

## Putting principles at the core in teacher education A master's level module in a PGCE

How can we help new or early career teachers to grasp how the theories behind their pedagogical studies relate to real classroom practice? This material has often been taught without a clear context. One example of a solution is an M Level module at the University of London's Institute of Education. It is built around the TLRP's 10 principles of effective teaching and learning, which have been developed by the TLRP from its 22 school research projects. In its first two years, this module, Learning and Teaching in the Core Subjects, has helped students to make these connections and gain a deeper understanding of how children learn.

- In order to challenge Initial Teacher Education students at Masters level, we are likely to need innovative course planning and provision which is substantially different from previous PGCE practice. → Course development at Masters level is a significant opportunity to introduce educational principles, beyond training *per se*.
- A course foregrounding principles of teaching and learning and drawing out similarities and differences between core curriculum subjects can provide powerful learning experiences. → Students can gain understanding of the ways in which subject knowledge and teaching and learning interconnect through appropriately reflective courses.
- Direct experience of applying and testing course insights in school enabled most students to extend and deepen their understanding. → Work in schools, if framed in purposive ways by tutors and consciously supported by mentors, adds significant value.
- Focused, written reports about the educational issues which emerged in school experience, using principles of teaching and learning as a framework for analysis, helped students to consolidate their learning and, in particular, enabled high attaining students to demonstrate a holistic understanding. → Course and school experiences need to be reviewed, interpreted and integrated into new understanding. Reflective written assignments seem to work well for this purpose.

# The research

## Background

Pedagogy is a word that is gaining currency across the UK. Though it has always been a normal part of professional discourse in Europe, on this side of the channel it was considered pretentious and self-aggrandising.

Fortunately, these stigmas are fading away. The General Teaching Council for England is working with the TLRP's Andrew Pollard to create printed and web resources to support teachers as pedagogical professionals. The General Teaching Councils for Scotland and Northern Ireland are also developing materials on pedagogy. Meanwhile, the Welsh Assembly Government is implementing a "Pedagogy Strategy for Wales" to improve teaching standards, celebrate practitioners' work and establish professional networks.

## Pedagogy and the core subjects

### How the course was developed

The module was first taught in 2007-8. It takes 40 hours teaching time and up to 200 hours study time. It leads to a PGCE (Professional and Postgraduate Certificate in Education in England and Wales) depending on the successful completion of the M level modules.

The Primary PGCE course at the IOE was redesigned as a result of the government's decision to change the funding for Initial Teacher Education courses (either to undergraduate or Masters level). It was decided that the IOE's PGCE would become a Masters level course and students would be awarded 90 M level credits for three M level modules of 30 credits each.

After much discussion the primary IOE staff team agreed that one module would integrate the core subjects with pedagogy under the title of Learning and Teaching in

### Effective teaching and learning:

<b>1. Equips learners for life in its broadest sense</b> To enable them to participate as active citizens and workers and to flourish in a diverse and changing society	<b>6. Promotes the active engagement of the learner</b> This involves fostering autonomy and independence
<b>2. Engages with valued forms of knowledge</b> The big ideas, key processes, models of discourse and narratives of subjects	<b>7. Fosters both individual and social processes and outcomes</b> Learning is a social activity and consulting learners is an expectation and a right
<b>3. Recognises the importance of prior experience and learning</b> Teaching should take account of what learners know already in order to plan next steps	<b>8. Recognises the significance of informal learning</b> It should be valued and used appropriately in formal education
<b>4. Requires the teacher to scaffold learning</b> Activities to support learners as they move forward, so their learning becomes secure	<b>9. Depends on teacher learning</b> Teachers' continuous development of their knowledge and skills should be supported
<b>5. Needs assessment to be congruent with learning</b> It should advance learning as well as determining whether learning has taken place	<b>10. Demands consistent policy frameworks with support for teaching and learning as their primary focus</b> Policies at every level should be designed to ensure everyone has access to learning environments in which they can thrive

Figure 1: Evidence-informed principles to guide policy and practice

the Core Subjects. One of the other two modules covered the students' specialist subject and the third was a choice among three options: inclusion, the wider context of education and the professional learning portfolio (PLP) devised in conjunction with the secondary PGCE courses.

