

# Milton Keynes Learning Fellowships 2009-10 Action Research Enquiries

A collaboration with The Centre for Real-World Learning  
University of Winchester

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## Introduction

In 2009, thirteen teacher fellows were selected by Milton Keynes to take part in a unique collaboration with the Centre for Real-World Learning (CRL) at the University of Winchester.

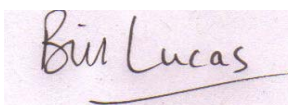
Rosemary Scott	Long Meadow
Carol Downs	Glastonbury Thorn
Jo Skelton	Giffard Park
Sarah Hand	Long Meadow
Clair Faid	Green Park
David Armstrong	Simpson
Angela Brown	Denbigh
Liz Underwood	Leon
Alex West	Denbigh
Paul Gannaway	Denbigh
Anthony Steed	Denbigh
Malcolm Lay	Denbigh
Jenny Smith	Giffard Park

Each fellow was provided with some protected time and support from CRL during 2009-10 to undertake a significant piece of action research in their own school. Action research enables professionals to use a range of research techniques to test out a specific approach designed to improve pupils learning.


The range of subjects represented here is broad; from the use of USB microphones, to writing outside the classroom, from building parent learning power to active learning at Key Stage 5. Each of the fellows has not only had the opportunity to try out new approaches for the benefit of learners, but has also been able to think afresh about an aspect of their professional role. We believe that teacher enquiries like these are an excellent way of creating schools full of reflective practitioners who are ready and willing to try out new ideas.

We hope that educationalists reading this report will find something to stimulate their own practice.

We know that collaborations like this provide real opportunities for innovation and professional development.



**Bill Lucas**



**Guy Claxton**



**Greg Morris**

## Does the use of USB microphones affect the motivation and engagement of 'less able' children in Year 1 literacy lessons?

Rosemary Scott

Long Meadow School



### Research context

In Year 1, many children have limited writing skills; however, their oral and imaginative skills are usually much more advanced. This can lead to frustration when children are asked to complete written tasks, as it is not practical to be able to scribe all of their ideas. I saw USB microphones demonstrated at a training session for SEN children and considered if using them with less able writers in Year 1 would be helpful in overcoming this frustration. I also wondered whether using the microphones would increase the pride of these children as they would be able to share their work in the plenary session more readily.

The advent of simple-to-operate USB microphones has provided an opportunity to investigate the use of this technology with very young children. Several schools are using them in various contexts and some studies have already been undertaken on the benefits of using similar technology incorporating sound recording, such as digital cameras with video, with young children.

The aim of my research was to investigate how 'less able' writers in Year 1 were motivated and engaged when using USB microphones. Questionnaires, post-lesson discussions and repertory grids were used to analyse the data.

Generally, using the microphones helped children's motivation and engagement and enabled them to share their work with others at the end of a lesson. Other opportunities for using the microphones and some problems with their use were also noted.

I searched extensively for previous published research on the use of the USB microphones. I did not find any published research specifically connected to their use but several schools on the ICT Register replied to comment on their use of the USB microphones. The DCSF and children's centre sites commented on the benefits of use of digital cameras:

*'Time and again the impact on children's motivation, independence and confidence was mentioned, and the impact on speaking, communicating and negotiating was significant. This demonstrates the importance of ICT being embedded within the continuous curriculum of the learning environment, rather than being withdrawn into a discrete session in an ICT laboratory.'*<sup>1</sup>

Comment from the Teacher:

*'Use of cameras creates a very positive learning environment for EAL learners. It encourages talk and children to give views on a chosen topic.'*<sup>2</sup>

<sup>1</sup> [http://nationalstrategies.standards.dcsf.gov.uk/node/85219?uc=force\\_uj](http://nationalstrategies.standards.dcsf.gov.uk/node/85219?uc=force_uj)

<sup>2</sup> [http://www.childrenscentres.org.uk/ey\\_listening\\_to\\_young\\_children.asp](http://www.childrenscentres.org.uk/ey_listening_to_young_children.asp)

### **School context**

This research was undertaken with two groups of children in Year 1, at Long Meadow School, which is a two form (60 children) intake, primary school. The two groups of six children were the lowest literacy ability children in each Year 1 class as determined by their Foundation Stage Profile, linking sounds and letters, reading and writing.

### **Enquiry description**

The USB microphones had been introduced to the children in the context of other lessons, to reduce their novelty value and so that the children knew how to use them. Before using the microphones for the study, I asked half of the children in the less able literacy groups which activities they enjoyed and disliked in our current literacy lessons and what they were proud of (see results table and comments in Key Findings section below). I also spoke to the children after they had used the microphones to assess what they particularly enjoyed or disliked about them.

I used repertory grids to observe children during two literacy lessons. I observed behaviour under the following headings in each 10 minutes of the lesson:

- On task
- Working independently
- TA (Teaching Assistant) needing to intervene
- Engaged/engrossed in work.

*Instructions Lesson* The learning objective for the first lesson was to be able to produce instructions. The children had an input session using the Interactive White Board (IWB) and negotiated the success criteria for the lesson, which included remembering to number their instructions and to keep the instructions short and clear. They then role-played the actions they took when they came into school in the mornings, rehearsed and recorded their instructions for these actions and shared their work in the plenary. The children were supported as they usually would be by a Teaching Assistant (TA).

*Story Sequencing Lesson* The learning objective for the second lesson was to sequence events in a story about themselves being lost. Again the children had an input session using the IWB showing a story mountain and focussing on a beginning, middle and end for a story. They negotiated the success criteria, which included describing the 'when', 'who' and 'where' at the beginning, 'how' they were feeling in the middle and the resolution of the problem at the end. In talk partners, the children spoke about their experiences, and then recorded their story on the USB microphones. One story from this group was shared in the plenary session. Again the children were supported as they usually would be by a TA.

I had considered using one class as a control group, but on balance as we had the microphones to use, I thought that it would be fairer to let all the children use the microphones and then discussed with them afterwards how they would have felt about doing the same work by writing or copying what a TA might have scribed for them from their ideas.

### **Key findings**

The baseline assessment of attitudes to literacy lessons show that a speaking activity such as role play is highly valued by these less able writers. Information from the questionnaire administered in advance is shown below. Obviously such a small sample of children's views needs to be treated with caution.

## Enjoyment of literacy lessons

A lot	A bit	Not much	Hate it
1	3	2	0

## Enjoyment of activities:

	A lot	A bit	Not much	Hate it
Cutting and sticking	4	2		
Role play	6			
Reading	1	4	1	
Writing	1	4	1	
Drawing	6			

What are you proud of? Role play 2, drawing 2, cutting and sticking 1, not sure 1.

*Instructions Lesson* Looking at the repertory grids, it is clear that the children were able to work independently, be on task and be engaged and engrossed in their work whilst using the microphones. They were also engaged and on task during the role play activity. There was less engagement and more need for the TA to intervene during the input session. In the plenary session there was very good engagement and recall of the task. During subsequent questioning, four of the six children mentioned that they felt proud that their work had been shared with the rest of the class. One child mentioned that they did not think that their written work would have been chosen to show on the visualiser. In this task, each child only had to remember one instruction and even the least able child was able to do this. Her motivation and engagement was clear to see.

*Story Sequencing Lesson* Again, looking at the repertory grids, it is clear that (except for the two least able), the children were able to work independently, be on task and be engaged and engrossed in their work whilst using the microphones. They were also well engaged when describing their experiences to their talk partner. In discussion after the lesson, one child said that he was excited using the microphones because he would be able to share his story with the rest of the class but he knew he 'couldn't write all the exciting words'. This task involved remembering a great deal more than the instruction task and the two least able children in each group still needed considerable support from the TA.

## Reflections

Generally, the experience of using the USB microphones has been very positive. The children have been observed to be more motivated and engaged in their learning. They have also been more resilient, able to use their imaginative oral vocabulary, have persevered with their work well and have gained in confidence, pride and enjoyment by being able to share their work with their peers. As a result of this research, the Year 1 team have looked for more opportunities to use the USB microphones in a variety of subjects and with all abilities particularly for 'wordy' subjects where the aim is to test understanding rather than 'writing' ability. Examples of other areas of use include:

- Taking outside to e.g. nature area/woods to record observations. This will be a particularly important application as the outdoor learning curriculum is developed
- To record observations in science experiments

- To record observations on local area walks e.g. in geography topic 'houses'
- Music - instant playback and evaluation. We could also take the sound file on the laptop to the hall for PE dance work linked to the music that the children had composed and performed
- Uploading children's work to Fronter (Virtual Learning Platform) to share with parents
- For teachers - to record APP evidence, particularly with younger children where there is a lack of written evidence available.

A few problems were experienced using the microphones, although in most cases these can be easily overcome:

- The classroom environment is too noisy, so the microphones need to be used in small groups outside the classroom
- If another child speaks, the microphone picks that up too, so others have to stay quiet whilst a child is recording
- A 'learning to use' issue - the children were sometimes frustrated when their recording did not work because they had pressed the wrong buttons
- Playback volume seems very low
- If you do not purchase a multi-charging unit, due to the shape of the microphone (very wide near the USB) they can only be charged one at a time
- For the same reason, it is difficult to transfer files direct to a USB memory stick unless the USB ports on a computer are well away from each other.



**If Year 1 children determine what they'd like to write about and where they'd like to write would they would be less reluctant to try?**



## **Carol Downs and the Elephants class**

### **Glastonbury Thorn School**

#### **Research context**

In September 2009 the children and I moved from the Foundation Stage to 'big school' into Year 1 and the National Curriculum. My aim was to make the new curriculum as relevant and cohesive as possible for them. Teaching literacy skills in a themed approach was ideal as our school has a creative curriculum and this is the way that we had learned during the previous year. However, as the Early Years Foundation Stage curriculum is 80% child-initiated there were a number of children who chose not to get involved in writing activities at all. I identified 13 children (mostly boys but four girls and varying academic abilities) from my class who would benefit from some form of intervention and all avoided writing for various reasons. I wanted to investigate why and then remove the individual barriers that prevented these children from trying writing. My aim was to see them fully engaged in using the phonics and fine motor skills they had already accumulated so that they could start to grow into lifelong learners and enthusiastic writers.

The text I chose – *Green Eggs and Ham*, by Dr Seuss, with the key character Sam-I-am - was highly relevant as it is a personal favourite and is a child-friendly way of introducing someone who is reluctant initially but then sees the benefit of 'having a go'.

For the benefit of the school I expected my intervention would help to 'narrow the gap' between anticipated and attained levels for these children and ultimately improve standards. More importantly I hoped to increase the children's confidence in their own literacy abilities to help them succeed in the future. As a school we regularly review and share best practice so any lessons learned from this action research will benefit other practitioners and, more importantly, the children.

#### **School context**

Glastonbury Thorn is a large infant school which opened in September 1993, named after the Glastonbury Thorn tree which grows locally. We currently have 257 children on roll aged between 4 and 7 years, with three classes in each of three year groups – Foundation, Year 1 and Year 2. We are a popular school with a high profile both locally and further afield – currently 52% of our children live outside our defined area.

The children in Elephants class currently comprise 17 girls and 12 boys, 24 of these children have been at our school since they started in 2008. There has been some mobility throughout this school year with three children leaving and another three replacing them. I too moved to this class and year group at the beginning of this school year, having previously been the class teacher for eight of these children and having taught many of the others as we were in an open plan Foundation unit. Having two other Year 1 classes served as a control group, as although we plan literacy together as a year group team, the other two classes (Chimps and Crocodiles) did not receive any kind of intervention thus enabling me to compare results and rates of writing progress with the Elephants. We hold half-termly pupil progress meetings with the Assessment Leader and the Headteacher. The evidence of progress for these meetings is from levelled pieces of independent writing thus enabling all pupils' progress in writing to be tracked and compared across the time of the intervention and between the three classes.

#### **Enquiry description**

My initial background reading included:

- Motivating Primary students to write using Writers' workshop<sup>3</sup>
- Predictors of writing competence in 4-7 year old children<sup>4</sup>
- Special Places; Special People The Hidden Curriculum of the School Grounds.<sup>5</sup>

Prior to starting I carried out a survey asking a range of children, of various ability and engagement levels, across all three classes about their attitudes to writing. As part of the survey I asked them where would be an interesting place to do some writing with their friends. Children's existing baseline writing level had already been established at the beginning of the school year.

From the outset, although I knew this intervention was designed to target reluctant writers, I decided to involve the whole class and the majority of our writing inside and out took place as a class unit. This threw up some logistical problems which led to me having to be creative with our timetable by amalgamating topic lessons and rearranging literacy slots and I decided to kick start our project by dedicating a whole day to 'Sam I Am' writing.

We started in October by re-introducing the *Green Eggs and Ham* story; the children took some cues from the story to suggest a range of locations to write in – inside and out, around the school and at the local park. We had *Sam I Am* writing journals and special pencils and the children determined what they would like to write about.

On the first day we decided to write in the dark as it was one of the rhymes from the story, so we shut off the lights, closed the blinds and just wrote about what we wanted. As a first attempt we found it tricky as some children were not sure what to write about, also writing when you cannot see the page clearly does not make for your neatest attempt! We took it in turns in the author's chair and listened to some of the things people had written, these included things like lists of tricky words, our friends' names and even a range of numbers. Our next session was later on the same day when we decided to go to the library and this time we could lie down on the floor and relax whilst again writing about anything we wanted. Somebody made the suggestion that we could write a list of things that we might need to carry out this project and some of us started to make lists.

Later, that afternoon, we went to write in the staff room as we thought it might be fun as it is not a place we usually visit and we decided in advance that we would all write about the same topic, which was about our exciting day of writing in many different locations. This proved far more successful and when I completed a spot check of the children they all managed to stay on task for at least 10 minutes. We even invited the headteacher to come in and see how we were progressing and she said:

"It was lovely to see the children so focussed on their writing and this is proving to be a positive and creative way to encourage our reluctant writers".

Alongside the intervention in our timetable we still did weekly handwriting practice and received technical support with daily phonics lessons. Our normal literacy lessons afforded speaking and listening opportunities, drama and other writing experiences.

