

Figure 1 Likeminded teachers working together to improve science

Nicky Waller and Chris Baker believe that change can be a good thing and explain how their training has helped others

eptember 2013 was the month when teachers across England finally gained access to the definitive version of the new primary curriculum. 'Signed, sealed and now to be delivered' was the strapline used for the Primary Policy Watch report (Pearson Think Tank, 2013) and this seemed to resonate well with the anticipation felt by many after wading patiently through the varied draft programmes of study that came before it.

In the same month, at the National Science Learning Centre

(NSLC) in York, we led the first residential period of our course 'Leading Change in the Primary Science Curriculum'. This course aims to explore the implications and associated challenges of leading staff through change, and this one focused on the introduction of the new primary science curriculum. Although the course has been run for some years now, it seemed better placed than ever amongst its rival titles in our primary course brochure to promote a renewed interest and enthusiasm - and it did! One

course participant, classroom teacher Anna Bentley, described her reasons for attending:

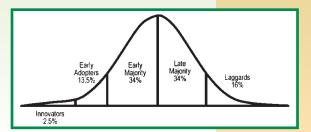
I know there are huge changes that will need to be implemented in the upcoming year. I was keen to gain a clear understanding of what was changing and get some ideas on how to disseminate this information in a positive way that would engage and enthuse the whole school.

How do we feel about change?

Consider these teachers' responses from our course:

Key words: CPD Ownership

Figure 2 Where is your school in terms of change? (From Rogers, E. M. (1995) Diffusion of innovations, 4th edn. New York: The Free Press)



- Change is natural: yes
- **Change is good:** well it depends
- You cannot prevent change: probably not.

The responses echo those of teachers in primary schools throughout the country. Asked to expand on them, our teachers explained that change that evolves naturally from teachers' reflection on practice, leading to new, interesting and effective ways of learning, is good. On the other hand, change imposed by those distant from the classroom, be they senior leaders or, as is more often the case, politicians, is less good and, at worst, can be downright daft. They feel that it is often ill thought out, impractical and, at best, results in 'reluctant

acquiescence': we will do it because we have to, but our heart is not in it. In his book *Leading* change, Kotter (1996) states that 70% of change initiatives end in failure – a point not missed by the staffroom sceptics!

Change and a new curriculum

So how will colleagues with responsibility for introducing the new curriculum choose to operate? Surrounded with echoing cries of 'They've changed it all again!', how do you move forward?

Of course all has not changed, as a careful analysis will demonstrate: facts and progression in learning will not change - children don't learn to run before they can walk and plants won't suddenly not need water in order to grow! The fact that there is a new curriculum creates one of Kotter's eight requisites for successful change, namely urgency (see Websites and Box 1). The National Curriculum tends to focus on what is to be taught but teachers know that it is how it is taught that makes a difference.

If we think in this way, the new curriculum becomes a great opportunity to implement more effective teaching, learning and assessment strategies. These are the strategies that the real experts - classroom teachers - know will make a difference.

How can change be made meaningful and productive?

Real change happens twice: once in the leader's head and once in reality. Leaders know that change has to be sold, awareness raised and interest gained before any planned change has a chance. Meaningful change occurs not because leaders say it will, but because teachers make it happen. It is this ability to imagine the changes and to be able to describe how they will benefit everyone involved that creates a powerful force to help make the change successful. The steps shown in Box 2 may help.

You are now in a position to communicate your vision in a way that brings it alive to others. By describing in detail what people will see, hear and feel in the improved situation, vision and strategy are established and communicated. Remember to use the present tense and describe the future as if it is happening now.

This leaves the next challenge of creating ownership to kick in.

Establishing a team to trial the change is the next priority. It is amazing how much change is attempted in schools without anyone trialling the ideas on a smaller scale - basic science surely? How else do we know whether the change is worth adopting?

Leaders need to support the team and empower their action by encouraging risk taking, without judgement. They need to help the team to overcome obstacles to bring about initial short-term gains that can be celebrated, and

Having shown the change to be worthwhile, leaders should ensure that the improvement is locked in by incorporating the change into their school's systems, such as schemes of learning and the way teachers and pupils behave. This embeds the change into the culture and ethos of the school.

Successful change

Teachers on the course identified the changes they wanted to make and used the 8-step process, and other tools such as the balloon model (Figure 3), as planning guides to help turn vision into strategy. The balloon model involves a simple comparison of your vision with reality (how things are now) to enable you (and perhaps your team) to identify the key strategic areas you need to work on and the main obstacles that need to be overcome.