Primary education lecturer Patti Barber was asked to design the course and the opportunity presented her with a sea of possibilities. After hearing TLRP director Andrew Pollard give a lecture on the programme's findings and implications, and reading through its Framework of 10 principles of teaching and learning, she felt this would be a good structure to use in planning the course.

With the help of colleagues, and using the 10 principles, she developed the course so that it would integrate the three core subjects with the pedagogy. The framework really helped us with the planning. The primary team went through each principle and discussed how it could be translated into our subject areas. It was decided that some of the principles would be best taught in generic sessions, some would be well suited to self-study and others could be developed in particular ways within all three core subjects.

## Course description

### Course rationale

For a new teacher, it can be hard to see how theory and practice fit together. Using the TLRP principles helps to make this concrete for them. By making specific links between the principles and curriculum content, students get a clearer and more holistic picture of why they are doing what they are doing in the classroom.

### The module aims to:

- Maintain the highest academic and practical standards for new teachers.
- Provide a rich and rewarding experience of initial teacher education in the university and schools so as to enhance and encourage commitment, continuity and retention of teachers as professional practitioners.
- Maintain a commitment to social equity and social justice for the whole range of school students, teachers and schools, working towards a culturally diverse society in which the rights and responsibilities of all are recognised and promoted in teaching and learning.

<ul style="list-style-type: none"> <li>• Equips learners for life</li> </ul>	To reflect on theories and practices concerning how children from a range of backgrounds develop competence in language skills; to consider how these might be applied to good effect in today's urban classrooms.	To develop mathematical thinking and reasoning and create connections between topics in mathematics	To develop scientific ideas and processes of learning science
<ul style="list-style-type: none"> <li>• Engages with valued forms of knowledge</li> </ul>	Students will examine the range of text forms identified in the National Curriculum/Strategy for English and consider their differing features and demands.	Students will examine difficult concepts for children to learn and for teachers to teach. There will be discussion of the difficulties that arise in teaching and learning – multiplication, division, ratio, fractions and decimals. Discussion of research paper 13	To develop scientific ideas and processes of learning science
<ul style="list-style-type: none"> <li>• Recognises the importance of prior experience and learning</li> </ul>	Students will examine the different strategies used by emergent and fluent readers and how these interact at different stages in children's reading development.	Students will focus on children's common misconceptions with a focus on number, time and shape and space.	Students will be required to bring examples of misconceptions held by the children taught during school experience. This session will develop students' understanding of their role in finding out what these misconceptions are and how they can address these during science lessons in a way which is effective in helping children's ideas to change.

Figure 2: Summary of aims of English, maths and science taught sessions on Principles 1, 2 and 3

- Provide an excellent basis for professional practice as a classroom teacher that meets and extends beyond the statutory requirements of the Standards for QTS.
- Consolidate and extend the knowledge of curriculum subjects and pedagogy appropriate to the range of school students across the phases of compulsory schooling and beyond this to post-compulsory teaching and learning.
- Ensure that professional practice as a classroom practice is based on current, recent and relevant research and publication.
- Promote habits of critical reflection on practical teaching as well as theories and policies that underpin the professional practice of primary and secondary teachers.
- Promote a commitment to maintaining the career-long, continuing, professional learning and development of primary and secondary teachers.
- Consolidation and extension of subject knowledge required by the statutory and post-compulsory curriculum.
- Acquisition and extension of practical pedagogical knowledge and skills appropriate to the diverse range of school students.
- Commitment to and aspiration towards excellence in education and schooling for the complete range of school students.
- To instill and maintain an aspiration for constant improvement of professional practice as a teacher.
- To provide a critical, research and enquiry-led approach to teaching and learning.

### Expected learning outcomes

This M-level PGCE module is designed to provide excellent teachers for schools in London, the UK and internationally. To achieve this, by the end of the course, students will have developed understanding of key aspects of the field of study and practice demonstrated by:

- A grasp of issues and critical insight into professional pedagogic practice.
- Understanding of learning processes and the various contexts of learning and teaching.
- An ability to be creative, independent and successful in the application of knowledge in teaching and other work with a range of learners and colleagues.