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<sup>3</sup> Conroy, M, Marchand, and Webster, M (2009) *Motivating Primary Students to Write Using Writer's Workshop*. MA Project for Saint Xavier University, Chicago

<sup>4</sup> Dunsmuir, S. and Blatchford, P. (2004). Predictors of writing competence in 4-7 year old children. *British Journal of Educational Psychology*. 74(3), 461-483.

<sup>5</sup> Titman, W (1984) *Special Places; Special People The Hidden Curriculum of the School Grounds* Winchester: Learning through Landscapes

After a couple of weeks, having then been writing in an external covered area as well, we used a circle time to come up with a class list about why we needed to be good at writing, our reasons included:

- “I like doing it with my friends”
- “I want to write tricky big books”
- “I write a diary”
- “It can help to sign contracts when I’m older”.

Structured observation of the children throughout enabled me to determine the level to which they were engaged in their writing in different locations. Photographic evidence showed the level of focus and the volume and quality of the writing improved.

Once we started writing outside in the school grounds, even balancing on the trim trail to quickly write our names, we then started writing in the local park (despite the rain!) and there was no stopping us. We moved to the hall and the big park, a walk across to a nearby estate. We wrote about sharks, dinosaurs, fairies and often just wrote down what we could see, hear, smell and touch.

### **Key findings**

My initial survey was not entirely representative as all except one child said they liked writing (he said it was “boring because you had to just sit and do it”). It became apparent as we continued that the children were genuinely enjoying helping me with our project and were becoming more resilient writers. They looked forward to writing somewhere different next and kept at their writing for extended periods.

Once we had started the project kept on growing! We decided to take our books with us to the city centre when we went to sing our Christmas songs so that we could write on the coach. Some children decided to write on a computer and sent an e-mail to Professor Bill and Professor Guy to ask them to read our writing. We also sent them ‘Sam I Am’ journals to write in and they responded with photographs of them writing just for fun. As the Headteacher and Deputy Headteacher were due to observe my literacy lesson for the performance management cycle we managed to have the pre-requisite number of adults to enable us to walk to a larger park with a natural play area where we could balance our books. We gave them both ‘Sam I Am’ books of their own and they joined in as well.

When we set Christmas holiday homework of writing a diary the Elephants took their ‘Sam I Am’ journals home and wrote in lots of different places at home. I also asked the parents to complete a questionnaire about their own experiences of writing and where their child liked to write. The replies confirmed the enthusiasm for writing that the children had and how they had taken it home with them and been writing everywhere!

A comparison of writing levels showed that from six children in September (20%) we now had 18 children (62%) confidently writing at Level 1c and above. Most significantly 100% of us had made significant improvement in our writing.

In February and March the Elephants and I presented our project and their associated writing in a sharing assembly for parents and the Ofsted inspector. We then showed it again as part of my presentation on Creative Teaching and Learning, first to 20 trainee teachers and then to 35 Milton Keynes NQTs. All audiences were impressed with our enthusiasm for writing everywhere.

The Elephants presented it as a rhyme that they wrote themselves;

*Do you like writing Sam-I-Am?*

*We do like writing Sam-I-Am!  
Where the teachers drink their coffee  
We can eat hard toffee  
We did writing in the park  
We like writing in the dark  
Even in the big park  
We can write about a shark  
We liked writing on the library floor  
And writing in Joshua's Garden more  
We liked writing about a fairy  
We wrote about a dinosaur who was scary!  
Thomas wrote with his Christmas tree  
We wrote about what we could see  
We like writing here and there  
We like writing anywhere  
Do you like writing Sam-I-Am?  
We do like writing Sam-I-Am!*

### **Reflections**

The children continue to be more resilient writers and use the character of Sam-I-Am as inspiration; he helps with capital letters in our day to day writing. They enjoyed finding their own favourite location for writing - when we put it to the vote they suggested places such as their bedrooms and on an aeroplane as being great favourites. The overall winner was writing in the dark closely followed by writing in Joshua's Garden (our environmental area) or the hall. As a final quote from my most reluctant writer "I like writing because we can write about whatever we want, I write everything especially a bottom poem".

We have now introduced writing journals throughout Year 1, and the Elephants and I hope to keep writing 'anywhere'. We are happy to talk about writing and how we love it (even when we are at our desks!). For our next step we would like to share our experiences through <http://everybodywrites.org.uk>.



**Does personalised access to ICT have a positive impact on children's writing?**

**Jo Skelton**

**Giffard Park**

### **Research context**

Marc Prensky argues that the students we have in our classrooms today have changed completely and that they 'are no longer the people our educational system was designed to teach'.<sup>6</sup> He suggests that we need to adapt our teaching to fit our new breed of students, instead of teaching with the same methods that have been used for many years. It appears that many opportunities to use new technologies in primary schools are 'missed'.<sup>7</sup> This of course does not mean we should abandon pencil and paper altogether but that that we can find new ways of teaching that are more in keeping with the world in which the children are growing up.

The use of ICT in schools is quickly gaining importance. For example, there is a section on the National Strategies' website outlining ways in which ICT 'may add value to aspects of literacy learning' for children at primary school.<sup>8</sup> I soon saw the potential that miniBooks (a netbook similar to a small laptop) could have with children's learning across the curriculum. During literacy lessons I noticed that the children (particularly the boys) in my class were generally more motivated to work when given the opportunity to use their miniBooks.

### **School context**

In 2008 our school decided to buy miniBooks for every Year 3 and 4 child (three classes in total), providing them with personalised access to ICT, both at home and at school. Initial staff reaction ranged from instant excitement to scepticism; however, as well as a significant amount of staff INSET, a great deal of time was spent explaining the project to staff and parents, ensuring that they had some ownership of the initiative. The principle was that the children would be able to choose when to use the miniBooks during the school day and at home. In September 2009, the project was also rolled out to include all of Key Stage 2. My own research project came from a desire to find out if we as a school were using the miniBooks to their full potential, ensuring that the children were accessing ICT in the most successful way to facilitate their learning. The research I have undertaken focuses on how miniBooks can have an impact on writing, as becoming a successful writer is one of the most important aspects of a child's education and is currently an area of focus for our school.

### **Enquiry description**

To get a clear indication of the impact of the miniBooks I set up a controlled experiment in a one-off literacy lesson with my class of mixed ability Year 4 children, where they were all given the same task to complete - to create an information text on volcanoes. Half the class were told to use a pencil and paper to record their work and to use books for research. The other half were told to use their miniBooks to record their work, as well as using the internet for research. They were given the opportunity to present their information in any way they wanted - some examples were given for both groups, such as posters, leaflets, booklets, piece of writing, PowerPoint presentations and sound recordings. The class was divided at random and not grouped by writing, ICT ability, or behaviour. I observed the class so that I could watch patterns of behaviour and analysed copies of children's work. The behaviour of eight children (four boys and four girls) was recorded at five minute intervals using a repertory grid, under the following criteria - 'engrossed', 'pupil thinking', 'TA/Teacher intervening', and 'off task'.

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<sup>6</sup> Prensky, M, (2001), Digital Natives, Digital Immigrants, *On the Horizon*, Vol. 9 No.5, p1 & 3.

<sup>7</sup> Hall, D, (2010), *The ICT Handbook for Primary Teachers*, Abingdon: Routledge

<sup>8</sup> [http://nationalstrategies.standards.dcsf.gov.uk/primary/primaryframe work/literacy/ictapplications](http://nationalstrategies.standards.dcsf.gov.uk/primary/primaryframe%20work/literacy/ictapplications)

## Key findings

My first observation from this experiment was that the children using the miniBooks were far quicker to settle to the task and became more absorbed, despite having to turn on their miniBooks and wait for them to load up. The children using pencil and paper (referred to as P.P) took time sharpening their pencils (longer than was necessary) and chatting to others, suggesting lack of enthusiasm. The maximum time it took a child to start working on a miniBook was two minutes, compared with ten minutes with a child using P.P, which is a significant time difference. I also found that this initial enthusiasm was also sustained for a far greater period with the children who used their miniBooks. The patterns of behaviour can be seen from the repertory grid below. After children were sent to begin their independent work, they were observed at five minute intervals. Each number represents what each child was doing at that interval: e.g. 1 = first five minute interval, 2 = second five minute interval etc. Two children using the miniBooks - John and Sarah - remained engrossed in their work throughout the lesson. This was not the case, however, for the children using P.P, where no children were recorded as being engrossed at every interval. It is also interesting to note that the number of times the children are recorded as being 'off task' or when a 'TA/CT was intervening' totalled eleven for children using P.P, compared with one for children using the miniBooks. These observations of behaviour were generally a true reflection for the rest of the class and show that overall the children using miniBooks remained more focussed and motivated.

	Child	Engrossed	Thinking	Off Task	TA/CT Intervening
<b>Using MiniBook</b>	Chris	1, 2, 3, 4, 5, 6, 8		7	
	John	1, 2, 3, 4, 5, 6, 7, 8			
	Sarah	1, 2, 3, 4, 5, 6, 7, 8			
	Louise	1, 2, 3, 5, 6, 7, 8	4		
<b>Using Pencil &amp; Paper</b>	James	2, 4, 6, 8	5	1, 3, 7	
	Jack	2, 4, 6, 7, 8	1, 5	3	
	Clare	1, 2, 4, 5, 8	7	3, 6	
	Rachel	2, 6, 8		1, 4, 7	3, 5

Children who used their miniBooks chose how they wanted to present their work and used a wider variety of methods when compared with children using P.P. All of the thirteen children using P.P created posters, whereas out of the thirteen who used miniBooks, three created sound recordings, two created a document on Fronter (our Virtual Learning Environment), six created PowerPoint presentations and two created posters. This diversity of outcomes suggests that children become more creative when using their miniBooks, choosing the style that suits their learning.

I also found that using miniBooks helped to ease children's concerns about presentation. Boys are notoriously resistant to writing but by including a quality element of ICT, this stereotype could begin to change. One boy said, "when I use pencil and paper, I worry about my handwriting and getting smudges. When I use my miniBook I don't have to worry and just write." From the evidence of the written work from this experiment and the other classes I have visited, it appears that when boys use ICT, they will often endeavour to present their work in a new and exciting way, taking more pride and ownership over their work. A research project that looked at

how to motivate boys to write, suggested that linking ICT with literacy had a huge impact on their motivation.<sup>9</sup>

Using ICT may not always be the quickest option to create a piece of work in a literacy lesson but, in this experiment, most children using their miniBooks accomplished more. They found a wider amount of information available on the internet, which saved time when compared with the other children who used information books. The majority of the children on miniBooks were able to quickly insert diagrams and photographs into their work. However, many children using P.P spent the majority of the lesson drawing and colouring in a picture of the volcano. The children on the miniBooks therefore had more time to spend on the information writing, which was the objective of the lesson. All thirteen children on miniBooks had included information in their work, compared with five children out of the thirteen using P.P. When analysing the completed work, I felt that the children had taken more effort in their work and on the whole, the information they included was more detailed and interesting, using more creative language than their peers. MiniBooks helped in this instance to reduce distraction and maintain focus on the task.

During the plenary of this session, children were invited to share their work with the rest of the class. Out of a class of 26, sixteen children wanted to have their work displayed on the interactive whiteboard; eleven of these had used miniBooks. These children were clearly proud of their work and one girl, who usually lacks self-confidence stated, "I think I did quite well today". Out of the children who shared their handwritten work, a couple made self-deprecating comments in front of the class, unlike the children who used their miniBooks. Examples of these include "well I missed a bit out there" and "sorry my handwriting's not very good there, it says...". This suggests that generally children had more confidence in their own work when they used their miniBooks. This is supported by the results of stakeholder surveys conducted at the end of the first year of the project. In response to the question "Does the miniBook help you learn at school?", 91% of children replied "Yes" (72 out of 79 responses). Parents had a similar view with 92% of respondents stating that having a miniBook had positively impacted on their child's motivation and 82% stating that it had positively impacted on their child's academic achievement.

Another method of determining how much of an impact the miniBooks have had on children's writing is to look at progress data. The data I focussed on showed that during the first year of the miniBook project there was a significant increase in the progress made with children's writing across Year 3 and 4 – an average of 0.4 levels more than expected. This could have been in part due to the introduction of the miniBooks although there are other factors which could have had an impact on the results, such as teaching methods and outside influences affecting the individual children.

As part of my research I also conducted a series of observations of Key Stage 2 teachers using the miniBooks with their classes in literacy lessons. I visited teachers in my own school, in Milton Keynes and in London to find out how miniBooks can be used to engage children and help them learn effectively. Examples I observed included Year 5 children being asked to create a virtual tour of their own cave, Year 3/4 pupils finding out information about different sports using the CBBC Newsround website and a Year 4 class using an online tool to improve sentences.

## Reflections

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<sup>9</sup> Centre for Literacy in Primary Education, (2003) *Effective teaching to raise boys' literacy learning and achievement*, (see [www.clpe.co.uk](http://www.clpe.co.uk))

There is no doubt that the miniBooks have changed the school life of the teachers and students at Giffard Park. Lessons are varied and children have more freedom to choose how they learn. MiniBooks have worked well in our school but we are still constantly working to improve how we use them in order to get the most successful results from our children. Richardson talks about how new technologies are creating 'big shifts' in education, challenging out thoughts on what we should be teaching our students and how.<sup>10</sup> Technology is constantly changing, so in order to engage our students, we must too.

Simply having the miniBooks is 'not enough to make a difference in academic achievement'.<sup>11</sup> Having personalised access to ICT is a huge privilege; however, it relies heavily on high quality teaching. The teachers I observed were using the ICT resource well and children's learning benefited. However, we must make sure that we do not merely replace exercise books with laptops but change the way children can gain information and record their ideas. If children are asked to type up a story on a laptop, for example, they are not learning any more in the way of writing skills than if they write it in their books.

The factor of quantity of work will often be an issue as well, but in order to tackle this we made sure the ICT lessons were used to teach the skills that children would need, so that other subject lessons were free to use ICT as a tool for their learning. We also introduced regular time periods where children could practise touch-typing, which has had a huge impact on how much work can be produced.

