Visualiser Evaluation

J. P. Cuthell PhD.

MirandaNet

for

Interactive Education Ltd.

2008

Overview

This evaluation has been produced by MirandaNet for Interactive Education Ltd. The aim of the evaluation was to gauge the views of teacher and pupil users of its Genee Vision Visualiser, and the ways in which it has impacted on their teaching, learning and work practice.

This research collected data from the Genee Vision user base provided by Interactive Education to investigate the perceptions of teachers of the impact of the visualiser on learning, teaching and workflow.

Data was collected through email contact, online questionnaires and personal interviews.

Terms of Reference

This report uses evidence collected from the data to determine the perceptions of teachers and students.

Key benefits for both of these groups from the use of the Genee visualiser are analysed in terms of teaching, learning and work practice.

Of particular interest are the ways in which teachers maximise the impact of the visualiser, whether through CPD, resources, ways in which they share any newly developed ‘best practice’, the impact of training versus non-training and work in different Key Stages.

The evaluation includes a number of comments from teachers on the impact of the Genee Vision visualiser on teaching and how it has changed their lessons.

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Genee Vision Evaluation

Executive summary

During July and September 2008 a number of schools across England were surveyed to investigate the ways in which they use the Genee Vision visualiser, and the ways in which it has impacted on their teaching, learning and work management.

Key Stage Coverage

All Key Stages were represented in participant schools: the majority, however, were in Key Stages 1 & 2.

Curriculum subjects for which Genee Vision is used

Curriculum uses in the primary phase spanned the curriculum. In the Secondary phase the predominant use was for Science (64%) Other subjects in which Genee Vision was used were Maths, Design Technology and ICT (27%), Art and English (18%) and MFL and Citizenship (9% each).

Genee Vision effectiveness: Teacher ratings.

Teachers were asked to rate the effectiveness of the Genee Vision visualiser for a range of tasks:

For demonstrating processes,

Showing detail to the whole class,

Presenting pupil work,

Integrating with other display technologies (IWB etc.)

Bringing creativity into the class.

Responses were overwhelmingly positive.

100% of teachers found it valuable or invaluable for showing detail to the whole class or demonstrating pupil work.

94% of respondents found it invaluable or valuable for demonstrating processes.

87% gave the same rating for integration with other display technologies such as interactive whiteboards.

84% of respondents reported it as invaluable or valuable for bringing creativity into the class.

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Range of tasks for which visualisers are used

Teachers were asked to identify all the ways in which they used the Genee visualiser. In addition to projecting images to the whole class (97%), teachers identified a number of other uses to which the visualisers were put. Many teachers recorded images for future use (48%), for creating curriculum materials (42%) and for individual- and small-group pupil use (32%). Teachers also used them for distributing images for school use (19%), for pupil use (19%) and for creating animations (6%).

Other uses cited were bringing the curriculum to life; direct microscopy ("i.e., look down it!"); analysing and editing pupils' work; assemblies; soldering demonstrations and showing a demo (although the respondent commented that it "gets blurry"); for practical demonstrations, and fault finding.

Ease of use

94% of Primary teachers and 71% of Secondary teachers said that it took less than half a day to become familiar with and use Genee Vision. Not only that, 24% of Primary and 82% of Secondary teachers were able to use it without any training. They found the program intuitive. However, the website user guide was of importance, as was support from the company. Indeed, 53% of primary teachers felt that the demonstration by Interactive Education was important.

Impact on teaching

100% of Primary teachers found the visualiser 'invaluable' or 'valuable'.

91% of Secondary teachers found the visualiser 'invaluable' or 'valuable'.

Whole-class display was considered to be of most use by 58% of respondents; sharing pupil work by 26%. Other teachers found that the split-screen facility and the zoom facility were of use.

Impact on learning

One special school pupil commented that it was used in "*lots of lessons - we like it*". He went on to say that "*we would like one in our room all day*" because "*it shows us just what it is or what to do*". He commented that "*you can see things clearly*" and repeated "*we would like one in our room all the time*".

Recommendations

Schools that use demonstrations and support from the company with all of the staff are more likely to find that the visualiser is used effectively than those where the responsibility for learning is devolved to individual teachers.

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Genee Vision Evaluation Report

Data analysis

Between June 16 and September 1 2008 some institutions identified as purchasers of the Genee Vision visualiser were invited to provide feedback on their uses of the equipment and software. Online questionnaires for teachers and their colleagues were hosted on the MirandaNet website. There were thirty-one respondents. 254 email addresses were provided by Interactive Education. 119 of these were returned as invalid or undeliverable.

In real terms, therefore, the response rate, therefore, was 23%.

School profiles

Key Stage(s) in which the Genee Vision visualiser is used.

KS1	KS2	KS3	KS4	Post-16
14	**19**	**11**	**13**	**9**

(n = 31)

Reponses to the questionnaire were received from thirty-one schools. Some schools covered a number of Key Stages.

Eighteen respondents were from the Primary sector. One school, with more than 21 visualisers, was an infant school. Thirteen schools were Primary and covered both Key Stage One and Two: the visualiser was used in both these Stages. Five schools only used the visualiser in Key Stage Two. There were ten respondents from the secondary sector: nine used the visualiser at Key Stage Three, ten used it at Key Stage Four and six in the Post-16 phase.

Three schools (one independent, two special schools) contained a number of key stages that extended across the conventional KS2/3 divide.

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How many Genee Vision visualisers does your school have?

No. of visualisers	1	2	3	4	6	7	8	10 - 15	16 - 20	21+
No. of schools	4	8	4	2	1	1	2	4	2	1

These figures become more significant in terms of pedagogical implications and impact when they are seen as representative of the different Key Stages in schools.