They will also have developed abilities in exploration, analysis, discussion of and reflection on teaching and learning, demonstrated by:

- Capacity to analyse teaching and learning within immediate and wider professional contexts.
- Ability to draw from and apply appropriate intellectual perspectives to teaching and learning.
- Professional knowledge refined through critical reflection and engagement with research and scholarship.
- Understanding and analysis of values underpinning or influencing pedagogic approaches.

Also, the ability to communicate and make structured presentations that demonstrate:

## Major implications

Masters level courses provide an opportunity to introduce principles of teaching and learning. Students are able to extend and deepen their understanding by applying these principles in school contexts. It is also enhanced through reflective written assignments.

### The shoebox activity

Teachers find the funds of knowledge children can draw on outside of school very helpful. Students on the module use the 'shoebox' activity, devised by the Home-School Knowledge Exchange project, in their school placements. It is very simple: children use a shoebox to bring significant objects from home into school, where they become a springboard for writing and other work. The Shoebox task has had very good uptake in schools with lots of positive feedback.

Here is what one student on the module reported:

'The shoebox task provided me with a good understanding of the home-school exchange since it was encouraging children not only to talk about but to write about something which they felt passionately about. Children's work became more imaginative and they were better motivated. The final advantage of this piece of work was that those children not normally motivated, especially during literacy, felt that they were able to be more free with their writing, since they were so interested in the topic and the opportunity to give life to the inanimate objects they had chosen. The opportunities it provided for home school exchange were advantageous because they personalised and interested as well as informing the children's work.'

#### 'Pupil A

'Pupil A's shoebox contained the following items

- Maths and English homework from his Russian school.
- Pictures of ice and snow taken in Russia over the holidays.
- Drawings of his favourite cartoon character, 'Ben 10'
- A book on making paper aeroplanes
- A paper aeroplane he made with his father.

'The first finding for me was how important his Russian heritage was to the pupil. It was not something he ever volunteered information about in class. I spoke to him, and asked if he would like to teach me and the class to say Good Morning and Good

afternoon in Russian. He taught the class to say good morning and this was used in registration.

'Secondly the items he brought gave me a much clearer idea about his prior knowledge. For example his experience of frozen lakes gave him greater insight into material science in terms of melting and freezing. He was also able to illustrate examples of materials used in clothing to keep warm as part of a science lesson.

'The pupil also brought in written work in his home language. This was much more structured (neater/ better use of full stops etc) and more extended than his writing in English. This led me to hypothesise that although he speaks fluently he is still translating from his home language into English. The low levels of written output may well be due to this process rather than a lack of ideas.

'Moving forward I think that it is important to make sure the pupil has the time to write in English. However, in order to ensure that he is given the opportunity to convey his ideas and thoughts through other media, such as recording on to tapes and video cameras, orally or pictorially.

#### 'Pupil B

'I had been teaching the QCA topic on houses and homes during STSE (science, technology, society and environment). Pupil B returned to school after the weekend with her shoebox. She and her father had turned it into a dolls' house for her favourite Bratz doll. The model had working doors, windows with curtains, a bed with bedding, dining table with plates, cups and cutlery, a sofa and TV. Each item of furniture was made from cardboard and then decorated using materials and paint.

'I was very surprised by this use of the shoebox, particularly because the pupil had not demonstrated much interest in the topic and showed reluctance to engage with the D&T aspect. When I questioned her about the house she was able to give explanations about science (from the materials topic) and history (why it was a new house) and to explain how and why she'd made different items (D&T).

'In my assessment of class work I had made the assumption that the pupil was not reaching the learning objectives for science and history. The shoebox task made me question my own practise. I clearly wasn't assessing the pupil correctly and failed to give her the opportunity to engage with the D&T topic in class.'

- The choice of appropriate forms of communication and presentation.
- Clarity, focus and coherence in communication and presentation.

#### Structure of the course

The course includes a mixture of taught sessions, self-study, and school-based tasks. Principles 1-3 are examined subject by subject in taught sessions (see fig 2). Principle 4, dealing with how

teachers scaffold learning, has a generic taught session, but is otherwise school-based and emphasises students' questioning skills. The schools saw the questioning task as helpful and this was reported back in the course committee. Principle 5 also combines taught and school-based activities for the students. Principles 9 and 10 are more suited to self-study. See the 'shoebox activity', above, for more on principles 7 and 8.