It was clear to me, even before I started my project, that most of our stereotypical middle and high ability children would be able to benefit from having miniBooks at their disposal. However, I did not foresee that there would be such great benefits for children with SEN. Stansfield agrees that netbooks can help many dyslexic and dyspraxic children.<sup>12</sup> One way I have found that miniBooks can be used for the benefit of SEN children is by using the sound recorder program to record children's thoughts and work. I would like to explore further ways in which our miniBooks can help children who have SEN.

Based on the evidence I have collected, when personalised access to ICT is used well, it can have a positive impact on many areas including attainment and motivation, as well as ensuring that children's education can easily be tailored to their needs.

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<sup>10</sup> Richardson, W, (2009), *Blogs, Wikis, Podcasts and Other Powerful Web Tools for the Classrooms 2<sup>nd</sup> Ed.*, California: Corwin Press

<sup>11</sup> Brooks-Young, S, (2010), *Teaching with the Tools Kids Really Use*, California: Corwin Press

<sup>12</sup> Stansfield, J, (2004), *Communicating through writing*, British Dyslexia Association

## Are children who are involved in generating their own learning goals and success criteria more likely to achieve the goal and make good progress?

**Sarah Hand**

**Long Meadow School**



### **Research context**

For some time, I have been interested in supporting children to develop their writing skills through small scale action research projects so that they make good progress. After developing an interest in Assessment for Learning (AfL) strategies, I attended a course run by Shirley Clarke and began reading her work<sup>13</sup>. I became interested in the concept of mindsets: Clarke defines people with a fixed mindset as '*entity learners who will only tackle tasks which they know, in advance, they will be successful at*' and people with a growth mindset as '*incremental learners who will not only willingly tackle difficult tasks but thrive on them*'<sup>14</sup>.

I thought about the children I teach and wanted to consider ways to support them to develop more open mindsets and felt that target setting was an area to consider researching for maximum impact in my classroom. Carol Dweck says:

“Motivation is the most important factor in determining whether you succeed in the long run. What I mean by motivation is not only the desire to achieve, but also the love of learning, the love of challenge and the ability to thrive on obstacles”.

If a child has a more fixed mindset in an area, they may perceive the skills they need to develop to make progress as obstacles and feel them to be insurmountable. This made me wonder whether children see targets or goals as obstacles to be conquered (open mindset) or to be scared of (fixed mindset). Clarke's work on Success Criteria was already part of my practice and I had seen the impact of generating Success Criteria at the point of learning with the children. This made me wonder whether children would be more motivated to meet an individual learning goal if they were involved in setting the goal and knew how to overcome the obstacle by generating Success Criteria with an adult in a one to one conference situation.

“Learners with a fixed mindset are not allowed the luxury of becoming, they already have to be” (Dweck 2006). Therefore the identification of a target in an area of learning where the learner's mindset is more fixed may be akin to highlighting their shortcomings and failures, particularly if they have no real idea how to achieve the goal. With these ideas in mind I designed a small scale action research project to develop my understanding and influence my teaching practice.

### **School context**

Long Meadow has been open for eight years and has 420 pupils on roll. Year 5 was selected as the target group for this research. There are 58 children in the year group although only 46 were used for the research due to mobility of pupils in and out of the year group. This affected how much ongoing data was available to use and only children with a full set of data were used in the study. There are 27% of learners with EAL in the year group and 25% with SEN.

### **Enquiry description**

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<sup>13</sup> Clarke, S. (2008), *Active Learning through formative assessment*, London: Hodder & Stoughton,

<sup>14</sup> Dweck, C. (2006), *Mindset, the new psychology of success*, New York: Ballantine Books

I began at October half term, by assessing the children's progress towards the targets in writing they had been set for the Autumn term. The children were aware they had been set targets and what they were, although they were not referred to in the classroom during lessons.

Shortly after half term the target group met with me individually. During this conference the children and I set the child's next writing goal which was individual to them. We also generated Success Criteria and wrote a good example for the children to use. The children kept copies of the goals. Children in the control group were also given new targets but these were not discussed with them although they were given copies of the new goals. At this time the children were also asked their views on goals. The intervention began in December 2009.

During the Spring Term I sometimes referred to individual goals when working with individual children in the target group. At half term I noticed that the children rarely got their goal cards out in front of them when writing and began to remind them to do this. The control group continued to work individually towards their goals with little support or scaffolding. At the end of the Spring Term the children's progress towards their targets was measured.

### Key findings

How fully children met their writing goals is shown in the table:

	Oct half term			End of Autumn term			End of spring term		
	not met	partially met	met	not met	partially met	met	not met	partially met	met
Target Group	65	13	22	22	52	26	4	42	54
Control Group	62.5	25	12.5	26	52	22	33	33	33
Difference	+2.5	-12	+9.5	-4	0	+4	-29	+9	+19

At the October half term, as the project began, the target and control groups had almost the same percentage partially or fully meeting their individual writing goals. However, by the end of the Spring term the differences between the control and target groups are marked and astonishing. Children in the target group had made significantly more progress towards meeting their targets than the control group.

The children's average point score in writing is shown in the table below:

	End of Autumn 2009	Gain during Autumn Term	End of Spring 2009	Gain during Spring term
Target group	22.2	1.3	22.7	0.5
Control group	22.4	1.8	22.4	0
Difference	-0.2	-0.5	+0.3	+0.5 Net gain of 1 compared with control group because the target group were -0.5 at end of Autumn term and +0.5 at end of spring term.

This was measured at the end of the Autumn before the intervention began and again at the end of the Spring term when the intervention ended. Standards in the control group were higher than the target group before the intervention began but were lower when the intervention was completed. Progress in the target group was higher than that of the control group during the intervention in the Spring term. Interestingly, progress in the target group was 0.5 points lower in the Autumn term when compared

with the control group and 0.5 points higher for the same comparison in the Spring term. Progress over the Autumn and Spring terms was the same for both groups but the target group's progress accelerated in the Spring Term during the interaction.

The target group progress went from -0.5 points before the intervention started to +0.5 at the end of the intervention which shows a gain of 1 point during the intervention when compared with the control group.

Pupils' responses to the question: "Do you usually meet your goals?" are shown below (figures in percentages).

		Always	Usually	Sometimes	Never	Not sure
<b>Nov 2009</b>	Target Group	0	15	50	23	15
	Control Group	0	25	54	4	18
	Difference	0	-10	-4	+19	-3
<b>April 2010</b>	Target Group	19	27	27	12	15
	Control Group	20	50	20	10	0
	Difference	-1	-13	+7	+2	+15

There was a general trend towards children feeling more confident about meeting goals in both the target and control group with some children feeling that they always meet their targets in April 2010. The control group felt slightly more positive about meeting targets than the target group and the difference between them may be accounted for by the 15% in the target group who weren't sure. This may be partly due to the fact that the target group was more aware of their goals and progress towards them but the control group were not always aware of exactly what their goals were and therefore may be less well placed to comment on how often they met them.

The children in the target group reported on their views:

- "I felt I had an opinion so I felt more like making an effort towards my goal"
- "If I'm given a goal I don't bother because I don't think I can do it and I can't see how to do it. I don't get it. When it is explained to me I can see what to do and I think I can achieve it. Then I work hard"
- "Sometimes, targets make me think that I can't do it. Then when it is explained I think I can do it"
- "I liked looking at my APP grid with the teacher. I felt like we celebrated the things I could do and that made me feel that I could achieve my goal if I worked hard".

Many children then noted that they preferred using *next steps* (short term things to work on which are identified with the child and recorded in their book) because they are small steps rather than long-term goals and they felt more able to strive to meet them. Many commented that one longer goal gets boring but *next steps* are interesting because they change more often. Some children also commented that having goals increased the pressure they felt and this made them less like to achieve them because the pressure made them worry. This was reduced by explaining how to achieve the goals, by using *next steps* to support developing learning skills, or by teachers forgetting to remind the child to work towards their goals.

I noticed a difference in pupils' attitudes in the target group:

'The children enjoyed spending time identifying goals with me. They liked seeing the completed APP grid and celebrating success before identifying, with me, the area to develop. Working with the children to create success criteria and good examples really supported their learning by making them

understand what they needed to do, which motivated them to achieve. Their demeanor and attitude during the conference changed from one of wondering what might be wrong with their learning to one of confidence that the goal could be achieved. Another critical factor was whether the children remembered to look at their targets while they were learning and many found it difficult to cope with thinking about targets and the *next steps* they, their peers and adults had developed from previous learning. They were more focussed on the learning objective of the lesson and the *next steps* from previous learning than the goal that was linked to their writing and this project.'

### **Reflections**

Discussing goals with the children, making them feel involved in the process and giving them some ownership has certainly accelerated their progress and raised standards in writing. However, regularly referring to goals and reminding children about them also appears to be important in the acceleration of progress.

I suspect discussing goals and Success Criteria leads to increased progress because the child feels more in control of their learning, knows they have some influence and can alter outcomes, and has a better understanding of how to be successful. This links to Dweck's work on mindset and would support the development of more open mindsets when considering academic learning. As a result of discussing all this in a conference situation, I believe the child is empowered to achieve and strives to meet their goal because they know what to do and that the teacher believes in them and their capabilities to persevere and reach the goal.

I am interested in the comments many children made about whether they felt motivated to achieve and by the children who admitted that targets worry them and make them anxious. Targets are set on the assumption that they raise standards. This only works if one also assumes the learners working towards them have an open mindset and see them as steps to success. The comments of some of the pupils in this research may suggest that targets can be a hindrance to progress if you have a more fixed mindset about the area of learning.

Although slightly out of the remit of this research, the comments regarding *next steps* are interesting. Children prefer them because they are linked to their daily and weekly learning, they change regularly and they are easy to achieve so pupils are motivated to try hard to achieve them. It may be that the development of this strategy with children would have more impact in raising standards and accelerating progress than longer term goal setting. It is almost as though some children are overwhelmed by a long goal but the small next steps are within their grasp. The possibility that there is a risk of too many targets which confuses the learners and hinders rather than supports the enjoyment of learning is also implied. Would it be more effective to be frequently setting small next steps with a peer or adult to support the learner in understanding how to achieve the step, rather than the half termly or termly goals that are the norm in so many schools?

In conclusion, schools could consider using writing conferencing as a strategy for setting goals, Success Criteria and offering a model example for future learning. Children are then more likely to achieve their goals and make good progress especially if those steps are tiny, regularly changing to meet their needs and if the children are reminded of them. The role of balanced self, peer and adult assessment seems to be crucial in making this manageable, child-led, learning and enjoyment driven.

## Can Building Learning Power significantly raise attainment and confidence in numeracy?

Clair Faid

Green Park School



### Research context

The research for this study was centred around a group of children from my numeracy set who are deemed to be of an average to above average level for their age, with no special educational needs in mathematics. The children experienced normal numeracy lessons for four weeks with no emphasis on the principles of Building Learning Power (BLP)<sup>15</sup>. In the following four weeks, the lessons were planned to incorporate a dual learning intention focussing on an element of BLP linked to being resilient or resourceful in their learning. The children were given a questionnaire that was designed to ascertain their confidence levels in mathematics. These were completed after the first four weeks and repeated after the eighth week to see if there had been any gain in confidence.

I also monitored the children's academic progress. I recorded their Standard Attainment Tests (SATs) score on entry to my class. They then took a similar style test four weeks into the research and again after the eighth week to highlight any progress made by the children.

The concept of teaching children to become lifelong learners is not a new field of research. The belief that children need to be equipped with an understanding of how they learn best has been in existence for many years. John Holt, wrote:

*Since we cannot know what knowledge will be most needed in the future, it is senseless to try to teach it in advance. Instead, we should try to turn out people who love learning so much and learn so well that they will be able to learn whatever needs to be learned<sup>16</sup>.*

It is, of course, controversial, as schools are legally required to teach the National Curriculum that outlines clearly what is believed to be necessary for the future success of pupils. However, it is universally accepted that it is important that children should enjoy learning and feel confident in their own abilities. Much research has been undertaken since to establish how much children benefit from understanding the process of learning. Carol Dweck<sup>17</sup> surmises that children who don't understand *how* they understand something create negative judgments about their own intelligence. So whilst teachers have plenty of advice on what to teach and even how to teach the skills linked to that subject, is there enough advice on encouraging children to become excited about their own capacity for persevering, acquiring knowledge, problem solving and investigating?

I chose to use the system outlined in publications such as *Building 101 Ways to Learning Power*<sup>18</sup> as it gives explicit directions as to how this can be achieved. It divides learning skills into the four areas of Resilience, Resourcefulness,

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<sup>15</sup> BLP refers to an approach to teaching and learning developed by Guy Claxton, see [www.tlold.co.uk](http://www.tlold.co.uk)

<sup>16</sup> Holt, J. (1967) *How Children Learn* (1967) Pitman Publishing

<sup>17</sup> Dweck, C. S., Chiu, C., & Hong, Y. (1995). Implicit theories and their role in judgments and reactions: A world from two perspectives. *Psychological Inquiry*, 6, 267-285

<sup>18</sup> Chambers, M et al (2004) *Building 101 Ways to Learning Power* Bristol: TLO Ltd

Reflectiveness and Reciprocity and breaks these areas down further in order to show how they might be achieved.

### **School context**

Green Park is a primary school in Newport Pagnell which has been involved in using BLP for several years. The aim of this study was to ascertain whether using the techniques advocated in the philosophy of BLP could significantly raise the attainment and confidence of the seven to nine year old pupils in my maths set.

The process of teaching numeracy is under constant scrutiny because the researchers of education cannot seem to reach a consensus over the most effective ways to enable children to learn, retain and apply mathematical concepts. Although we have moved away from simply learning tables and theories by rote, there is still an emphasis on repetition of concepts in order to overcome so called 'barriers to learning'. My aim was to trial the BLP approach, which focuses on teaching children to become lifelong learners. Essentially, the pupils are taught how to understand themselves as learners and take an active interest in their own learning.