Distribution within school types

	Number of visualisers in use											
	1	2	3	4	5	6	7	8	9	10-15	16-20	21+
KS1												1
KS1&2		3	2	2		1		1		4	2	
KS3+	1	3	5			1		1				

Almost half of Primary Schools respondents have between 8 and more than 21 Genee Visualisers in their school – 47% of all respondents. This figure would suggest that, in those schools, the majority of classes and teachers have access to a visualiser all the time. The range in the other Primary Schools was between 2 and 6 visualisers.

In Secondary Schools the pattern was rather different. The maximum number of visualisers in a Secondary School was 8 (9%). 9% had six visualisers: 45% had three visualisers, 27% had two and 9% had one. In the secondary sector, therefore, use (and ownership) was seen as shared, located within departments and focused on specific areas of the curriculum.

All of the respondents in the Primary phase used Genee visualisers. Secondary users reported other visualisers in use.

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How many other visualisers does your school have?

No. of visualisers	1	3	5
No. of responses	1	2	1

Where the visualiser is used:

In my classroom	In a colleague's room	In the ICT room	When it is booked	When it is timetabled
94%	23%	15%	16%	0

All of the respondents in Primary Schools report that the visualiser is used in their classroom. This would suggest that the range of uses to which the equipment is put is directly related to the ease of classroom application – as can be seen from the following table.

Curriculum subjects for which the visualiser is used

	English	Maths	Science	DT	ICT	History	Geography	MFL	Art	Citizenship	PE	Careers	SRE	RE	Other
All respondents	**61%**	**55%**	**81%**	**48%**	**15**	**55%**	**55%**	**26%**	**52%**	**23%**	**13%**	**0**	**10%**	**45%**	**10%**
Primary	**100%**	**88%**	**100%**	**71%**	**71%**	**100%**	**100%**	**23%**	**45%**	**23%**	**13%**		**18%**	**41%**	**10%**
Secondary	**27%**	**27%**	**82%**	**27%**	**27%**			**9%**	**18%**	**9%**					**9%**

Curriculum uses in the primary phase spanned the curriculum. Indeed, the majority of uses of the visualiser in Modern Foreign Languages (MFL) were by Primary School teachers.
In the Secondary phase the range of uses could be directly related to the number of visualisers in use, the predominant use of which was for Science (64%). Other subjects in which the Genee Vision was used were Maths, Design Technology and ICT (27%), Art and English (18%) and MFL and Citizenship (9% each). Other uses cited by schools were in cross-curricular topics and special days; assemblies and specific occasions when it could be booked for use by others.

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How effective do you find the visualiser?

The majority of teachers who used the Genee Vision visualiser found it highly effective

	Invaluable	Valuable	Of some impact	Of little impact	Of no impact
For demonstrating processes	52%	42%	3%	3%	0
Showing detail to the whole class	58%	42%	0	0	0
Presenting pupil work	52%	48%	0	0	0
Integrating with other display technologies (IWB etc.)	32%	55%	9%	6%	0
Bringing creativity into the class	29%	55%	9%	6%	0

(All responses as %)

I use the Genee Vision Visualiser for:							
Creating curriculum materials	Projecting images to the whole class	Recording images for future use	Distributing images for school use	Distributing images for pupil use	Individual- and small-group pupil use	Creating animations	Other
42%	**97%**	**48%**	**19%**	**19%**	**32%**	**6%**	**10%**

The predominant use of the visualiser, therefore was as a tool for whole-class display, although a significant number used it for recording images and creating curriculum materials. Almost a third of teachers used the visualiser with pupils' – either individuals or small groups.

Other:

A number of other uses were cited by respondents. These were: *"bringing the curriculum to life; direct microscopy (i.e., look down it!); analysing or editing pupils work; assemblies; soldering demonstrations; show a demo (but gets blurry!); practical demonstrations and fault finding."*

It is clear that teachers see the visualiser as a tool that has multiple applications, whilst at the same time projecting images to a large audience – whether it be a group, the class, or a number of classes in an assembly.

How long did it take to learn how to use the Genee Vision Visualiser?	An hour or less	Less than half a day	About a day	More than a day	I still haven't learned to use it properly.
Primary	**53%**	**41%**		**6%**	
Secondary	**64%**	**9%**		**18%**	**9%**

Most teachers found it easy to master the visualisers, and in a short period of time. The majority of teachers – 94% of Primary teachers and 71% of Secondary teachers – found that it took less than half a day. Why is there a difference between the sectors? The reason becomes clear we look at questions that focus on the ways in which teachers learned to use the visualiser, and the resources they used to support their learning.

How did you learn how to use and apply the Genee Vision Visualiser?:					
	It's an intuitive system that tells you how to use it	I worked it out myself	I used the Genee Vision website	Interactive Education gave us a demonstration	We had a demonstration in a CPD session
Primary	6%	18%	6%	53%	18%
Secondary	9%	73%		18%	

Whilst 82% of Secondary teachers felt that the system was intuitive and that they were able to work it out themselves, 71% of Primary teachers learned how to use and apply the visualiser as a result of a demonstration, either from Interactive Education or in a CPD session. In this context learning how to use the visualiser, and apply it across the curriculum, is more likely to result in a collaborative, whole-school approach that reinforces both user skills and pedagogical approaches.

Schools that use demonstrations and support from the company with all of the staff are more likely to find that the visualiser is used effectively than those where the responsibility for learning is devolved to individual teachers.

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Which of the following resources did you use to assist your understanding of the Genee Vision Visualiser?					
	Training	Manual	The Genee Vision user guide on the website	Interactive Education Support	Online case studies
Primary	59%	18%	29%	18%	
Secondary	18%	45%		9%	

Teachers were able to select a number of options from the choices available: it is clear that, as a group, Primary teachers used a wider range of resources to support their understanding of the uses of the visualiser than did Secondary teachers, the majority of whom relied on the manual.

Neither group specifically cited the use of the online case studies to assist their understanding, although almost a third of Primary respondents reported visiting the website to use the Genee Vision user guide. The case studies have a Primary focus, and the examples of ways in which the visualiser can be used to support the curriculum encourage classroom use for all subjects.