# Further information

## Course evaluations

Here are some comments from students' professional course evaluations:

*'This module has really helped to ground my knowledge and understanding in teaching and learning practices.'*

*'I really enjoyed learning about the theories behind L and T and the TLRP principles which give a good basis to put them in practice and help you to be an effective teacher.'*

*'The principles are in my mind as I am teaching.'*

*'The reflective process of linking theory to practice was interesting and useful.'*

*'The principle of scaffolding learning and its theory is something I will take away and use throughout my teaching career.'*

*'All of the L and T principles have highlighted what is expected of me when I begin to teach my own class.'*

*'The TLRP website and Research Briefings were very helpful and worthwhile.'*

*'The core text (principles booklet) was equally useful and it was great that this was provided for students.'*

## References and further reading

Greenhough, P. et al (2005) Boxing Clever: using shoe boxes to support home-school knowledge exchange. *Literacy* 39 (2) pp 97-103

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Pollard, A. (ed) *Readings for Reflective Teaching* (2002) Continuum

# The warrant

## Course outcomes

Students are assessed on one main essay, which asks them to demonstrate their understanding of the teacher's role in engaging children fully and actively in the learning process. They are asked about implications for planning, progression and assessment and told that their academic argument should give insight into their developing personal philosophy of education.

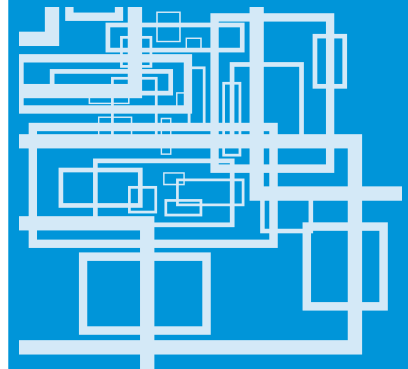
Excerpts from students' essays show how they have used the principles in their teaching practice:

*'Reflecting on my planning and teaching of the lesson I recognise a key problem is that I have made assumptions regarding pupils' prior knowledge [principle 3]. I have anticipated the prior knowledge of pupils based on past lessons. However, I have not included methods of assessing whether pupils actually possess this knowledge. In future I will carry out formative assessment to gain the information on prior knowledge necessary to accurately create the next series of activities for pupils... In summary, successful teaching requires teachers to use informed models of learners' concepts and knowledge, in addition to planning where learning is heading. This also links to Principle 5.'*

*'"You're all so good at counting! Can you count to 100?" The children shout "Yes!" and we start counting. I hold up a 100 number square, and point to each number in turn. At 13, I join in with the counting, at 21 I stop, but join in again for "29, 30", and so on for each decade. I can hear the children's voices carrying on the counting all the way up to 100. Afterwards, Mandy prompts Alice and Frank to think about how they could count even further, "...99, 100. What might come next?" [principle 4].*

*'My own experience of learning during this PGCE has been a huge influence on my attitude to group work. I can identify with Vygotsky's theory of social interactive processes in internalisation, the importance of peer and teacher scaffolding and talk.'*

# Teaching and Learning Research Programme



TLRP involves some 90 research teams with contributions from England, Northern Ireland, Scotland and Wales. Work began in 2000 and the Technology Enhanced Learning phase will continue to 2012.

**Learning:** TLRP's overarching aim is to improve outcomes for learners of all ages in teaching and learning contexts within the UK.

**Outcomes:** TLRP studies a broad range of learning outcomes. These include both the acquisition of skill, understanding, knowledge and qualifications and the development of attitudes, values and identities relevant to a learning society.

**Lifecourse:** TLRP supports research projects and related activities at many ages and stages in education, training and lifelong learning.

**Enrichment:** TLRP commits to user engagement at all stages of research. The Programme promotes research across disciplines, methodologies and sectors, and supports various forms of national and international cooperation and comparison.

**Expertise:** TLRP works to enhance capacity for all forms of research on teaching and learning, and for research-informed policy and practice.

**Improvement:** TLRP develops the knowledge base on teaching and learning and collaborates with users to transform this into effective policy and practice in the UK.

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