Teachers often comment on the value of experimenting with new approaches and sharing ideas with colleagues on how to improve students' achievement. However, the pressures of everyday teaching can make it difficult to do this regularly and consistently across an institution. In response to this challenge, the professional development team at Ealing, Hammersmith and West London College initiated the supported experiments project in the hope of engaging all the teachers in innovation and sharing of good practice. Box 1 contains a description of supported experiments.

Box 1 What are supported experiments?

Research shows that if teachers are to improve, they must spend a little time each week deliberately experimenting with new approaches. While they experiment they will need the support of feedback and coaching. Without 'supported experiments', or something very like them, teaching will not change, and nor will student success rates.
(Source: Petty, 2009a; 2009b)

Ealing, Hammersmith and West London College is a Beacon college in the further education (FE) sector, with provision from pre-entry to higher education level and over 600 teaching staff. Since May 2008, the teachers have been involved in the supported experiments project, which aims to:

- encourage innovation and creativity in teaching and learning
- share good practice within and among teams

share findings with colleagues and receive coaching/support from them

- build reflective skills of teachers in line with the Institute for Learning's continuing professional development (CPD) requirements (in the FE sector, teachers are required to complete and log 30 hours CPD per year, including reflective commentary on its impact on their practice)
- foster a developmental culture where teachers expect to experiment and learn
- move towards 'excellence' in teaching and learning.

Supported experiments: project stages

Supported experiments are based on an action-learning model promoted by author, teacher and trainer Geoff Petty. The stages that teachers need to complete are to:

1 identify key issues/problems for their students

2 investigate strategies and methods that have been shown to work

3 plan an experiment to address the problem area

4 share findings with colleagues and receive coaching/support from them

5 embed improved practices, for example, add resources or activities to their schemes of work

6 disseminate findings across their organisation, for example, contribute to good practice sessions with teachers from other teams.

As part of the project launch in May 2008 at Ealing, Hammersmith and West London College, Geoff Petty delivered a session on evidence-based teaching methods (approaches that have been shown to improve achievement in a wide range of research studies). From this session, 70 per cent of teachers found a method that was relevant to their experiment. The professional development team at the college also recruited facilitators from each teaching team and brought in the Learning Skills Network to train them in coaching skills, so they could support their colleagues in planning and reviewing their experiments. Over the next year, teaching teams met twice a term to discuss progress and individuals completed an online record of their experiment. During that year, the teachers' annual observed lesson was ungraded, in order to encourage them to experiment while being observed and receive developmental feedback without the pressure of a final grade. In July 2009 the college held a learning fair so teachers could share findings via displays, training sessions and question and answer slots (see Box 2).

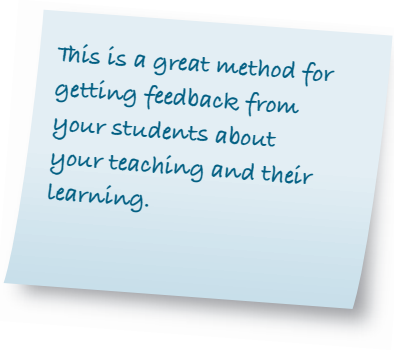
Box 2 Using a learning fair to share good practice

This is a good way for teachers to see what colleagues have been working on and pick up new ideas to try out in future. A learning fair is a one-day event in one location where teachers present good practice sessions for each other. These can be training sessions, presentations or question and answer slots, or displays of online or paper-based resources – people can choose a format they feel comfortable with. It works well if each teaching team is responsible for one room throughout the event and then the teachers take it in turns to be on duty in that room or to circulate around other sessions as an attendee. If at all possible, it's good to make video clips of some of the sessions and then add them to a good practice area of the intranet for future reference.

Experiments 2008–09

Here is a sample of some of the methods that the teachers used in their experiments in 2008–09. The results can be seen in the 'Experiments outcomes' section later in the article.

The one-minute paper



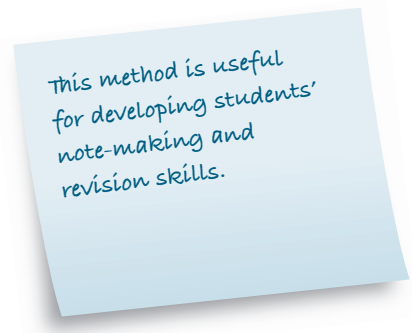
1 At the end of each lesson every student notes down the answers to two questions on a slip of paper and gives it to the teacher:

   What is the most important thing you learnt today?