	Invaluable	Valuable	Of some impact	Of little impact	Of no impact
Now that I am using it I find it	**55%**	**42%**	**3%**	**0**	**0**

100% of Primary teachers found the visualiser ‘invaluable’ or ‘valuable’.

91% of Secondary teachers found the visualiser ‘invaluable’ or ‘valuable’.

	Whole class display	Sharing pupil work	The storyboard software	The split screen	The zoom facility
The thing I find most useful is	**58%**	**29%**	**0**	**3%**	**10%**

Whole class display, and sharing pupil work with the whole class, account for 87% of the total responses. Although few respondents mention the split-screen and zoom facilities it may well be that they see these as being integral to the way in which the visualiser is used for whole-class display.

Conclusions

The predominant use of the Genee Vision is for displaying images and work to the whole class.

Within that there are a number of uses, many of which involve individuals or groups within the class.

> *"The ability to link computer and whiteboard and switch between each easily is good …"*

Many teachers see the visualiser as ideally suited to spontaneous uses – this enhances creativity and involvement for both the teacher and pupils.

> *"It gives opportunities that no other ICT provision can, enabling teachers to enhance their teaching very easily and effectively …"*

> *"Easy to adapt teaching and resources. Brilliant for pupil self and peer evaluation. Good for modelling and demonstration …"*

Visualisers have their greatest impact where the school has invested in a critical mass and involved all the staff in a familiarisation programme.

> *"The visualiser has had a huge impact on teaching. It is a highly powerful teaching tool that provides the opportunity for immediate and effective feedback to pupils via peer and teacher evaluation of their work displayed on the visualiser. Texts can be shared and analysed more readily. The need for photocopying is greatly reduced and there is no longer a need to scan items ready for sharing. The zoom and freeze facilities are enormously valuable in areas such as Science e.g. the parts of a flower, seed dispersal. The split screen and mirror functions are also highly valuable in areas such as Maths and Art and Design."*

Teacher collaboration maximises the impact of the technology within the classroom and across the curriculum.

Genee Vision visualisers are at their most effective when embedded within the full range of teacher pedagogy and practice, and are seen as integral to the work done by pupils.

> *"Pupils easily and quickly learn the different functions and use them for pupil led presentations. It has had a big impact on the standard of pupil presentations. Pupils are provided with the opportunity to view and evaluate their peers' work and compare it to their own and the success criteria during a lesson - something they couldn't do before."*

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"Opens up new opportunities for learning … it allows interactivity and encourages spontaneity …"

When the visualiser is used with an interactive whiteboard the resource that is created can be used for subsequent lessons, or shared with colleagues.

The interactions between the work that is displayed – the image – the curriculum context and the individuals in the class produce a more objective cognitive response. The relationship between the concepts under discussion, the language that is used for this, peer comments and the visual reinforcement create a more lasting learning experience than one without the visual element.

Case studies

Radipole Primary School in Dorset has six Genee Vision visualisers that it uses across the KS1 and KS2 curriculum. Teachers use them to support and enhance learning in the core subjects: English, Maths, Science, Design and Technology, History, Geography and Art, as well as RE.

Like almost every other school that uses a visualiser the teachers have noted the impact of the whole-class display facilities on pupil understanding and learning. Teachers say that techniques can be clearly demonstrated – then saved, re-played and used later. This is particularly effective for art and handwriting. It is also a very useful way of showing a picture from a book to the whole class. The impact is even greater than when pupils have the book itself – or, as was previously the case, a scanned version of the picture.

Philip Bowden, a class teacher at Radipole, comments that, in addition to the whole-class display facilities the visualiser has had a real impact on motivation.

The visualisers have been very motivating for the children – they work very hard to be chosen to show their work under the visualiser at the end of a lesson.

Phillip Bowden, Radipole Primary School. Class teacher

Many schools have noticed a real impact on the ways in which processes and techniques in Science and Design and Technology can be demonstrated – and captured to use in other contexts.

It has modernised demonstrations and there is no longer a need for a huddle around the teacher's desk. Therefore pupils are not tempted to be off task.

Stuart Wattley, Bristnall Hall Technology College. Director of Design and Technology

A Valuable resource, we can manage without it but it makes presentations and lessons easier and more exciting.

David Dunlop, Rivington and Blackrod High School. AST and Head of Technology

My children can now look at the screen and see in detail what we are doing in the lesson and understand certain concepts.

Louise Emerson, Yarnfield Primary. Class Teacher

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An overhead projector with so much more functionality. Fantastic and so easy to use.

Jenny Griffiths, Northwick Park Primary School. IT Manager/ICT Teacher

Bordesley Village Children's Services have a significant number of Genee Vision visualisers, that are used in most subjects and classroom: in English, Maths, Science, Design and Technology, ICT, History, Geography, MFL, Art, Music, PE and RE. It's not only the whole-class display facilities that are valuable. The school also finds them extremely useful for self-assessment and assessment for learning. The visualisers

Add a new dimension, especially for giving instant feedback to pupils to help them with their self-assessment.

commented Kenny Levack, a teacher at the school.

Using the visualisers for self-assessment.

We use the visualisers regularly, especially with our Writing lessons. As a habit now, our pupils assess their own work at the end of a lesson - simply by saying they are pleased with what they have done and have met their objectives - or that they are aware they could have done better. They also are given some short-term targets for literacy that were noticed in their last piece of independent written work. We remind them of their targets at the start and sometimes get the pupils themselves to 'present' their work up on the visualiser and show that they have now started meeting their new target.

The visualiser can also act as a timely stimulus.

As a reward / threat, we sometimes say we'll be putting your work on the visualiser in 5 minutes...! (For some, it can have a great effect on output especially!)

Collaborative work and evaluation is also supported by the use of visualisers.

For example, if the pupils have a target for their self assessment to remember to use capital letters and full stops, we will put their work up and then ask them what their target is and the good thing is that they can see instantly, along with the rest of the class how they are getting on with meeting that target.