For me, the interest in developing a greater understanding of how children can learn to learn is invaluable. As a classroom teacher, it is vital that I have a good understanding of the best ways to encourage children to have a positive and open-minded attitude to education. Mathematics especially is the victim of a lot of negative press from disaffected parents and other associates of young pupils. It is not uncommon during a parents' evening meeting to hear the phrase, 'I hated maths at school too.' I would like to develop the tools to equip children with the ability to overcome mathematical prejudices and understand that making mistakes or finding things hard are an integral part of the learning process.

### **Enquiry description**

My methods of research needed to show whether using BLP in numeracy lessons really did raise the attainment and confidence of the pupils in my maths set. I chose to use two methods principally to fulfil this aim: a survey of children's opinions about their learning in the form of questionnaires and intermittent assessments based on SATs questions.

My questionnaire was designed to ascertain how confident children felt about their learning in mathematics. It was important that the information gathered fulfilled the aim of this area of the study as reliably as possible. I tried to be as 'child friendly' as I could with the language I used to avoid ambiguity and offered a choice of responses. I also gave the participants opportunity to expand on their responses at the end of the questionnaire. I composed questions based on those recommended in *Building 101 Ways to Learning Power*. The questionnaire was given to pupils before I introduced elements of BLP into the lessons to gain knowledge of where the children were starting from in terms of their own confidence. I repeated this at the end of the eight week study to gauge any changes in the pupils' attitudes.

The second research method that I used was the analysis of SATs scores. I used this as a way of assessing attainment because it is the principal method that attainment is judged in schools and a format that the children know. I used the scores that the children entered my class with in September as the baseline. I then compared these with results from tests taken four weeks into the research. At this point the children had been taught using traditional methods of teaching with no mention of the components of BLP. I proceeded to devise lesson plans with dual learning intentions: one linked to the mathematical concept and one linked to developing BLP skills. I focussed on developing the children's resilience: absorption, managing distractions,

noticing and perseverance; and resourcefulness: questioning, making links, imagining, reasoning and capitalising. These lessons took place over the next four weeks. I repeated the tests that had been taken four weeks earlier and compared the results to determine any progress made.

### Key findings

Upon analysis of my questionnaires, it was apparent that the children that I was teaching already had a fairly confident attitude towards their learning in mathematics. The questions were positive statements about how the child feels about him or herself as learner and the participant could then choose whether this statement described them *always*, *sometimes* or *never*.

**Table 1: Pupils’ responses before the BLP focussed lessons – the number (out of 18) who answered ‘always’.**

Statement	Number
I am good at solving problems	8
I am confident	6
I find learning maths easy	11
I am well organised	11
I can stick at solving a problem	7
I am good at maths	11
I remember what I have learnt	8
I enjoy coming to maths lessons	14
I work well alone	12
I work well with others	9

**Table 2: Pupils’ responses after BLP focussed lessons– the number (out of 18) who answered ‘always’.**

Statement	Number
I am good at solving problems	11
I am confident	7
I find learning maths easy	9
I am well organised	14
I can stick at solving a problem	10
I am good at maths	12
I remember what I have learnt	10
I enjoy coming to maths lessons	12
I work well alone	15
I work well with others	10

I calculated that 54% of children initially answered *always* to the statements. This rose to 63% in the second questionnaire. The amount of times children had answered *sometimes* to the statements decreased from 43% to 35.5%. The percentage of those answering *never* to any question decreased from 3% to 1.5%. These small shifts may not be significant but I have noted them.

I then proceeded to analyse the SATs data that I had collated throughout my study. As it is expected that children should make two sub-levels progress in two terms, I had deemed one sub-level progress to be a significant increase when analysing my results. I did, however, notice some problems with my data that could have an impact on the reliability of the results.

I took the children’s SATs scores from May of the previous academic year as a baseline with which I could compare any changes in attainment. The SAT paper

covered all aspects of teaching and learning undertaken in the previous year. When I re-tested the children after the first four weeks, I only tested them on the concepts we had been covering as I felt it was not fair to test the children on concepts we had not recently covered. The results showed that although the majority of children had remained at the same level, six had actually regressed by one-third of a level. I then began to consider the possible reason for this.

I felt that having used a baseline score taken from a test covering all aspects of mathematics and comparing it with an assessment consisting principally of number (largely addition, subtraction and multiplication) may not have been a fair test. I decided it would then be useful to compare the final test results with both the initial baseline and the mid-study assessment.

**Table 3: Comparison between baseline SATs scores, after four and eight weeks**

	<b>SATs results after 4 weeks (out of 18 pupils)</b>	<b>SATs results after 8 weeks (out of 18 pupils)</b>
Regression compared with baseline	6	0
No measurable progress	11	9
1/3 level progress	1	4
2/3 level progress	0	5

From my results I can conclude that during the four weeks of lessons that included an emphasis on using BLP skills there was some increase in children's confidence in numeracy. There was also evidence of significant progress in attainment levels for around half the pupils.

### **Reflections**

However, I feel it is important to draw attention to the limitations of my study. Ideally this study would have benefited from using a control group of pupils to draw comparisons between the progress made using the skills outlined in BLP and the progress made without using these methods. I feel that it would also be necessary to use results gathered over a full academic year as the average progress of a pupil in eight weeks is not easily and accurately measurable. In spite of the drawbacks to a short study such as this, I feel it has been worthwhile to ascertain the impact that even a short amount of time spent on developing resilience and resourcefulness in children has had. The philosophy of promoting lifelong learning is one that our school will be making every effort to instil in the children whose education is entrusted to us. It is important that both teaching staff and teaching assistants are confident in applying the philosophy of *learning to learn* to their lessons not only in numeracy, but in all subjects. My next step will be to continue to promote BLP within my school ensuring that all our pupils are familiar with the tools that will enable them to find learning an empowering and exciting experience.

## Can robust life-long learning habits be better nurtured by ‘practising’ learning in authentic real-life situations: in the school and in the home/ outside of school?

David Armstrong

Simpson School

### Research context

In the words of Guy Claxton education is, ‘above all, a preparation for the future’<sup>19</sup>. This preparation, it is argued, is of far greater scope than giving children and young people the knowledge, skills and understanding needed to contribute to society. Preparation means helping to develop and foster the dispositions and values that they will need to both make the most of the opportunities that come their way in life and to overcome the challenges they will inevitably face - to thrive in the real world.

Claxton offers a developing model for what constitutes real life and life-long learning with the Building Learning Power (BLP) framework<sup>20</sup> and its four dispositions: resilience, resourcefulness, reflectiveness and reciprocity. The capacities within each disposition describe ‘learning habits’ present in us all that, when developed and nurtured, make an individual increasingly resilient or resourceful.

Given that the consensus is moving towards Claxton’s view of the purpose of education, research points to a fundamental problem with its aspiration to prepare for the real-world: the inability of ‘learning’ that takes place in the context of the school to impact in the complex and manifestly different contexts of the home, workplace or real-world<sup>21</sup>. An increasing body of knowledge is being built up around this lack of impact: that of the *transfer* of skills, knowledge, understanding and dispositions learned in one context to be utilised in another context. Understanding of *near transfer* (where application is required in a context similar to that in which it was learned) and *far transfer* (where contexts differ markedly) provide education with cues to support the transfer of learning.<sup>22</sup>

It is with the very fundamental purpose of education in mind, and the need to break learning out of the school building and into the real world, that this study looks to provide experiences to enable the transfer of key dispositions and habits of learning. It actively seeks to involve parents in making this happen, giving them the very language of learning that has often been a barrier to wider learning.

### School context

The study focussed on a group of families at Simpson School. Over 70% of children come from areas of high social deprivation. Pupil mobility is exceptionally high (as many as a third of pupils can move into or from the school in a year). In November 2007, the school discovered the BLP framework, and saw in it the potential not only to raise academic standards by developing ‘better’ learners, but also to foster life-long independent and responsible learners who are able to thrive in the world. Since then, the school has infused learning into everything it does: from assemblies to lessons; from the language spoken around the school to the training delivered to staff. As a result, children’s attitudes to learning have changed dramatically and (of most

<sup>19</sup> Claxton, G. (2008) *What’s the Point of School?* Oxford: Oneworld

<sup>20</sup> Gornall, S, Chambers, M and Claxton, G. (2004) *Building Learning Power in Action* Bristol: TLO Ltd

<sup>21</sup> Perkins, D on “Transfer of Learning” in (1992) *International Encyclopaedia of Education* Oxford: Pergamon Press

<sup>22</sup> See [www.coe.sdu.edu/eet/Articles/transferLearn/start.htm](http://www.coe.sdu.edu/eet/Articles/transferLearn/start.htm)

importance to this study) parents have become increasingly curious about 'learning'. Where the school had historically struggled to engage parents in their children's learning, and would be lucky to see a handful of parents at curriculum workshops, in 2009 more than 70 families attended a BLP day.

### Enquiry description

The study had four broad aims:

1. To see if the dispositions to learning (the readiness, willingness and ability to...) can be made more successfully transferable through being experienced in authentic activities and environments.
2. Identify what these authentic activities and environments could be.
3. Explore parental perceptions of the meaning of life-long learning and real world learning.
4. Empower parents to build learning power in their children and in their community, by giving them a language and belief in learning.

Before the study's intervention could take place, the role of parents in building positive dispositions to learning needed its own framework, from which activities could be planned and impact gauged. In much the same way as a teacher has a 'palette', a set approaches to scaffold learning in the classroom, the 'work' of a parent in scaffolding real learning at home needed its own palette. A conceptual framework for parents was constructed that prompted parents to:

- provide the opportunity for learning;
- model themselves as a learner;
- talk with their children to encourage learning.

From this framework, a series of six practical sessions was planned to enable parents to experience a learning behaviour, unpick how to nurture this behaviour as a parent, and identify further everyday opportunities to promote these dispositions and attitudes.

A group of six parents was invited to come and join two staff in exploring what real learning at home might look like. During each of these activities (for example, collaborating together to build a den from 'found' resources) the two members of staff drew attention to the group's actions, e.g. highlighting an example of effective collaboration. Following each practical task, the group then discussed what they were doing and where this learning could be developed and applied in everyday contexts. Parents were invited to try some of their suggestions out at home, and share any insights with the group at the following session.

Simple instruments were devised to measure if children were developing transferable habits that could be applied in the contexts of both home and school. These consisted of a series of statements against which parents and teachers ranked their children both before and after the six sessions.

Table 1: *Judgement of child's disposition to apply key learning capacities*

To what extend does your child:	rarely	sometimes	often	mostly
Keep at something hard until they have got it?				
Imagine how things could be different?				
Look at what they have done and how they can improve it?				
Like exploring things with other people?				

To allow for triangulation of data relating to transfer, discussions with parents and interviews with their children were also conducted on a before and after basis. Class teachers, in addition to the individual before and after judgements of the children whose parents were taking part in the session, also made a before and after judgement for the class as a whole. This provided a rough measure against which transfer back into the class could be determined.

### Key findings

Over the six sessions, parents reported an improvement in the learning habits of their children from start to finish.

Table 2: *Progress in applying positive learning habits in real-life situations*

Progress seen in:	0 out of 4 capacities	1 out of 4 capacities	2 out of 4 capacities	3 out of 4 capacities	4 out of 4 capacities
No. of	1	2	3	1	1

This suggests that parents, as they became aware of the language of learning, were tuning into and noticing learning more readily: parents themselves referred to *'noticing when the learning capacities are in action and when they are not'*. However, parents were clearly applying their new learning in the home. They were readily *'using the words [for the capacities] and the meaning of the words'* when talking to their children during out-of-school activities and experiences. They identified opportunities to reward and praise positive learning habits: *"I'm more encouraging... I'm making them more independent."*

Although Table 2 only begins to suggest at successful transfer, through seeing application of positive dispositions in an 'out-of-town' setting, parents themselves considered this a good 'bridge' between learning at home and school. Their insights suggested that they were providing the authentic experiences which supports successful transfer.

Table 3: *Progress in applying positive learning habits at school*

Progress seen in:	0 out of 4 capacities	1 out of 4 capacities	2 out of 4 capacities	3 out of 4 capacities	4 out of 4 capacities
No. of	3	3	1	1	0

The measure of impact in class saw children apply their learning habits with increasing effectiveness: 38% of the children of the parents' group made more progress in their learning dispositions than the class average.

A marked change in the parents' views of what learning can be took place during the six week period. At the start of the sessions, parents held a particular set of beliefs about learning. Learning was about what you knew. You had what you were given, if you cannot collaborate now, you never will: *"My children don't like working with other people because that's how I am"*. If you tried to find out, you were showing yourself as being stupid. Learning at home and outside of school was school work carried out in the home. Perceptions altered dramatically, with the recognition that *"learning can be 'done' in different ways, it's not just what the teachers give you to do."* A shift from the traditional content-driven homework to the dispositions and values of learning also took place, as parents discovered that *"learning has no set agenda... you just go with the flow."* and equating learning with enjoyment. Parents recognised that you can get better at learning: *"I can help my children to become better at collaborating than I am."* Above all, the rich and authentic grounds that promote successful transfer were

recognised directly, with parents identifying where life-long learning is relevant to success in the real world - for example:

*“You revise throughout everything, from your social life to cooking a meal.”*

### **Reflections**

There are beginnings of a shift in the mindset of education; a recognition that the imparting of skills and knowledge needs to be balanced with the dispositions and values that empower, prepare and equip children for the challenges of their world. When parents are involved in this shift, they become willing and necessary partners in enabling this preparation to succeed. From the experiences of their own lives, they quickly recognise the importance of real-world learning, and quickly build in this learning in everyday activities and routines in simple (but sophisticated) ways.

It is clear that this partnership is vital, equipping children to learn in a range of contexts. Schools themselves – even where the importance of transfer is recognised and planned for – would arguably struggle to provide the authenticity of working collaboratively to plan and cook a meal together, and to see in this the importance of working at the harmony in family life that comes from respecting, valuing and supporting each other’s contributions.