The teachers also discussed obstacles and possible solutions to the changes they were intending to make (Box 3).

The key to successful change is the rapport that leaders have with their team; this is not the same as friendship, which can be quickly gained and quickly lost. Rapport is a state of mutual respect and stems from the leader taking a genuine interest in what is important and what matters to members of the team. People

- Box 2 Imagining change

 1 Imagine that your planned change is working perfectly. In your mind's eye you are in the corner of a classroom observing the new and improved practice.

 Describe what you see What are the children doing? What is the teacher doing? How are they standing/sitting/interacting?

 What do you hear from the children and from the teacher? What intonation do you hear in their voices?

 What feelings do you pick up from being an invisible observer in this classroom?

 Repeat the above, describing what you see, hear and feel from the perspective of the children.

 Repeat again from the perspective of the teacher.

understand that self-confidence is important to a leader but they often fail to understand that what is more important is a leader who has confidence in others. A good leader allows others to try their own ideas and supports them when it goes well - and when it does not go so well. Our course at NSLC allows participants to hone and practise these 'people skills' in sessions on coaching and dealing with 'difficult' colleagues.

Impact

Formal feedback at the end of this residential period showed that participants had gained fresh ideas about how to start implementation as well as how to support staff and help them become more confident about change. They also commented that they had benefited greatly from having time for personal reflection, meeting like-minded teachers and knowledgeable presenters, sharing resources and building links. Some even told us that they were returning to school feeling energised!

We spoke again, more recently, to primary teacher, Anna Bentley, about what she has been doing in school since attending

and possible solutions

Figure 3 Using the balloon model as a planning guide

this part of the course. She talked enthusiastically about a successful whole-school science enquiry day to assess current standards and identify any gaps in children's knowledge, skills

and understanding. Anna then described how individual teachers will be using the findings to inform planning for the rest of the year. She has already started to support year groups, with resources and ideas from the course, to target improving these aspects of working scientifically. Anna was keen to add:

This is the first time we have done anything like this and the feedback from staff and children has been overwhelmingly positive.

This course was unique in the way it encouraged us to build relationships with other attendees and supported us to manage an action research project. We were guided at every step:

Planning Change – The Balloon Model



Draw a hot air balloon anchored with a rope.

- 1. Who needs to be in the balloon? write their names
- 2. On the balloon write what needs to be in place for the change to be
- 3. Next to the anchor write what is holding it back.
- 4. Above the balloon, list elements which will make it fly at high speed.
- 5. On either side of the balloon write down what might blow your change off

what change to implement, possible challenges, how to overcome them and how to evaluate its success.

Already looking forward to the second residential period later this year, Anna is just one of the many teachers taking advantage of the Enthuse Awards (see Websites), which help to cover the cost of attending continuing professional development courses offered by the National Science Learning Centre.

For further information about this course and others running in the runup to September 2014, please go to https://www.sciencelearningcentres. org.uk/cpd/.

References

Kotter, J. P. (1996) Leading change. **Boston: Harvard Business School**

Pearson Think Tank (2013) Primary policy watch - signed, sealed and now to be delivered. Available at: http://thepearsonthinktank. com/2013/primary-policy-watchcurriculum-2014-signed-sealed-andnow-to-be-delivered/

Box 3 The teachers' solution planner – obstacles to change

OBSTACLES	SOLUTIONS
Time – lack of INSET/staff meetings on science.	Alternatives to staff meetings: year group trialling; key stage trialling; individual CPD (target it to support year group).
Science taken off School Improvement Plan.	Raise profile: with evidence from Ofsted; seek funding opportunities; science day/week.
	Put primary science back on the School Improvement Plan.
Other school subjects/issues being given priority over science.	Cross-curricular work.
	Put in planning.
	Use science as focus for planning a week.
New curriculum still being altered, even up to September 2013.	Rename topics but with science theme. Use academic year 3013–14 to trial and train. Use it as an opportunity for trying out 'risky' ideas.
Resources and finance.	Look for alternatives: company support; Enthuse Awards; links to secondary schools; free resources (ask volunteers to source and from parents).
	Buy in theme scheme of work with science as focus.
	Share/plan as science cluster.
Assessment – how often in science? Is it necessary to have data for Ofsted? Would prefer to do Assessment for Learning (AfL).	AfL to inform teacher assessment.
	Teacher assessment as summative assessment.

Websites

ENTHUSE Awards: https://www. sciencelearningcentres.org.uk/about/bursaries/ enthuse-awards/

Kotter's 8-step process for leading change: www.kotterinternational.com/our-principles/ changesteps

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