Depending on what interactive whiteboard board you use, you could even call upon the pupils to annotate or 'correct' the work they can see up on the screen.

This does work for all the pupils, they do all become more aware, (especially by seeing their own work and that of their peers regularly,) where their weaknesses lie - i.e. Punctuation missing - not enough adventurous vocabulary, capital letters missing, spelling mistakes etc!

Fantastic!

Kenny Levack, Bordesley Village Children's Services. TLR manager Upper Key Stage 2

The ability to link computer and whiteboard and switch between each easily is good ...

Jason Hazrati, Heathlands at Townsend Asst. Headteacher

The ease of use of Genee Vision visualisers was commented on by a number of respondents.

It gives opportunities that no other ICT provision can, enabling teachers to enhance their teaching very easily and effectively …

Opens up new opportunities for learning - comparable to when we first got a projector. It allows interactivity and encourages spontaneity ...

It is plugged into a projector or IWB to produce a large image on screen: essentially a document camera with some enhanced features. Resolution is good enough to make even the tiniest print on a leaflet readable at the back of a classroom.

Supporting sharing and spontaneity

King Edward VI Grammar School has six visualisers in use across the Science, ICT and Modern Foreign Languages departments. The spontaneous use of visualisers is particularly prized: they can be used to respond to a question, suggestion or material produced by a pupil, a group or the whole class. In a Science class, for example, a pupil can bring in a picture or an article and share it with the whole class: scientific specimens can be brought in and displayed. Pupils also use the visualiser for their own presentations to the class.

In fact, materials can be displayed to the whole group for a number of purposes: exemplars of pupil work, the marking of sample work by the whole class, examination papers and answers on

screen – the interactions between the work that is displayed, and the individuals in the class, produce a more objective response and supports learning.

Ray Le Couteur, Head of ICT, feels that

The essence is speed - you can switch between a pupil poster and a scientific sample in 10 seconds. So you can do things on the spur of the moment - e.g. quickly display a particularly good piece of work.

Interactivity/spontaneity is via what you do with the displayed material - the images themselves are passive (no difference between using just a projector and an IWB).

Ray Le Couteur, King Edward VI Grammar School. Head of ICT

An American teacher comments:

I've … found that visualisers are extremely beneficial for students with a wide range of skills (i.e. special needs and gifted). Multimodal learning and visualization are so important for every child. I particularly loved using the Proscope microscope with my students for science experiments.

Mechelle

Easy to adapt teaching and resources. Brilliant for pupil self and peer evaluation. Good for modelling and demonstration.

Sharon Campbell, Slade Junior and Infant School. ICT Coordinator

The William Read Primary School uses visualisers in every classroom, in KS1 and 2. Teachers use them for English, Maths, Science, Design and Technology, History, Geography, Art and RE.

The visualiser has had a huge impact on teaching. It is a highly powerful teaching tool that provides the opportunity for immediate and effective feedback to pupils via peer and teacher evaluation of their work displayed on the visualiser. Texts can be shared and analysed more readily. The need for photocopying is greatly reduced and there is no longer a need to scan items ready for sharing. The zoom and freeze facilities are enormously valuable in areas such as Science e.g. the parts of a flower, seed dispersal. The split screen and mirror functions are also highly valuable in areas such as Maths and Art and Design.

Pupils easily and quickly learn the different functions and use them for pupil led presentations. It has had a big impact on the standard of pupil presentations. Pupils are provided with the opportunity to view and evaluate their peers' work and compare it to their own and the success criteria during a lesson - something they couldn't do before.

Helen Ferguson, William Read Primary School. Advanced Skills Teacher

Our students need the visual to learn and this gives enormous impact straight away without having to pass round objects etc. Great idea.

Vannessa Moore, The Shrubberies Special School. Assistant Head

(The Genee Vision visualiser) has made the IWB an even more powerful tool

Beryl Lishman, Inglehurst Junior School. ICT Coordinator/SENCo

This is a great tool that impresses the kids. It is simple and easy to use without loads of training. We have used them very much more than interactive whiteboards. It is brilliant for showing pupils how to plot graphs or construct ray diagrams. In this role it saves a lot of walking around showing pupils the same thing on an individual basis.

Gareth Williams, Woodhouse Grove. Head of Science

Allows detail to be shown via IWB clearly to the whole class. This includes samples, small-scale science experiments and the sharing of pupils' work.

The whole class can observe small-scale demonstrations and individuals can show the class how they are performing operations. (Genee Vision is) A powerful visual tool to assist non-verbal students.

Supporting individual needs

The Beverley School for Autism caters for pupils from Key Stage One to post-16.

I work with Autistic Spectrum students, several of whom have complex and quite profound learning difficulties. Some are non- verbal and non-numerate and yet with appropriate communication aids can demonstrate skills in matching, sorting, selecting and sequencing. Frequently they show these skills using TEACCH materials, which allow them to move and organise photographs, pictures or symbols. Often, acquiring skills requires repetition. The

Visualiser provides a unique opportunity to allow these students to demonstrate their skills with these materials publicly to each other. There is benefit from seeing others on a similar task (normally these are individual operations): accuracy of response increases as they watch each other perform. They also select and use scientific apparatus or assist in small-scale experiments that are then visible to the rest of the class (e.g. floating and sinking in a tank, constructing electric circuits).

The Visualiser has further value in that we can capture images of familiar 'real' objects and insert them into other resources. Obviously, there is no rocket science here. However, using the Visualiser in this way seems to be a powerful reinforcement of learning and allows students to 'perform' in front of their peers – which is important to their social agenda, too.

Peter Ryles, Beverley School for Autism. Science Teacher

An OHP with much more functionality - fantastic teaching tool!