   What question do you most wish to have answered at this moment?

2 The teacher takes in the slips of paper and uses them to decide what remedial action, if any, is needed in the following lessons. This could be an action for the whole class or something directed to specific students.

Cheat notes for progress tests



1 Students are given a single sheet of A4 lined paper, signed by the teacher, on which they are allowed to put any revision notes they need for a progress test.

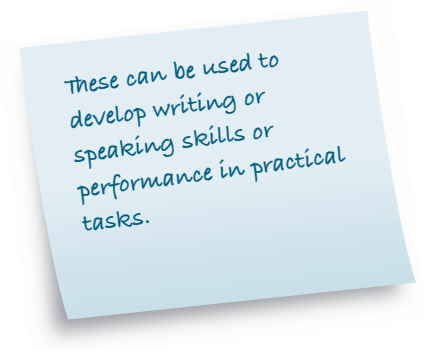
2 After the test they mark a peer's work using either their own notes or the teacher's model version (demonstrating best practice in note making, with graphic organisers, key words, bullet points, etc.)

3 They then compare their notes with other students' and the teacher's versions.

4 They reflect on what makes particular notes effective.

5 They rework their notes following this reflection.

Peer- and self-assessment checklists

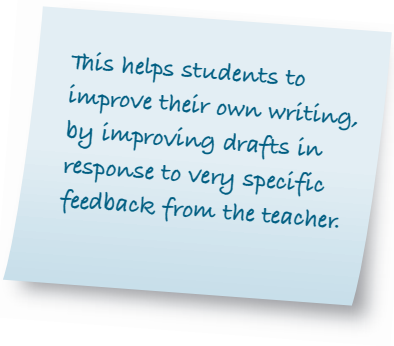


1 The teacher makes a checklist of criteria for a given task, against which performance can be assessed. The checklist includes a space against each criterion for noting comments or putting ticks and crosses. Criteria for a written task may include things like 'use of punctuation, for example, capital letters and full stops'.

2 Students initially use the checklist to assess a piece of work provided by the teacher, so they get used to the process.

3 They then assess each other's work, or their own, before it is marked by the teacher.

Ping pong/dialogic marking



Here are the steps from an English for speakers of other languages (ESOL) teacher who tried this method with entry two level students.

1 Start by giving your students a typical writing task at their level and, when marking, attach a note with your feedback

(two good points and one thing you want them to improve first).

2 Do the follow-up in class, with your students in a semi-circle – get yourself a chair with wheels! Ask your students to re-write the piece, taking into consideration your comments. I noticed it really helps to give your feedback orally as well, as you can introduce some 'motivational talk' and explain why this is happening, move around, offer help, keep monitoring their progress and encouraging them to keep going.

3 Have a plan of what you want them to insert into their text – once you decide there's nothing more to correct. For early finishers and stronger students, you can add new elements like more advanced linkers such as 'although' or 'however', or force them to use a grammatical item you covered during previous lessons, or new vocabulary.

4 Repeat the ping-pong game until your students present a good/excellent piece of writing. This can be done during one or two subsequent sessions – do not let them do anything at home. Remember: one thing at a time!

5 Encourage your students to keep it all in one workbook and to keep a note of a date and draft number. This allows them to notice their progress if they compare their first attempt with the final text.

6 Once you have worked through the basics, students usually start their next piece of writing at a higher level.

Evaluation feedback from supported experiments 2008–09

The professional development team at the college gathered feedback from teachers about the supported experiments in a range of ways, including focus groups, online questionnaires, paper-based questionnaires and informal meetings. The evaluation data showed a very positive response from teachers.

- High levels of staff engagement and support as over 80 per cent of teachers felt this project should continue into a second year.
- 54.7 per cent of teachers reported that they were satisfied with the amount of sharing and development activities in college. This was an 8.2 per cent increase from May 2008 result (46.5 per cent).
- 44 per cent felt they would like to share resources/ideas more often, indicating how teachers valued the chance to share good practice.
- 22 per cent of staff showed their experiment in their observed lesson, which was ungraded during this academic year and had a strong focus on developmental feedback. The observation feedback forms made many references to innovative, creative and student-centred lessons by teachers who showed their experiments.
- Facilitators were perceived as useful and had a positive impact on maintaining momentum – 72.6 per cent felt they should continue in the role for 2009–10.
- Over 50 per cent opted for an experiment related to essential skills, which is a key strategic objective (developing students' skills in literacy, language, numeracy or information and communication technologies (ICT)).