The authenticity of experiences and situations provided in everyday life present a challenge for schools. In accepting a grander purpose for education, schools must question the authenticity of the day-to-day learning and activities that take place. Teachers should now be asking themselves ‘How can our lessons, the experiences we provide, the situations in which we put the children prepare them for their futures?’

The findings of this study present the clear challenge to maintain the momentum of the shifting attitudes in staff and parents. The enthusiasm, commitment and understanding of the parents place them now as ‘parent champions’, willing to actively work with a second parent group to change their mindsets and empower them in joining the school’s work to prepare the children for their futures.



## Does personalised learning improve attainment of gifted and talented pupils?

Angela Brown

Denbigh School

Year 9 pupils



### Research context

The conception of the project evolved from an opportunity to investigate how personalised provision could be extended to gifted and talented pupils, across the whole school, which also aligned with the school improvement plan. This was to build upon the school's recent OfSTED report:

*'One noteworthy development had been increased challenge for more-able students and through the extensive additional activities for those identified as gifted and talented' (OfSTED, 2009).*

However, during the planning stage of the enquiry it became apparent that in order to produce valuable results, the enquiry would need to be 'scoped down'. I therefore decided that rather than make the enquiry 'whole school' it would need to be constrained to my subject of ICT. I could then be more confident that the results would be meaningful and the enquiry would be of a higher quality. At the start of the project I was keen to build on the vast amount of research already carried out in the area of personalised gifted and talented educational provision<sup>23</sup>. The opportunity to work with a group of pupils to investigate whether personalised provision does actually help to raise attainment in gifted and talented pupils was exciting, challenging and stimulating.

Initially it was important to establish the concept of 'personalised learning'. There have been a host of explanations of this term. One such explanation comes from the standards website:

*"...The pedagogy of personalisation is distinguished by the way it expects all children and young people to reach or exceed national expectations, to fulfil their early promise and develop latent potential".*

Additionally, a further perspective by Higgins et al states that:

*"... at a basic level, personalising learning entails more responsive teaching to meet pupils' needs, although this might not be made explicit to the learners it seeks to benefit."*<sup>24</sup>

Holding these two perspectives in mind presented me with something of a challenge. Firstly I had to establish whether the pupils' levels of progress at the end of the project would be measured against national expectations or school-held targets and, secondly, there was the issue of personalising learning for four pupils who would be working largely independently. The challenge here was the '*responsive teaching to meet pupils' needs*' theory. Additionally, with this enquiry, it was necessary to share

<sup>23</sup> See <http://nationalstrategies.standards.dcsf.gov.uk/node/83151>

<sup>24</sup> Higgins, S et al (2008) Personalising learning: the learner perspective and their influence on demand, Becta see [http://partners.becta.org.uk/page\\_documents/research/reports/personalising\\_learning\\_learner\\_perspective\\_review0408.pdf](http://partners.becta.org.uk/page_documents/research/reports/personalising_learning_learner_perspective_review0408.pdf)

my intentions with the pupils as they needed to be made aware that they were working on a research project with me and that it was a collaborative project between the five of us. Given that the four pupils would be spending a considerable amount of time working independently, there was also the issue of being unable to explore aspects of classroom provision, including the role of higher order thinking, differentiated planning, creative learning and personalisation, as identified by Clive Tunnicliffe<sup>25</sup>.

### **School context**

I am a secondary school teacher of ICT and Computing. I teach all year groups from 7 to 13 in a large foundation school with approximately fourteen hundred pupils on roll. For this research project I chose to work with four of my top set Year 9 pupils, one girl and three boys, all of whom were identified as gifted and talented by data, but not necessarily gifted and talented in ICT. The reason that I chose to work with these pupils was because I felt they were at risk of not achieving their end of Key Stage 3 target grades in ICT. This judgement was based on their previous attainment in various ICT units, which had been completed throughout Year 8 and in the first term of Year 9. Furthermore, the unit of work which was selected for the project, computers and control (basic low-level programming), was typically one which pupils found challenging and difficult to achieve higher levels in. The action research itself was conducted during two one-hour lessons per week, over a six week half term. One of the lessons was the timetabled final lesson of the day and the second lesson was immediately following break-time the following day. The timing of the lessons was quite significant in terms of the pupils' efforts and attitudes to the project. The four pupils involved occasionally worked on the project in the classroom with the rest of their classmates and they also spent some time working on the project in the 'Independent Learning Centre' (ILC) within the school. This is a large centre with sixty computers for pupils and also a library.

### **Enquiry description**

Once the control group had been established, it was essential to organise the pupils in a way that would allow them to work with as much autonomy as possible. Allowing the pupils a degree of independence was an essential component of the personalised learning concept. It could indeed be said, after informal discussions with the group, that this was one of the major factors which attracted the pupils to working on the research enquiry project with me. I initially met with the four pupils at the start of the first lesson and explained what they would be doing throughout the project. I gave them the choice of working on the 'Computers and Control' unit in the classroom with their colleagues, in the ILC or a combination of both. We decided that a combination of both locations would give them the necessary support and guidance to enable them to work independently when needed.

At the beginning of the research enquiry I explained the unit of work to the whole class of thirty pupils, including the control group. They received a detailed brief about the theme of the unit, the skills they needed to develop throughout the unit to meet certain Key Stage 3 level descriptors and the method of assessment which would be used at the end of the unit to measure their progress. This was the only occasion where the control group were given detailed guidance and instructions as to what they would be required to complete.

The first part of the 'Computers and Control' unit was to develop an analysis for a zebra crossing system. The whole class worked on this in the classroom together.

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<sup>25</sup> Tunnicliffe, C (2010) *Teaching Able, Gifted and Talented Children: Strategies, Activities & Resources* London: Sage Publications

This gave the four pupils in the control group the opportunity to check that they understood this part of the unit. The zebra crossing system is a very simple system and therefore the control group would be extensively challenged when they came to develop the analysis for a more complex system, as they would be completing it independently.

At the start of the second lesson I explained to the control group that they would need to develop an analysis for a pelican crossing system. They chose to participate in the first part of the lesson, for the task explanation and they then left the classroom to work independently. We decided that for the first independent task they would work collaboratively as a group of four. The arrangement was for the four pupils to return to the classroom five minutes before the end of the lesson. I had also arranged for the ILC manager to oversee the pupils discreetly. I felt that to allow the pupils to be fully independent they needed to believe that they were totally autonomous.

The same pattern was followed for the remaining lessons; the group of pupils attended the start of the lesson, received brief instructions and then left to work independently. As they became more confident working in this way, they each produced their own work. They accessed resources which had been made available to them on the shared network in addition to level descriptors to help them to ascertain what they needed to demonstrate in terms of ability.

### Key findings

I decided that I would ask pupils to complete an evaluation of their experience of the project in the form of a questionnaire (Fig. 1). In addition to this, I compared their Computers and Control unit *working at grade* with their previous *working at grade* and their accountability target (Fig. 2). The chart in Fig. 1 clearly shows that the four pupils found the experience challenging but they also felt that they had enough information to work independently. Most pupils felt that they had enough information to complete the tasks required from them. Interestingly, three out of the four pupils felt that they needed more support and guidance in order to complete work to meet higher levels.

## Pupil Evaluation Results

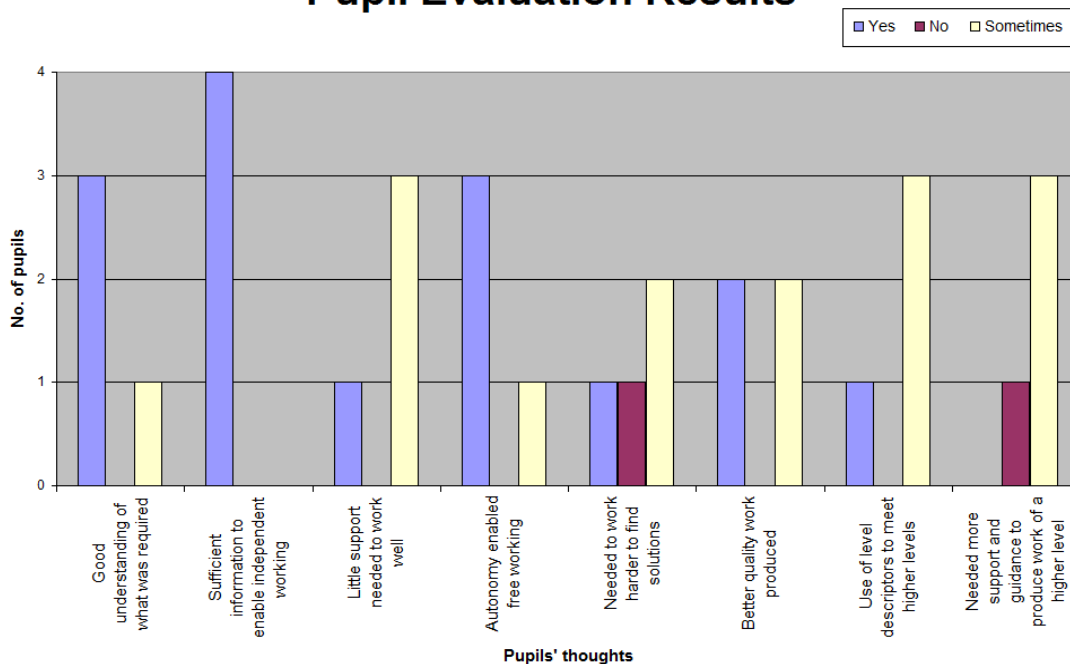


Fig 1

Fig 2

Pupil	'Working at' grade		Target
	Current	Previous	
Pupil A	6A	5C	7A
Pupil B	6A	6C	7A
Pupil C	7C	6A	7A
Pupil D	7C	6C	7A

I found that each of the four pupils made progress between the units or work (see Fig.2). However, it was difficult to establish whether they would have made this progress anyway, had they not been part of the research project. One pupil made a significant amount of progress which suggests that this method of learning suited him. In other ICT units of work, the same pupil has made little progress. I believe that he tends to become distracted too easily when in a classroom environment with lots of other children. Therefore, being put in a learning environment which necessitates lots of autonomy to complete the required tasks was a very positive one for him.

One other observation that was made during the life of the research enquiry was some of the comments made by other pupils from the same class, to the control group. Some pupils chose to make comments such as: "Off you go to the ILC because you're special and cleverer than us". I think it is interesting to note that it would be rare for a comment to be made to a pupil with special educational needs to be acceptable; however, some pupils deemed it appropriate to make such a comment to a gifted and talented pupil. I wondered what the level of impact would be on the pupils in the control group, with regards to their self-confidence, when they were subjected to comments such as this by their peer group, as it was clear that the comments were negative. It also suggested that some of those pupils who made such comments were lacking in confidence about their own abilities in ICT. Fortunately, the *working at* grades for the unit of work implied that pupils had not been too concerned by pressure from their peer group.

### Reflections

Before embarking on this research project, my belief was that the concept of personalised learning for many pupils was something of an ideological one, given the many demands placed on a classroom teacher. In theory, providing a unique and personalised learning experience for gifted and talented pupils seems achievable and indeed something that our more able pupils should have as a right. However, in order to be able to implement this concept successfully in many schools, I believe more time needs to be devoted to the planning of such personalised programmes - not only what they would consist of but also how they might be delivered successfully and how achievement may be measured. It leads me to consider why in education we place a huge emphasis on supporting pupils with special educational needs yet provision for gifted and talented pupils is less well developed. Whilst I fully support provision for less able pupils, I would also like to see in schools as much significance placed on developing more able pupils. One suggestion for this may be to investigate further the use of individual education plans for more able pupils. These are already being used successfully in many schools and in my opinion should be more common in our current education system. I would also like to see gifted and talented centres within schools to help to maximise potential for these young people.

One further recommendation for research in this area would be to investigate opportunities to place gifted and talented pupils in much smaller teaching groups. This could afford them more teacher time which could facilitate their learning to a higher level in a shorter period of time. I would also like to see further research into why some of today's secondary school pupils think that being academically gifted is to be regarded as negative, rather than inspirational.

## Do traditional reflective plenaries limit progress by compartmentalising learning?

Liz Underwood

Leon School and Sports College



### Research context

Working within this environment this research aims to investigate how learner progress can be accelerated by asking:

*Do traditional reflective plenaries limit progress by compartmentalising learning?*

Teachers are familiar with the 5E learning cycle (Engage, Explore, Explain, Elaborate and Evaluate) through the use of the multi part lesson<sup>26</sup>. The starter traditionally engages the learner; main activities explore, explain and elaborate, whilst the plenary evaluates the learning. Eisenkraft suggests that this stand-alone model does not fully take advantage of our learning abilities or encourage transfer of learning. The model should be expanded to include explicit links to prior knowledge and opportunities to extend learning through end of cycle challenges. His suggested 7E model (Elicit, Engage, Explore, Explain, Elaborate, Evaluate and Extend) may be seen as a high risk teaching strategy if the 'learning box' is left open at the end of the lesson through the extension activity. How can progress be measured if learning has not been completed? However, learning should never stop.

I definitely want my learners to be engaged in **and** outside my classroom. Could Eisenkraft's work provide me with a new teaching strategy which provides an invisible thread between lessons, promoting transfer of learning and progress?

### School context

Leon is a relatively small Trust status comprehensive school (approximate roll of 760 learners) on the southern edge of Milton Keynes. Its most recent Ofsted report recognised that the school serves an area of high economic deprivation. Over one third of students are entitled to free school meals, there is a high level of mobility within the local community and attainment on entry is much lower than the average. Students make satisfactory progress compared with their starting points but this is not acceptable and good individual learner progress is one of the school's visions.

### Enquiry description

To ascertain if the modification of plenaries can promote learning, as suggested by Eisenkraft, this enquiry focussed on how learners reacted to different lesson endings. A selection of Year 10 learners were chosen to be monitored in lessons where the modifications would take place and in additional lessons where no changes were made.

Firstly, a range of lesson endings were planned which purposely extended learning. These were obviously positioned after an evaluation style plenary and clearly signposted (either orally or visually) as extension activities.