Jenny Griffiths, Northwick Primary School. IT Manager/Instructor

Teaching Technology through Technology

Leyland St. Mary's CTC use two Genee Vision visualisers in teaching Design and Technology. They have found them particularly useful in the teaching of electronics, engineering and graphics, enabling all the pupils in the class to focus on processes and their products. The visualisers have had a great impact on peer assessment and assessment for learning.

The visualisers have allowed processes to be demonstrated to whole classes. This has been of particular use in electronics, engineering and in graphics. The visualisers have also been of great value in sharing pupils' work with each other. This has been done effectively during whole school events, such as enterprise days etc. The visualisers are used to aid peer assessment where classes or year groups can comment on or view examples of individual or team work. This may be in the form of a product or design as well as written work.

On the enterprise event, for example, pupils worked in teams and one of the tasks was for each team to create a team name and design a logo for their team. The pupils were in tutor groups, which were then split into smaller teams. The tutor groups evaluated the designs within their tutor group and voted the best through to the final. The year group was then brought together where all

the finalist designs were shown to the entire year group via the visualiser. A similar method is used in lessons to facilitate AFL (Assessment For Learning) and in particular peer assessment.

Travall Towriess, Leyland St Mary's CTC. Director of Specialism

It allows me to share instantly with the class work they have been doing – allowing for instant feedback. (Anonymous)

The overall impact of the Genee Vision visualiser on teaching and learning: feedback from teachers

Seventy seven percent of respondents commented on the impact of the Genee Visualiser on their teaching and their pupils' learning.

Radipole Junior School has six Genee Vision visualisers that it uses across the KS1 and KS2 curriculum. It uses them for English, Maths, Science, Design and Technology, History, Geography and Art, as well as RE. Philip Bowden, a class teacher at Radipole, comments that, in addition to the whole-class display facilities the visualiser has had a real impact on motivation.

It has been very valuable in demonstrating techniques in art, handwriting and so on, as well as in looking at pictures in books – which would otherwise have to be scanned. The visualisers have been very motivating for the children – they work very hard to be chosen to show their work under the visualiser at the end of a lesson.

Phillip Bowden, Radipole Primary School. Class teacher

Many schools have noticed a real impact on the ways in which processes and techniques in Science and Design and Technology can be demonstrated – and captured to use in other contexts.

It has modernised demonstrations and there is no longer a need for a huddle around the teacher's desk. Therefore pupils are not tempted to be off task.

Stuart Wattley, Bristnall Hall Technology College. Director of Design and Technology

Excellent use in sourcing close up work/ product evaluation. Worksheets shared without photocopying. A Valuable resource, we can manage without it but it makes presentations and lessons easier and more exciting.

David Dunlop, Rivington and Blackrod High School. AST and Head of Technology

My children can now look at the screen and see in detail what we are doing in the lesson and understand certain concepts.

Louise Emerson, Yarnfield Primary. Class Teacher

An overhead projector with so much more functionality. Fantastic and so easy to use.

Jenny Griffiths, Northwick Park Primary School. IT Manager/ICT Teacher

Bordesley Village Children's Services have a significant number of Genee Vision visualisers, that are used in most subjects and classroom: in English, Maths, Science, Design and Technology,

ICT, History, Geography, MFL, Art, Music, PE and RE. They find them extremely useful for self-assessment and assessment for learning. Kenny Levack, a teacher at the school, commented that they

Add a new dimension, especially for giving instant feedback to pupils to help them with their self-assessment.

We use the visualisers regularly, especially with our Writing lessons. As a habit now, our pupils assess their own work at the end of a lesson - simply by saying they are pleased with what they have done and have met their objectives - or that they are aware they could have done better. They also are given some short-term targets for literacy that were noticed in their last piece of independent written work. We remind them of their targets at the start and sometimes get the pupils themselves to 'present' their work up on the visualiser and show that they have now started meeting their new target.

The visualiser can also act as a timely stimulus.

As a reward / threat, we sometimes say we'll be putting your work on the visualiser in 5 minutes...! (For some, it can have a great effect on output especially!)

Collaborative work and evaluation is also supported by the use of visualisers.

If say for example the pupils have a target for their self assessment to remember to use capital letters and full stops, we will put their work up and then ask them what their target is and the good thing is that they can see instantly, along with the rest of the class how they are getting on with meeting that target.

Depending on what interactive whiteboard board you use, you could even call upon the pupils to annotate or 'correct' the work they can see up on the screen.

This does work for all the pupils, they do all become more aware, (especially by seeing their own work and that of their peers regularly,) where their weaknesses lie - i.e. Punctuation missing - not enough adventurous vocabulary, capital letters missing, spelling mistakes etc...!

Fantastic!

Kenny Levack, Bordesley Village Children's Services. TLR manager Upper Key Stage 2

The ability to link computer and whiteboard and switch between each easily is good... What would be even better would be to be able to use the glass mode of the Easiteach software so to be able to write on the display projected by the visualiser on the IWB

Jason Hazrati, Heathlands at Townsend Asst. Headteacher

The ease of use of Genee Vision visualisers was commented on by a number of respondents.

It gives opportunities that no other ICT provision can, enabling teachers to enhance their teaching very easily and effectively. (Anonymous)

Opens up new opportunities for learning - comparable to when we first got a projector. It allows interactivity and encourages spontaneity.

It is plugged into a projector or IWB to produce a large image on screen: essentially a document camera with some enhanced features. Resolution is good enough to make even the tiniest print on a leaflet readable at the back of a classroom.

King Edward VI Grammar School has six visualisers in use across the Science, ICT and Modern Foreign Languages departments. The spontaneous use of visualisers is particularly prized: they can be used to respond to a question, suggestion or material produced by a pupil, a group or the whole class. In a Science class, for example, a pupil can bring in a picture or an article and share it with the whole class: scientific specimens can be brought in and displayed. Pupils also use the visualiser for their own presentations to the class.

In fact, materials can be displayed to the whole group for a number of purposes: exemplars of pupil work, the marking of sample work by the whole class, examination papers and answers on screen – the interactions between the work that is displayed, and the individuals in the class, produce a more objective response and supports learning.