The professional development team asked teachers to identify ways of measuring the impact of the experiments, for example, by collecting initial, mid-point and summative samples of students' work, making video clips of classroom activities, using surveys to gather student feedback, keeping records of test results or writing a reflective diary about the experiment. At the end of the first year the teachers filled in an online questionnaire to record the outcomes of their experiments. In this data teachers highlighted some excit-

ing improvements in their students' confidence, performance and achievements, following the experiments:

- 29 per cent reported definite improvements in test/exam results
- 71 per cent reported positive reactions from students to their experiment
- 65 per cent reported improvements in students' motivation and participation
- 20 per cent reported definite improvements in punctuality and attendance
- 21 per cent reported more homework being handed in
- 56 per cent are going to continue with the same experiment in 2009–10
- 78 per cent would be happy for a colleague to contact them about their experiment
- 74 per cent felt the college should continue with the supported experiments in 2009–10.

Experiment outcomes 2008–09

Commonly recurring themes were the improvements in students' confidence, engagement and motivation through increased ownership of their learning as a result of the experiments. Many of these focused on developing study skills (for example, note-taking or revision skills).

> *There has been a positive response from students to the supported experiments, particularly amongst my tutees on the BNC* [BTEC National Course] *year 1 programme as well as students on the BFD* [BTEC First Diploma] *in Travel and Tourism. They have used the tools of research towards their course studies. As a result of this, the majority of learners achieved merits/distinction grades for the units I deliver.*
> Business and humanities teacher in sixth form, experimenting with building students' research skills

Peer- and self-assessment experiments were reported as having positive impacts on students' ownership of learning, performance and final results across a range of subject areas and levels.

> *Through peer assessment students developed more autonomy. They improved their performance both written and spoken, when given the opportunity to assess others. They enjoyed the responsibility and extra dimension of taking on an assessing role.*
> ICT teacher, experimenting with peer assessment

Experiments related to feedback also proved to have positive effects.

> *By using the one-minute paper for feedback, some students felt they could say what they did not understand in the lesson more freely…the quieter students felt more confident to ask questions in class time. Some gave feedback on my methods of teaching, both negative and positive, and this benefited their understanding in that I would try other strategies that enabled them to understand. This gave them confidence and trust in my teaching as well. I learnt that I could learn a lot from students as well, especially where as a teacher you can take for granted that students have learnt something and they haven't. I also learnt that students can be motivated by confidentiality, especially the shy ones. It is a starting point for them to express themselves.*
> Science and maths teacher, experimenting with one-minute paper summary

Many teachers commented on how the experiments had encouraged them to be more creative and innovative and develop their practice in collaboration with the students, and how much they had learnt from that process.

> *Reviewing what has been learnt at the end of a lesson provides a nice summary for the students and helps them with their revision notes. The students have become much more focused and aware of the work covered in class and their learning process. I learnt that*

sometimes as much as the teacher is aware of what is being covered, the students need to have the reason why we do things explained in detail.
Science and maths teacher, experimenting with one-minute paper summary

Factors in project success

We found that using project management methods from the commercial world helped us to shape the project and maintain momentum. One member of the professional development team had received training in PRINCE2 project management methods and principles and this proved invaluable in the design and delivery of the supported experiments. This ensured clarity of aims and stages, identification of stakeholders and strategies for managing communication, issues and risks.

Certain factors were important in project success, especially the support and commitment from the senior management team in prioritising supported experiments by allocating time, funding and people to run it. This kept it on the agenda over the academic year.

Delegating to team level also proved effective and the facilitators performed well in this role, increasing our coaching capacity within the organisation. Learning Skills Network provided excellent training in coaching skills for the facilitators.

team members are learning from each other and trying out things which are working for others

Communications are vital in a large-scale project and so we shared information via an online portal for documents, video clips and case studies, used posters and flyers to talk to less 'techie' teachers and attended team meetings to talk face to face. This range of methods allowed us to engage a wide variety of people and encourage buy-in to the project.