In particular questioning was used to open up the 'learning box'. Learners often left the classroom with an unanswered question. If appropriate, they even sometimes left with a seed of doubt being placed in their mind about their prior learning.

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<sup>26</sup> Eisenkraft, A. (2003) Expanding the 5E Model, *The Science Teacher* Vol. 70, No.6.

Sometimes end of lesson questioning would encourage links with other subjects or topics.

The use of 'Driving Questions' to support a series of lessons encouraged learners at the end of a session to predict future learning goals and activities.

No trial lessons finished with a stand-alone evaluation style plenary.

It was recognised that measuring progress using traditional GCSE benchmarks would be difficult, mainly due to the short time scale of this enquiry. Consequently a range of data were reviewed including:

- Progress Report statistics
- Observation of learner engagement levels
- Survey of chosen learners.

Progress Reports are produced regularly as part of the whole school monitoring system. For Year 10 learners they include GCSE predicted grades and attitude to learning scores.

Engagement levels of five learners were monitored using an observation sheet that used easily recognisable criteria and allocated a numerical score to each level. The higher the numerical score the higher the level of engagement. Engagement with starters was closely observed to see if the previous plenary had an impact on future engagement.

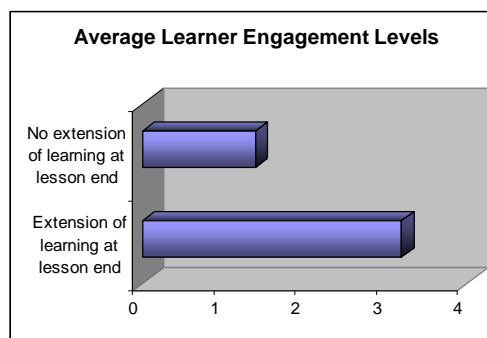
Level 1	Level 2	Level 3	Level 4	Level 5
Consistently and obviously off task.	Engagement with 'easy' tasks – learner can perform these without considerable effort. Obvious lack of engagement with demanding activities.	Learner is engaged with 'easy' tasks. Apparent involvement with more demanding activities but simply 'doing' and not engaged.	Learner is actively engaged with most activities and works to their ability. Distractions rarely influence this learner.	Learner is quickly and easily engaged. Learner is absorbed. Their work shows progress. Distractions very rarely influence this learner.

Finally, the chosen learners completed surveys on the value of starters and plenaries. The survey also asked for opinions on lesson planning, styles of teaching and progress.

## Key findings

The data collected from the observation of learners showed that their engagement was increased when previous learning had promoted extension of thinking at the end of lessons. Consequently students were more quickly and more easily engaged.

Learners were particularly engaged in starters that directly pursued the extension activity from the previous plenary.



Interestingly, from the observations it was clear that some learners appeared engaged with passive-style starters which involved them listening or watching but when questioned they had not actually engaged.

To complement these findings, students were questioned about their learning in relation to plenaries and starters. Two striking observations can be concluded from their responses:

- Firstly, all learners recognised lessons that were planned carefully to meet the needs of individual classes. They commented that planned lessons were always better. Lessons which have plenaries that link into the next starter show good individual lesson planning and good medium term planning.
- Secondly, they liked plenaries which questioned some of their understanding. They thought this showed a more realistic approach to learning. One learner expressed this as: “Everything is not black and white. So why are we always taught it is?” They thought they were being stretched and given more opportunities to excel through the extension questioning. They liked ‘puzzles which turned knowledge upside down’. One learner said: “I like it that I am given the opportunity to question and have different views to the teacher”.

After a four week trial period, unfortunately the Progress Report data did not show any significant progress in predicted GCSE grades or attitudes to learning. This highlights the problem of measuring progress over a relatively short period. The observations and survey both suggest that learners are more engaged and appreciate a more open-ended approach to lesson endings. A longer term research project could continue with this trial to see if the results are eventually transferred into improvements in attainment.

Despite the lack of quantitative evidence from the Progress Reports, qualitative evidence shows that lessons which are connected through linked starters and plenaries have a potential positive impact on progress through improvements in engagement.

## Reflections

As mentioned, in reference to students, learning should never stop. I strongly believe this is also true for teachers. This enquiry has given me the opportunity to stand back and think about my pedagogical practice.

The value of lesson planning has been highlighted. Planning benefits from considering the cognitive requirements of the learners and not just the content requirements. Planning plenaries to encourage transfer and extension of learning is a valid strategy for the acceleration of progress. Good planning provides an invisible thread which holds learning together.

Oddly, rather than diminishing the role of plenaries that focus on evaluation of learning, this amended approach can strengthen assessment of learning, as mini-plenaries throughout the lesson become more significant. Yet again, lesson planning becomes crucial.

Finally, for me, this research has emphasised the main stakeholders of the classroom as the learners. Our learners are bright, enthusiastic individuals who are extremely articulate in expressing their opinions on the status of their education. We too often forget and plan lessons to meet the needs of other stakeholders first. A school, like any other business, to be successful needs to understand and listen to all its stakeholders.

## **Can Year 11 most able science students be stretched through additional sessions?**

**Alex West**

**Denbigh School**



### **Research Context**

The science department had shown an increasing level of attainment over recent years and has improved GCSE results markedly at A\*-C level. The latest exam results, however, identified the proportion of students achieving A\* and A grades as an area for development.

The science faculty has worked hard over recent years to ensure that all students achieve and surpass their target grades through after-school revision sessions, coursework help sessions and by offering access to a wide range of science speakers. Gifted and talented students are given a regular opportunity to listen to external speakers talk about a wide range of new areas of science. Attendance at the science lectures is high but does not always attract the A\* students due to other commitments.

As the National Curriculum for science is developed with a greater emphasis on 'how science works' and moves away from being content-based, the way in which it is taught to students will inevitably need to change. With coursework to be phased out from 2011 the question of how teachers can further support students beyond the classroom has arisen.

A change to the way content is taught to students is an obvious place to start to have a significant impact on learning outcomes. As the nature of the assessment has changed as well, and with a greater focus being placed on independent learning, a new approach is now required to prepare students for higher education.

### **School Context**

Denbigh School is a foundation school which provides education to around 1400, 11 to 19 year old students. As a specialist Technology College the school aims to use technology to broaden the curriculum and raise the attainment of the students.

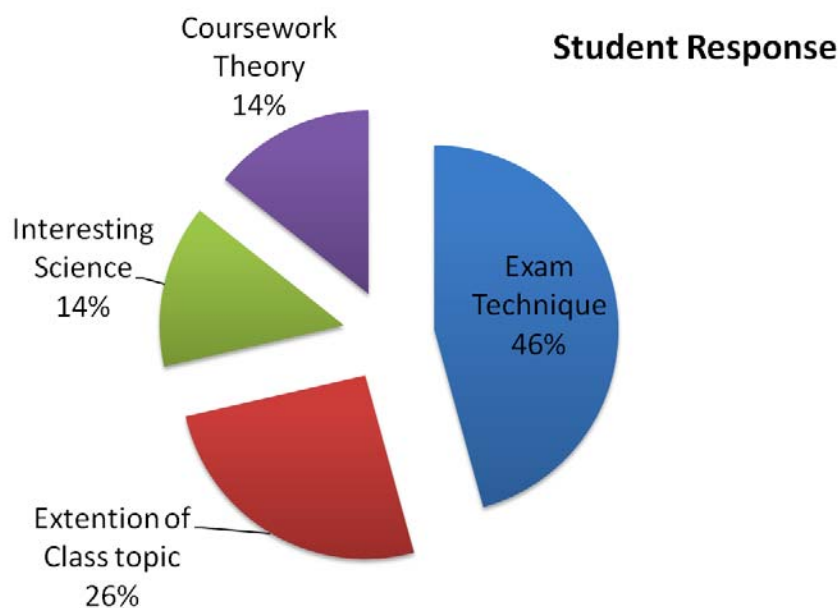
### **Enquiry description**

As part of the faculty improvement plan an 'A-Star Club' was envisaged to meet the demands of the most able students who wanted to go beyond the heavily curriculum-based lessons. As part of this series of sessions it was envisaged that the way content is taught can be changed to push students to their high targets.

A series of sessions were taught in chemistry, biology and physics by subject specialist teachers. The content within the sessions was varied not only by subject but also by the method of delivery. Some sessions were traditional and based on examination preparation. Other sessions aimed to explore the content beyond the curriculum.

Year 11 students were surveyed on their attitudes towards attending an after-school session with the aim of achieving the top grade. Many students were keen to attend additional help sessions but felt that the focus should be on past-paper questions and

exam technique. There was reluctance by the learners to attend sessions that did not immediately link exam performance to the session. The students were asked what would enable them to achieve the top grades.



Over 40% of the students who were targeted as A\* were also on the gifted and talented register. Students have said that they would be keen to attend the sessions, as they commented that the sessions would boost their knowledge and therefore their grades. Some students within the target group were confident that they did not require additional input and were capable of meeting their targets by self-study.

### **Key findings**

The sessions were well received by the students who found them both useful and informative. Students have shown an interest in the project but are often more concerned by coursework sessions clashing with after-school sessions.

There will be a key issue of adapting the sessions provided to the students who attend to offer a more individualised learning experience.

The key brief for all teaching staff before the sessions was to talk about topics that the students wanted to discuss. This worked well as students were able to identify areas that they either showed interest in or where they had found concepts that concerned them within the course. Numerical questions were commonly an area where students had identified the need for further improvement as analysis from in-class assessments have shown that this is often a common area of weakness when students are trying to achieve the top grade. Both students and staff found it useful to develop ideas that have been taken from the curriculum and develop them further

The impacts of the sessions can be monitored through improvement within class assessment; however, it remains difficult to pinpoint the impact of the sessions as there are many variables to consider.

Teaching staff have shown a keen interest in taking the sessions as they believe that they offer real teaching opportunities, rather than just further preparation for assessment. This commitment by staff enabled the sessions to run smoothly.

The club attracted more girls than boys, despite the equal spread of students targeted as A\*. The sessions inevitably attracted those with a greater work ethic, but equally the students attending each session varied as these students appeared to be most spread around the different science subject areas. The students attending the sessions varied each week, with attendance heavily dependent on the demands from other subjects and extra curricular activities that were common throughout the targeted group.

### **Reflections**

Whilst the nature of education remains target driven, the content of the sessions will need to remain linked closely to the work contained within the syllabus. Breaking away and giving free rein to the students over their own learning would need to be attempted for significantly longer periods of time: once this is done it may be possible to establish the link between students achieving the top grades and being more independent in their own learning.

Convincing teachers that they should move away from exam based content will prove to be more difficult as they are inevitably accountable for the results and may be reluctant to waste time on unproven methods.

For the sessions to be truly successful the students themselves must establish the link between the A\* session and their achievement. To link the two the assessment tasks that students take would need to reflect the skills taught in the sessions.

A greater emphasis would also be needed for younger students within the school to be involved in these sessions so that there is a culture of attending and developing ideas. The sessions could be extended to Year 10 students and the subject content would allow students in both years to be included. There will inevitably have to be sessions that are focussed on topics that students may not have covered and this would require additional management to ensure that every session was pitched at the correct level for the student.

Extending the project further down the school would have implications in terms of staffing and may not be possible without increasing workload. Incorporating the method of delivery into lesson time itself would seem to be one way forward within lower year groups. As the project is further developed the assimilation of exam content as well as 'Interesting aspects of science' from the curriculum will need to be incorporated to ensure that the take up of the sessions continues to grow.

## How can we raise standards at Key Stage 5 through the increased use of active learning?

**Paul Gannaway**

**Denbigh School**



### **Research context**

“My name is Paul and I am addicted to direct instruction”. I appreciate that this is nothing unusual – many, many practitioners around the world follow the methods suggested by active teaching with great success. Extensive studies, by Rosenshine<sup>27</sup>, Fitzpatrick<sup>28</sup>, Mortimore<sup>29</sup> and Creamers<sup>30</sup> have suggested that direct instruction gets the best results and has the greatest impact on the education of children. However, personally speaking, I feel that I have progressed through my 16 year teaching career to a point where I have removed most of the spontaneity from my lessons and they are geared absolutely towards the passing of exams and achieving results. Not that this has been a totally negative experience. I am proud of the A level geography results that my students achieve; I am proud of the number of students who have gone on to study geography at university and also the handful of students who have gone on to become geography teachers themselves. But still the thought is there that something is missing – things could be better; the students could be more independent learners; the understanding could be deeper and the lessons more enjoyable and thought-provoking for all.

### **School context**

Denbigh’s geography A level results have consistently been amongst the top performing subjects at post-16. However, post-16 results in general and the standard of teaching of Key Stage 5 lessons do not seem to have made the same advances as Key Stage 3 and 4. Part of the general concern is that the drive for results and to meet target grades, whilst not a bad thing in itself, might be reducing the independence of our students – making them more risk averse and reliant upon us as teachers for their learning.

However, some research shows that there might be an alternative approach. There are studies about direct instruction/active teaching which suggests that the principle works best for younger students – perhaps suggesting a ‘best before’ date. My concern is definitely that 16 and 17 year old students should be taught in a different way in order to prepare for life beyond the school gates – whether at university or in employment. Students need to become more independent in their learning and more able to take risks. Von Glasersfeld<sup>31</sup> suggested that knowledge is *formed* in people’s brains, not directly perceived or observed. This suggests that every student needs to make some form of sense from what they have perceived and it is that ‘making sense of’ – the construction of knowledge through the processing of ideas and experience – that produces deep learning and understanding. This is the underlying theory and

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<sup>27</sup> Rosenshine, B. (1995). Advances in research on instruction. *The Journal of Educational Research*, 88(5), 262-268.