Ray Le Couteur, Head of ICT, feels that

The essence is speed - you can switch between a pupil poster and a scientific sample in 10 seconds. So you can do things on the spur of the moment - e.g. quickly display a particularly good piece of work.

Interactivity/spontaneity is via what you do with the displayed material - the images themselves are passive (no difference between using just a projector and an IWB).

I intend to promote the visualiser on one of our training days and give examples of how they are used by me and get a few other enthusiasts to join in. I am sure we'll gain a few new converts. Gradually the word will spread. (My two great enthusiasms at the moment are visualisers and mindmaps!)

Ray Le Couteur, King Edward VI Grammar School. Head of ICT

I've used many types of visualizers and found that they are extremely beneficial for students with a wide range of skills (i.e. special needs and gifted). Multimodal learning and visualization are so important for every child. I particularly loved using the Proscope microscope with my students for science experiments.

Mechelle

Easy to adapt teaching and resources. Brilliant for pupil self and peer evaluation. Good for modelling and demonstration.

Sharon Campbell, Slade Junior and Infant School. ICT Coordinator

I didn't realise you could split the screen with a visualiser; or did you mean the whiteboard?

Margaret O'Brien, Thomas Deacon Academy. Lead Teacher ICT

The William Read Primary School uses visualisers in every classroom, in KS1 and 2. Teachers use them for English, Maths, Science, Design and Technology, History, Geography, Art and RE. *The visualiser has had a huge impact on teaching. It is a highly powerful teaching tool that provides the opportunity for immediate and effective feedback to pupils via peer and teacher evaluation of their work displayed on the visualiser. Texts can be shared and analysed more readily. The need for photocopying is greatly reduced and there is no longer a need to scan items ready for sharing. The zoom and freeze facilities are enormously valuable in areas such as Science e.g. the parts of a flower, seed dispersal. The split screen and mirror functions are also highly valuable in areas such as Maths and Art and Design.*

Pupils easily and quickly learn the different functions and use them for pupil led presentations. It has had a big impact on the standard of pupil presentations. Pupils are provided with the opportunity to view and evaluate their peers' work and compare it to their own and the success criteria during a lesson - something they couldn't do before.

Helen Ferguson, William Read Primary School. Advanced Skills Teacher

Our students need the visual to learn and this gives enormous impact straight away without having to pass round objects etc. Great idea.

Vannessa Moore, The Shrubberies Special School. Assistant Head

Has made the IWB an even more powerful tool

Beryl Lishman, Inglehurst Junior School. ICT Coordinator/SENCo

Very positive impact: great motivator, children love showing their work, and can be done quickly & easily. Capturing images isn't as good as I'd hoped - quality not good enough. And whole-class images always limited by projector - we've had lots of different projectors, the image of them all degrade very quickly, and they're so costly to replace. We've also had problems with the

Geneevision USB connection interacting with other USB devices (e.g. Promethean's ActiVote - we can't get them both to work on the same PC at the same time and it seems to be the Genevision which causes the problem.) But overall a visualiser is a great teaching tool.

Marion Shuttleworth, Waverley Abbey Junior School. ICT Coordinator

This is a great tool that impresses the kids. It is simple and easy to use without loads of training. We have used them very much more than interactive whiteboards. It is brilliant for showing pupils how to plot graphs or construct ray diagrams. In this role it saves a lot of walking around showing pupils the same thing on an individual basis.

Gareth Williams, Woodhouse Grove. Head of Science

I cannot say it has had a great impact yet as I don't know how to use all the functions. I am awaiting a the training persons to come in and do a training session with myself and other staff on how to use it.

Allows detail to be shown via IWB to be shown to whole class clearly. This includes samples, small scale science experiments and sharing of pupils' work.

I think it would have more impact if it were shipped with legible setup instructions and software with more functions.

This comment was from a teacher who had received no support in using the equipment.

The whole class can observe small scale demonstrations and individuals can show the class how they are performing operations. A powerful visual tool to assist non-verbal students.

The Beverley School for Autism caters for pupils from Key Stage One to post-16.
I work with Autistic Spectrum students, several of whom have complex and quite profound learning difficulties. Some are non- verbal and non-numerate and yet with appropriate communication aids can demonstrate skills in matching, sorting, selecting and sequencing. Frequently they show these skills using TEACCH materials, which allow them to move and organise photographs, pictures or symbols. Often, acquiring skills requires repetition. The Visualiser provides a unique opportunity to allow these students to demonstrate their skills with these materials publicly to each other. There is benefit from seeing others on a similar task (normally these are individual operations): accuracy of response increases as they watch each other perform. They also select and use scientific apparatus or assist in small-scale experiments that are then visible to the rest of the class (e.g. floating and sinking in a tank, constructing electric circuits).

The Visualiser has further value in that we can capture images of familiar 'real' objects and insert them into other resources. Obviously, there is no rocket science here. However, using the

Visualiser in this way seems to be a powerful reinforcer of learning and allows students to 'perform' in front of their peers – which is important to their social agenda, too.

Peter Ryles, Beverley School for Autism. Science Teacher

An OHP with much more functionality - fantastic teaching tool!

Jenny Griffiths, Northwick Primary School. IT Manager/Instructor

Leyland St. Mary's CTC use two Genee Vision visualisers in teaching Design and Technology. They have found them particularly useful in the teaching of electronics, engineering and graphics, enabling all the pupils in the class to focus on processes and their products. The visualisers have had a great impact on peer assessment and assessment for learning.

The visualisers have allowed processes to be demonstrated to whole classes. This has been of particular use in electronics, engineering and in graphics. The visualisers have also been of great value in sharing pupils' work with each other. This has been done effectively during whole school events, such as enterprise days etc. The visualisers are used to aid peer assessment where classes or year groups can comment on or view examples of individual or team work. This may be in the form of a product or design as well as written work.