Plans for 2009–10

During 2009–10 the college is continuing with the supported experiments project and combining new experiments with the capture of useful resources from previous experiments. The use of Google docs – a hosted service where you can create, store and share documents and online forms – is an exciting area of development in the project, allowing centralised capture of plans and evaluation data. Our plan for the year focuses on these steps:

- embed the process of experimenting via continuation of the supported experiments
- keep sharing via dissemination sessions in teams and across sites
- capture resources from experiments that work on an online portal (video clips, Word documents, PowerPoint presentations)
- use Google docs to capture and report on experiments across college (attendance, evaluations, project outlines and outcomes).

Conclusions: the benefits of supported experiments for other institutions

The evaluation data shows the many perceived benefits of supported experiments and how teachers have owned the development. The project has fostered professional dialogue by creating space and time for discussion of teaching and learning issues in the busy FE calendar. The model challenges teachers to go beyond the 'grade 2 is enough' mindset that inspection can foster and asks them to consider what real 'excellence' is. We have found that teachers welcome this and often comment that it connects with their

professional belief in the value of learning and the possibility of progress. As a staff development model, it:

- engages staff in deeper reflection for an extended period – coaching sessions helped them refine ideas further and allowed for the challenge of colleagues' viewpoints
- fosters professional pride in research and own learning – motivating and engaging for staff
- brings differentiation and personalisation to life – experiments were tailored to individual needs in terms of focus and also scale, as some teachers ran experiments with a few students and others experimented with all of their classes
- encourages teachers to think about how to measure/assess the impact of their interventions – baselines, mid-project checks, evaluations, student feedback, peer review, video evidence, samples of work, reflective logs
- puts teaching and learning at the heart of team meetings – supported experiments are a vehicle for discussion of issues on a regular basis
- emphasises learning, experimentation and creativity – taking the risk to change and learn from positive and negative results, as seen in these quotes about what the teachers learned from their experiments.
- encourages learning across the organisation and professional pride.

I learnt that mental maths exercises and tests can be even more important than written practice/exams.

I learned to broaden my teaching style and not to be afraid to try things out that I wouldn't normally do.

Teaching is about engaging the learners, maintaining focus and making sure that logical academic progression has been achieved – all of this I think comes from the teacher's ability to make a lesson adaptable and use development strategies to keep students acquiring the knowledge and understanding of the unit topic. I also learned that the level 3 students still needed academic guidance within structuring academic assignments, including guidance on correct content. All of these elements are needed, not just for level 4 higher education, but also for employment.

It is always a pleasure to talk to colleagues about teaching practice. It reinforces our belief that the teaching at our college is of a high standard.

The benefits of supported experiments have been lots of good ideas, some of which I'm already trying without formally designating them experiments: permission to try something new, take a risk.

Team members are learning from each other, trying out things which are working for others…Many are using technology in ways they may not have done. More collaboration is noticeable when similar experiments are being discussed.

Box 3 Tips for teachers doing a supported experiment

- An experiment can be a big or a small change to your teaching – the important thing is that it should address your learners' needs and incorporate a good practice method that is new for you.
- It's useful to plan the way the experiment will be set up, reviewed and measured so that you can work out the steps of the process, with target dates.
- Regular meetings with a colleague or your team will help you to stay motivated and learn from each other – this can be a formal team meeting or an informal chat.
- Consider how to share progress updates and findings in a way others can access, for example, a team file or blog or discussion board or online area.
- When you get stuck, a chat with a colleague will often produce the new idea or different perspective you need to move forward again.

Weblinks

Information on supported experiments, Geoff Petty and evidence-based teaching
www.geoffpetty.com/experiments.html
www.geoffpetty.com/links.html

Information on Learning Skills Network (provided excellent Solutions Focus Coaching training for EHWLC supported experiments' facilitators)
www.lsnlearning.org.uk/Products/Solution-focused-coaching-and-coaching-training/?rs=2254

General information on Solutions Focus Coaching approaches
www.sfwork.com/jsp/index.jsp?lnk=6d7

Information on PRINCE2 project management methods and training
www.prince2.com
www.ogc.gov.uk/methods_prince_2.asp

Information on the Institute for Learning CPD requirements
www.ifl.ac.uk/cpd

Ealing, Hammersmith and West London College website
www.wlc.ac.uk

References

Petty, G. (2009a). *Evidence Based Teaching: a Practical Approach*. Second Edn. Cheltenham: Nelson Thornes.

Petty, G. (2009b). *Teaching Today: a Practical Guide*. Fourth Edn. Cheltenham: Nelson Thornes.

About the author

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