<sup>28</sup> Fitzpatrick, K. (1982). The effect of a secondary classroom management training program on teacher and student behaviour. Paper presented at the AERA Annual Meeting, New York

<sup>29</sup> Mortimore, P et al. (1988). *School Matters*. Wells, Somerset: Open Books

<sup>30</sup> Creemers, B. (1994). *The Effective Classroom*. London: Cassell

<sup>31</sup> See [www.univie.ac.at/constructivism/EvG/](http://www.univie.ac.at/constructivism/EvG/)

idea behind my research project. It does involve an element of risk on the part of the teacher because it reduces the level of control over what is being learned by the students, even though this happens under the direct instruction approach anyway. The principal objective behind many of the activities chosen for this project is that the students should need to actively engage with the tasks in order to more fully understand the theories, ideas and applications of the concepts behind the subject matter.

By chance, I had come across a few activities on the internet relating to the teaching of glaciation, a subject I had not taught in detail for quite some time, that I had put into practice in my GCSE lessons and involved the students 'making' glaciers, using modelling clay, making avalanches and other tasks that had seemed to really energise them. Could this idea be transferred to A level geography? Also, because there is a culture within the school of valuing students as learning partners, representing an awareness that the student voice needs to be part of the learning process, I hope that they will help shape and improve this project further.

### **Enquiry description**

My premise was therefore to tackle my 'addiction' and strive for a more 'constructivist' philosophy within my A level teaching. I decided to create a scheme of work for a topic within the Year 13 unit being studied. For the enquiry, I decided to use a topic called Bridging the Development Gap, looking at global inequality and the causes, effects and solutions to it. The plan was that we would take six weeks to deliver the unit, two lessons a week. My colleague would kindly deliver it to his group at the same time as I with mine – creating a comparison group. The scheme of work was adjusted to incorporate the use of games and practical teaching strategies in order to deepen the understanding of the students, support those with lower target grades who might find the didactic style more challenging and encourage the independence necessary to work beyond the classroom: i.e. complete more homework tasks and take a few more risks. There was also to be a sprinkling of more traditional direct instruction activities – powerpoint presentations and didactic teaching, but on a rough ratio of one directed to two practical/active sessions.

The games were selected following extensive research and were picked on the basis of what I considered would be the most effective use of time in terms of delivering the basic topic content. I used board games, role plays, card games and decision making games to try and make the whole topic more interactive – the students were being asked to take more of a role in more of the lessons, as opposed to an interactive activity being a special, one-off task during the programme of study. Each activity was to be topped and tailed with theory and review in order to draw out the immediate learning.

In order to assess some of the impact of this project I would ask the students themselves. I created a questionnaire and gave it to both Year 13 teaching groups just before this unit to get an idea of their attitude, enjoyment and involvement during the previous unit – a more traditionally taught, didactic programme of study. I also interviewed a student after the two topics had both been delivered to get a more detailed picture of student opinion. The same questionnaire was then used after the 'new improved' programme of study had been delivered in its entirety. I also asked my colleague delivering the same programme to his class for his professional judgement of the involvement of his class. The final method for assessing the impact of this research project was to assess the work produced by the students in order to identify their levels of understanding. Both the quantity of homework and assignments handed in, particularly important for the less able students who tended to avoid the homework deadlines, and the quality were assessed.

I expected to find that this style of teaching and learning would support those who might find direct instruction off-putting and sometimes difficult to fully understand. I thought that the less able students might find this a more practical and useful approach to deepening understanding of ideas and therefore be able to do extra reading and research outside the classroom to further their studies. The most able students might find this difficult to adjust to at first, but they should also benefit from a more active involvement in their own learning.

### **Key findings**

The results of the first questionnaire were quite revealing. The vast majority of the students had found the first unit interesting and had felt involved in the lessons, even though they had been taught in a very didactic way. Strangely, contrary to my expectations, they had viewed this sort of lesson as 'active'. Their comments at the bottom of the questionnaire implied that they actually enjoyed this style of direct instruction, or perhaps felt more comfortable with it, perhaps because they are unchallenged by it.

When the questionnaire was re-administered, after the second unit the results showed the following issues:

- The understanding of theory seemed to significantly improve under the more interactive style; as did understanding of case studies, though this remained high and appeared less significant.
- Confidence with homework showed a significant increase.
- However, some students wanted more presentations and more note taking – on further questioning, this was down to students' learning preferences.

A key finding from the questionnaires was that they had enjoyed the first topic because of the way it had been taught, not despite it. Whereas the second topic elicited more enjoyment 'despite' the way it had been taught. When one student who had been accelerated through GCSE humanities into A level geography a year early was questioned further, she said that it was because she felt unsure of the value of 'playing games' and interacting with the other students – she positively hated role plays. She went on to explain that this style of teaching and learning was not familiar to her at A level. She was a product of direct instruction (not her words). However, there was an interesting gender divide, with the male students finding the active learning more suitable to their learning needs, though not exclusively so; perhaps male students are more adaptable to change or more likely to follow a different style without questioning it.

There was a definite improvement in homework completion, particularly from the less able students, who seemed more confident with the idea of (a) completing it on their own and (b) taking a risk and handing the work in for marking and correction. However, this could also be for other external factors, such as the increase in pressure to complete work as the end of the course drew nearer or parental involvement. The assessment results, however, were inconclusive. There was no obvious improvement across the board, although it is perhaps worth acknowledging that neither was there deterioration in results. This suggests that at the very least the students were not disadvantaged by this new (to them) style of learning.

Anecdotally, my colleague delivering the same programme of study to his group did receive a lovely email from a student – one whose target grade was amongst the lowest of both groups, whereby she thanked him for the recent lessons as she attached her homework to the email and said how much she felt she had learned recently.

## Reflections

This small research project has had a number of positive results both on me and my general practice. I have thoroughly enjoyed the actual lessons during the project – I cannot remember the last time there were so many laughs and so many incisive and enquiring questions during a programme of study. In my class, I even heard someone telling their peers that they were looking forward to geography because of what had been happening recently. However, there is still the tendency for some students to question how much learning went on because they didn't make many notes or were not told as much actual 'stuff' as they are used to - this is unusual because students further down the school often seem happier when taking no notes and doing active lessons! On the plus side, I also found that the more able students in my class took some of the ideas arising from the games and practical sessions and flew with them – something I did not expect, but something that was quite thrilling because of the depth of understanding shown.

It has definitely made me question how I deliver post-16 lessons. I can see the value of incorporating more practical learning activities into our schemes of work, but am conscious of time constraints. Perhaps there needs to be some tempering of my research approach – a 'less is more' idea. I did like the comment from one student about how to improve upon the lesson where she suggested a hand-out at the end of the lesson that summarised the ideas, activity and context of the lesson – this is will be taken on board for the future. As far as Denbigh is concerned, I gave a short presentation to colleagues as part of the school's programme for sharing good practice and new ideas for teaching and learning and was very encouraged by the response. I would like to revisit this again after further work with my A level lessons.

Overall, my conclusions are that students can develop some measure of confidence with ideas if they use them in a practical or game-playing role. If they do more homework because they are more confident, this can only be a good thing. This certainly seemed to help the less able students. However, there was still a majority of my students who want to listen and follow a presentation, make copious notes and take them away to learn. I do not think I will ever abandon this style completely – it can have excellent results.

However, variety is the spice of life. Constant repetition of this style of teaching, sometimes deemed necessary because of the sheer content exam boards expect teachers to cover, does not do much for the long term development of our students. Sixth form should not be seen as the end of the learning process, therefore requiring less interactivity, but part of the same process that saw these students go through a creative curriculum where they learned in an active, hands-on manner and became the enquiring students we find ourselves trying to encourage and motivate to take our subjects further.

Further work is needed to identify the wider impact of this approach to Key Stage 5 teaching as I feel that this project was inconclusive. However, there was significant progress made to suggest that this could be adapted to raise enjoyment and attainment in equal measures.

## To what extent are Virtual Learning Environments useful in facilitating independent learning?

**Anthony Steed**

**Denbigh School**



### **Research context**

Much of my research has focussed on the impact of Virtual Learning Environments (VLE) and technology on learning. I conducted a short literature review of the key academic research into the impact of VLE's and technology on learning. Owen<sup>32</sup> talks of the need for pedagogies to take into account new approaches to learning in a world that is highly influenced by technology. Raiker<sup>33</sup> (2001) speaks of student's familiarity with technology and how this lends itself to education through a technological medium. Heppell<sup>34</sup> (2004) describes the young generation as being highly technologically developed and stresses that students are likely to be less tolerant of an education system that fails to keep up. All of this research points to a generation of students who have grown up using technology and therefore are extremely comfortable with technological media. My own research, in the form of student interviews, has told me that many of my students spend up to four hours every evening at their computer. Therefore there is an opportunity to reach our students through this medium.

### **School context**

My area of expertise is A level economics and I have been a teacher of business and economics for five years. Since entering the profession I have developed the view that the way in which students are prepared for their Key Stage 4 examinations actually has a negative impact on their chances of success at Key Stage 5. An expectation to be 'taught to the test' does not equip students with the necessary attitudes needed to be successful at A level. Any teacher reading this who has asked their class to conduct some research into a topic and has been met with an incredulous response will understand to what I refer. The modern examination system has made students solely receivers of information. My own experience tells me that those students who are willing and able to actively seek information, whether that be inside a classroom or at home will be the most successful. It was in hope rather than expectation that I approached my learning enquiry. I hoped to be able to develop the relatively underused VLE that the majority of schools now employ to encourage and facilitate students' independent learning. In making reference to independent learning, I am actually focussing on the practical ability of students to access learning on their own away from the classroom, and have chosen, for the purposes of this enquiry, to ignore the meta-cognitive interpretation of the term that is becoming increasingly common amongst academic researchers.

### **Enquiry description**

My intention was to deliver a module of the A level economics curriculum primarily through VLE resources such as wikis, blogs and discussion forums. I chose to conduct my learning enquiry with a group of A level economics students. The group had a large amount of potential but many of the students, at the point of beginning the enquiry, had not yet fully engaged with the subject in an independent way. My methodology was to use each of the methods listed above as part of my delivery of a

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<sup>32</sup> Owen, M. (2000) Structure and discourse in a telematic learning environment. *Educational Technology and Society*

<sup>33</sup> Raiker, A (2001) *Technology enhanced learning – A box of Delights?* University of Bedfordshire

<sup>34</sup> Heppell, S (2004) Building learning futures, see <http://rubble.ultralab.net/cabe>

topic. I intended to measure the impact in a number of ways. Firstly, VLE technology allowed me to monitor the usage statistics of the group, meaning I was able to see whether my intervention had encouraged my students to access this information in their own time. Secondly, I conducted interviews with five members of the group. These students were a mixture of abilities and genders. Thirdly, I hoped to be able to observe some impact on the quality of their own subject understanding and of the work they were producing, although in the time frame available it proved difficult to measure this improvement accurately and with any scientific validity. I felt that overall my methodology allowed me to generate both qualitative and quantitative data, and would be suitable, in the context of the enquiry, to provide me with a valid conclusion.

## Key findings

My findings from each of the methods are set out below.

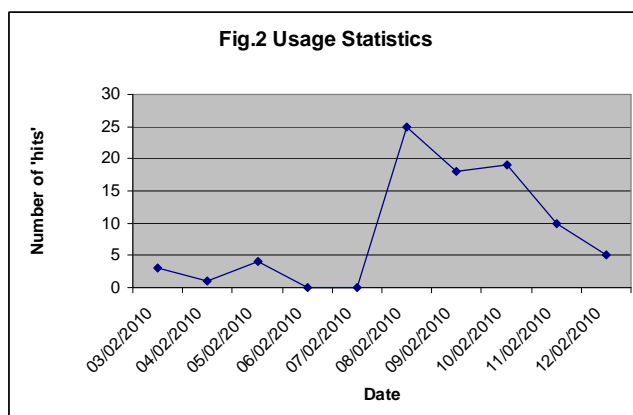
*Student wiki* A 'wiki' is a type of collaborative software program that typically allows web pages to be created and collaboratively edited. Readers will be familiar with the popular Wikipedia website and the same concept has been used to create an internal resource for my students. Having taken the students through the key concepts of a topic, I then invited them to create wiki pages for their assigned sub-topics (see Fig.1)

Fig. 1



The wiki proved to be a tremendously popular resource with the students. Evidence gathered in my interviews showed that students enjoyed using this resource for a variety of reasons. They liked the idea that it was a collaborative resource and that it allowed them all to contribute and share knowledge. They also liked the fact that key terms within the wiki page could be 'wiki linked' to other students' pages. They said that they felt this not only saved them time when creating their own page but also helped to improve their own understanding.

After creating their pages I then informed them they were all going to be given editing rights and that they would be able to edit the work in their own time. I then analysed the usage statistics of the wiki page to see how often the students had accessed the page after the lessons. Figure 2 illustrates the impact of the wiki on students accessing the faculty pages of the VLE. This clearly shows a positive correlation between the usage and the date that I launched the wiki with students on 8 February. What is also pleasing is that students have continued to access the wiki after the lesson as can be shown in the results generated on 9, 10 and 11 February.



*Students' blog* The VLE software allows students to publish their own blogs for others to view. I originally set this task as a homework asking them to blog on the issue of Globalisation and whether they felt it was beneficial or not. Following this I again informed students they had been given editing rights and that they should feel free to create their own blogs on any economic issue they desired, but that this would be totally voluntary in their part.

Although I observed a broadly positive response to the homework, with 73% of students completing the blogging task, I observed a far more limited response to the voluntary blogs. To date only six additional students' blogs have been posted. When interviewed about the reasons for this it became clear that a majority of students were not sure how to create the blogs, indicating an instructional failure on my part. A smaller number of students intimated that they felt somewhat embarrassed or intimidated at the thought of producing a blog that could be openly read by their peers. A larger number of students simply felt that they did not have the time to contribute to a blog.

*Teacher blog* As part of my intervention I also created my own blog. The blog was

advertised to students in lessons. I also occasionally set homeworks which required them to access the blog and read a specific posting. Again, the blog was met with a largely positive response from the majority of students. A key requirement in economics is for students to keep up to date with the latest developments in the economy. Students commented that this resource was useful in allowing them to keep up with the latest economic news. They also felt that as the blog was produced by their teacher it had a certain level of academic validity, especially when compared with the students' blogs. A pleasing outcome of the teacher's blog has been evidenced in the usage statistics.