On the enterprise event for example, pupils worked in teams and one of the tasks was for each team to create a team name and design a logo for their team. The pupils were in tutor groups, which were then split into smaller teams. The tutor groups evaluated the designs within their tutor group and voted the best through to the final. The year group was then brought together where all the finalist designs were shown to the entire year group via the visualiser. A similar method is used in lessons to facilitate AFL (Assessment For Learning) and in particular peer assessment.

Travall Towriess, Leyland St Mary's CTC. Director of Specialism

It allows me to share instantly with the class work they have been doing – allowing for instant feedback. (Anonymous)

Pupil Response

Is there anything else you would like to say about the visualiser?

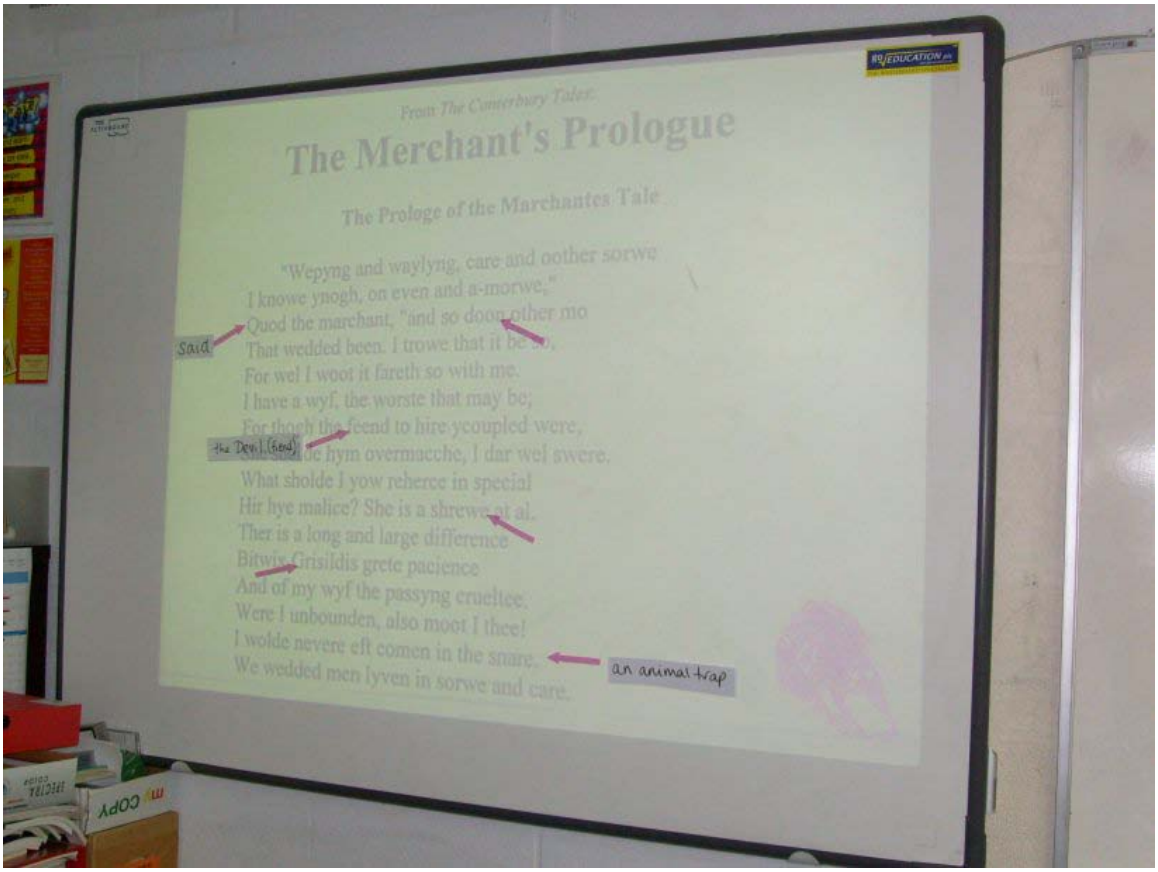
We use it for lots of lessons - we like it we would like one in our room all day. It shows us just what it is or what to do. You can see things clearly. We would like one in our room all the time.