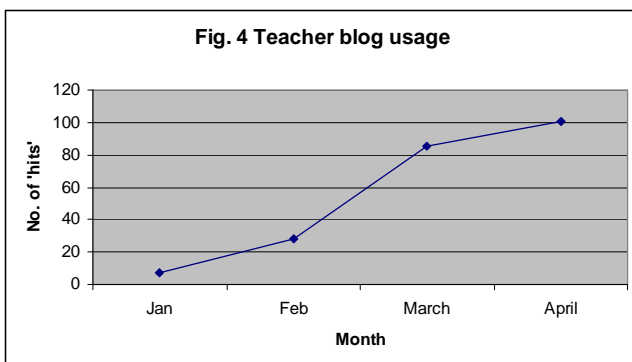
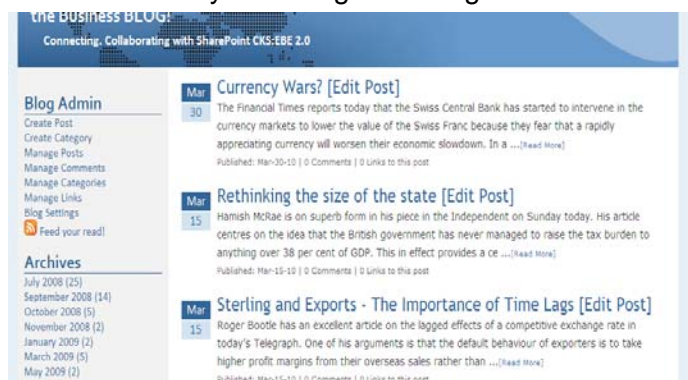
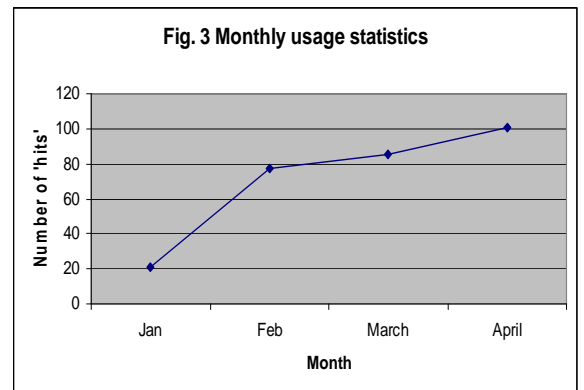


Figure 4 shows the increase in usage and, again, this is maintained past the date that the resource was used in lessons. I believe this demonstrates a willingness on the part of my students to access the blog in order to supplement their own learning in the classroom.

*Discussion Forum* The VLE technology allowed me to create a discussion forum in school. There were some obvious dangers in this technology being misused so I decided to be quite specific in how I wanted students to use this resource. I set a number of examination questions as 'discussions' on the VLE and then gave students contributor permission. I then allocated each student a question and had them post their answer as the first discussion on the 'thread'. When this was completed I instructed students to look at somebody else's answer and then make a comment,

which could be positive or negative, as the next discussion on the thread. Following this I asked them to look at another question, read the following two discussion points and add a comment. This continued until all students had looked at all of the discussion questions.

This proved to be a particularly powerful learning experience for the students who took part. Readers may recognise this as a simple peer-assessment activity, though I felt that the way in which the activity was administered through the VLE discussion forum added to the engagement of students. Indeed, in their interviews, students expressed wholly positive attitudes towards this activity. When asked whether they preferred this to a similar paper based activity they were unanimous in choosing the discussion forum, citing speed, usability and the fact that they could access the resource again outside lessons as their primary justifications.



### Reflections

The experience was an incredibly positive one both for myself and for my school. Since conducting the study I have run a whole school workshop to demonstrate the resources that I have built to staff and my own findings and conclusions.

Overall I have noticed an increase in engagement amongst my students as the year has progressed and, although I cannot be sure the VLE resources are wholly responsible for this, I do believe they have played some part. I fully intend to develop the resources for next year's cohort and am currently looking into the possibility of employing other software options such as Google Wave. I am convinced that VLEs are the libraries of the future and can provide the same valuable learning resources at the user's finger tips. Students have already made the switch from paper to digital form. I believe that it is important that the teaching profession keeps pace with this trend in order to make what we do more interesting, relevant and accessible for our students.



## Does the effective use of ICT in PE develop Level 2 learners at Key Stage 5?

Malcolm Lay



Denbigh

### Research context

Throughout my experiences, I have become increasingly interested in the ways which people learn, together with what constitutes traditional notions of intelligence. Lionel Messi, Maradona and Pele are footballers who are often described as geniuses. Could these individuals genuinely be placed in the same 'team' as Picasso, Einstein and Stephen Hawking? More specifically I am fascinated how students and footballers can display high levels of decision-making skills on the pitch (for example by consistently outwitting opponents) but may struggle to articulate this when it comes to analysing their own performance in an academic or classroom setting. Coaches often refer to playing 'smart' in order to outwit opponents, but how can the player transfer this 'learning' from the pitch to the classroom?

What was also obvious to me was how football has become big business as a TV spectator sport, with ever increasing live games, together with hours of post-match analysis from players, coaches, pundits, and spectators. It now seems no longer appropriate to merely watch a game but to also spend hours analysing the game, its players and their performances using ever more elaborate methods. In line with these developments have been dramatic advances in technology, which up until recently have been in the hands of media professionals. However, with the current generation ever more ICT literate, I was sure that there could be a way to take the ideas and editing techniques used on television into the classroom. I had a hunch that by utilising technology effectively students could deepen their understanding of their (or other players') performances and in turn develop their analysis, communication and learning skills.

This interest and these hunches dictated my line of research. Further reading led me towards the debate surrounding how we learn. Reading about Building Learning Power<sup>35</sup> and the use of IQ tests as a measure of intelligence, Howard Gardner's theory of multiple intelligences<sup>36</sup>, which introduced the concept that individuals could show intelligence through spatial and bodily-kinaesthetic awareness, and Sternberg's theory of practical intelligence<sup>37</sup> all seemed particularly significant. I was also interested in how ICT was currently being used in PE and sport. This led me towards various enquiries within my own school (about the methods, hardware and software peers used and found effective) as well as in a more vocational setting (e.g. the use of Pro-Zone at professional clubs). The National Strategy<sup>38</sup> suggests the use of ICT could raise standards in physical education by:

'helping pupils to refine and present their ideas more effectively and in different ways'.

This led me to explore ways in which current technology could be utilised to develop the Level 2 learners I teach.

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<sup>35</sup> See <http://www.tlold.co.uk/buildinglearningpower.php>

<sup>36</sup> Gardner, H. (1999) *Intelligence Reframed: Multiple Intelligences for the 21st Century* New York: Basic Books

<sup>37</sup> Sternberg, R (1996) *Successful intelligence* New York: Simon and Schuster

<sup>38</sup> <http://nationalstrategies.standards.dcsf.gov.uk/node/97270>National Strategy. ICT across the Curriculum. ICT in Physical Education Ref: DfES 0184-2004 G September 2004

### **School context**

Denbigh is a successful specialist school with a thriving Sixth Form of over 400 students which combines high academic standards with a wide range of enrichment, social and sporting activities.

The group utilised for the research were Year 12 learners from the Football Academy Programme, a mixture of theory and practical sessions that uses football as the tool to 're-ignite' learning. The core qualification of the course is the Level 2 BTEC First Diploma in sport. Students who choose the programme are often 'reluctant articulators', traditionally with a spectrum of CGSE scores below five A\*-C grades.

I am a Level 4 UEFA 'A' Licence Coach, who qualified as a PE Teacher in 2008. I have been working within football, and specifically within educational settings, for over 12 years and have been at Denbigh since 2006 as Director of the Football Academy. I also work part time as Head Coach of the MK Dons Academy Under 15/16 age groups.

### **Enquiry description**

Firstly I had to clearly define what technology to use, as well as how to use it effectively. I gave the learners ownership of what might work the best through group discussions and feedback from their evaluations of a previous similarly assessed piece of work. This was supported with lessons based on the different technological aids to assess what was currently available. For example I showed them a clip of video analysis from Sky Sports 'The Last Word', and asked how and why they might replicate this type of analysis. Practical lessons which involved digital image capture of them demonstrating skills and techniques had positive feedback, so the question for them was 'what next?'

From these discussions the learners decided to record some practical training sessions in order to analyse them post-event. These sessions had a specific tactical element as a focus for the participants (e.g. playing through-balls to exploit space left by an opponent) and consisted of small group games. They were planned so that opportunities for open skills, and the need for learners to make high-order decisions, were numerous.

I played the recordings back to the learners through an interactive white board. The recordings were also uploaded onto the school's shared drive, so that learners had opportunities to use them in their own time. The focus of these classroom sessions was to use the applications from Smart Board Tools to capture and annotate images. This was in the hope that the learners could use this medium to explain and justify their movements, and decisions to outwit opponents, during the practical sessions.

### **Examples of annotated slides from Smart Board analysis lesson:**



To develop the themes from these sessions a series of school team fixtures were videoed by the learners and uploaded onto the shared drive. This was so the group could use teaching time as well as non-taught time to experiment with the videos and technology. Students were encouraged to apply their skills, knowledge and understanding of the technology used in recent sessions to fully investigate their appreciation of another team: how they play, their strengths and how to exploit any weaknesses.

These themes were linked directly to the formative assessment from the core BTEC programme. With previous cohorts I had used ICT to support learning; however, with the group now confident to use the technology, I actively encouraged them to use their skills to meet the BTEC assessment criteria – for example:

*Critically analyse the strengths, weaknesses and tactical awareness of the team by comparing them to your team and provide recommendations for changes and improvements to exploit their weaknesses. (Distinction)*

In order for the learners to have the necessary understanding to provide evidence in their work for all the assessment criteria, they were given a glossary of directive terms (e.g. Identify, Describe, Critically Analyse, Compare and Contrast). These were linked to the assignment brief, with suggestions about how they could be applied to the video evidence which had been collated.

I would be able to ascertain if the use of ICT had been effective through the grades awarded from the formative assessment. And, perhaps most importantly, I would use the school data to compare the learners' target grades (determined by their entry grades or GCSE scores when beginning the course) against their *working at grade*.

### Key findings

The entire group who undertook the sessions prior to the formative assessment met their target grades, with some exceeding them. In some cases the work produced was of a good Level 3 standard, despite the relatively low target grades. The table shows three learners' GCSE grades the start of the programme, together with their target grades and the *working at grade* awarded for the work produced.


Student	GCSE Results	BTEC target grade	BTEC working at grade
Steven	CCCCDDDE	Merit	Distinction*
Ishaq	CCCCDDDDDE	Merit	Distinction*
Chris	CDDDD	Merit	Distinction

BTEC grading expects learners to provide evidence that is qualitative in its nature to achieve a merit or distinction grade. The learners here demonstrated an application of knowledge and understanding. They were able to apply knowledge and understanding to complex activities and contexts. Also evident was their ability to analyse and make recommendations together with a justification of the application of skills and methods. They were also able to make judgements about the risks and limitations of the techniques and processes. Indeed much of the work produced was at a good Level 3 standard.

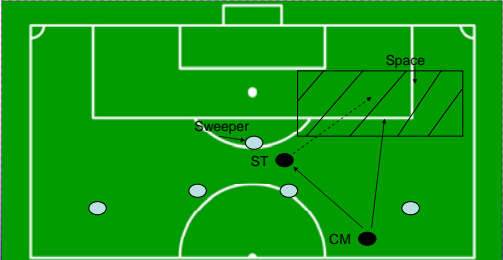
Slide from Learner Assignment:

### Strength

- Another one of their strengths was the way they changed their formation to stop us playing. To do that they added a sweeper and was just clearing the ball. The way that you can exploit this is by having one of your forwards always play as high as they can on the last man (sweeper). Adding the sweeper left gaps so you can have your forward be a bounce ball player and can also play the ball into space.



### Ways to exploit the sweeper



A way to exploit the sweeper is to get a striker to stand on the sweeper/highest man this is to put pressure on the player and stop them just clearing the ball from defence and you can be used as a bounce ball player as shown above.

Learner presenting his analysis:



Slide from Learner Assignment

### Observation Checklist

- Formation: ~~4-4-2~~ 4-3-3 5-3-2 5-4-1 ~~4-5-1~~ other .....
- System of play: Zonal Marking Man Marking Attack Minded ~~Defence Minded~~
- Style of play: Passing ~~Direct~~ Dribblers Mixed Strong Quick Tempo ~~Aggressive~~
- Defensive organisation: Close Marking Loose Marking Drop Off ~~Play Offside~~ Push Up Man Marking ~~Sweeper~~ Zonal Marking
- Midfield organisation: ~~Close Marking~~ Loose Marking Play Maker Holding Player
- Attacking play: Early Shots ~~Shots from Distance~~ Shots Close to Goal Play on Wings ~~Play Down the Middle~~ Overlap Runs Is there movement off the ball Dribbling to Score
- Set pieces Pick Up ~~Mark Close~~ Give Space Walls

**Reflections**

I am frustrated that I began the research with the naïve assumption that learners had the relevant ICT skills from previous learning. I failed to recognise that I would need to teach ICT capability. I thought that I would be merely exploiting new opportunities for pupils to apply and develop the capability that they already have, in order to enhance their learning in physical education, so that the focus of the lessons would remain firmly rooted in physical education.

I am wondering how much more progress might be achieved if learners were consulted in the development of formative assessments? I will be recommending that the school adopts a greater use of ICT to support practical PE lessons across all key stages to add value to the teaching and learning of the subject.

I would like to further explore the idea of 'Practical Intelligence', together with how BLP can be further developed within PE, and I would like to adopt a more reflective approach to my teaching. From the work undertaken I am hoping that learner progression routes will be extended to include higher education or even direct employment into industry.

Finally I would say that the most valuable part of the process was witnessing learners develop their personal skills and qualities. As well as becoming increasingly more adaptable, resourceful and resilient, the whole group were noticeably more self confident in communicating their findings.

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