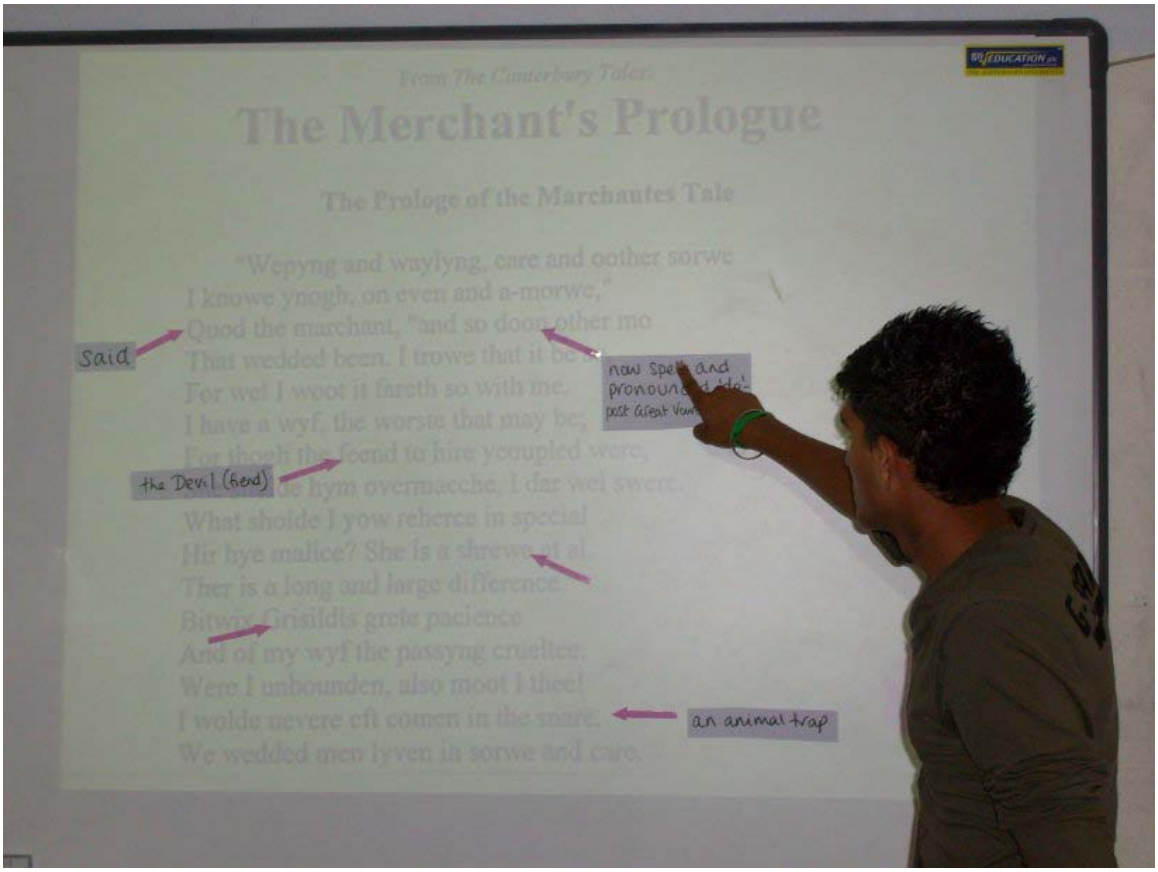
Genee Vision in use

Some images from schools

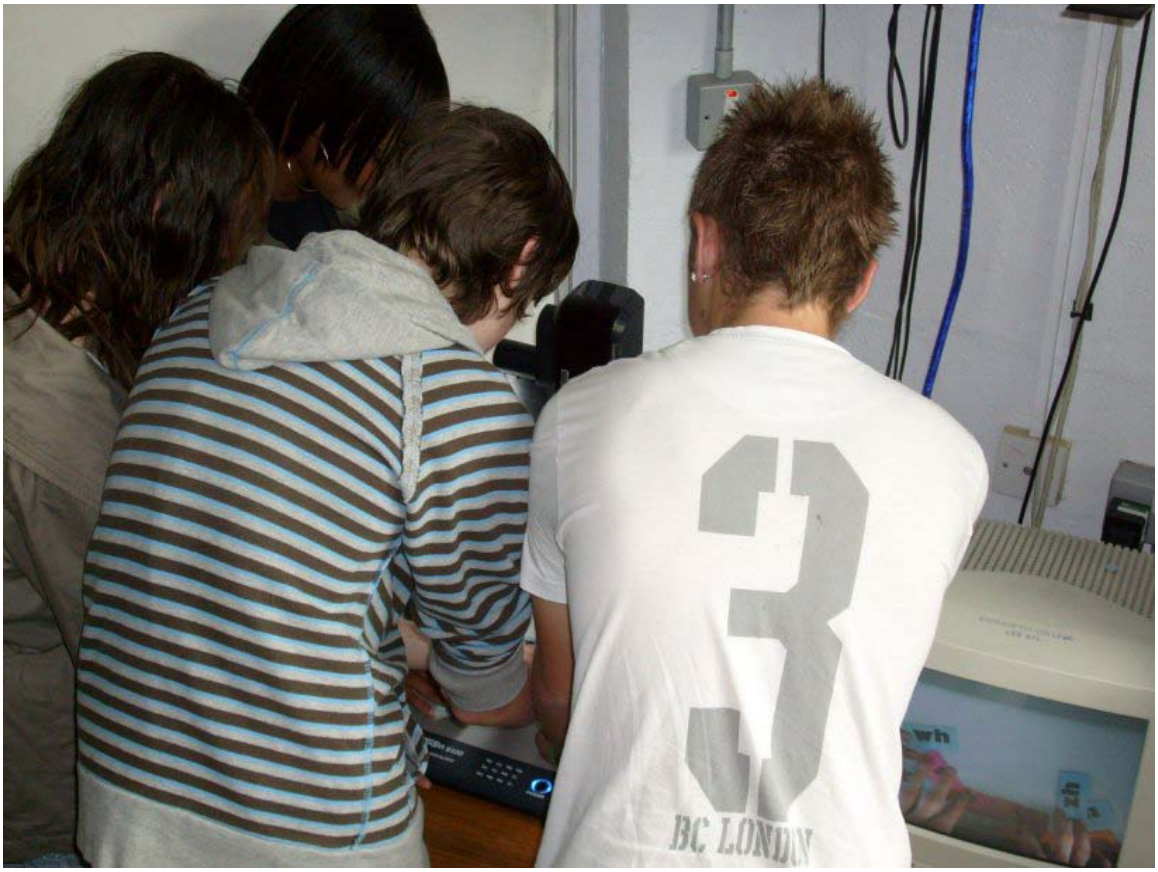
iMac

The Merchant's Prologue


From The Canterbury Tales:
The Merchant's Prologue
The Prologe of the Marchantes Tale
"Wepyng and waylyng, care and oother sorwe
I knowe ynogh, on even and a-morwe,"
Quod the marchant, "and so doon other mo
That wedded been. I trowe that it be so,
For wel I woot it fareth so with me.
I have a wyf, the worste that may be;
For thogh the feend to hire ycoupled were,
What sholde I yow reherce in special
Hir hye malice? She is a shrewe at al.
Ther is a long and large difference
And of my wyf the passyng crueltee.
Were I unbounden, also moot I thee!
I wolde nevere eft comen in the snare.
We wedded men lyven in sorwe and care.
Said
an animal trap


From The Canterbury Tales:
The Merchant's Prologue
The Prologe of the Marchantes Tale
"Wepyng and waylyng, care and oother sorwe
I knowe ynogh, on even and a-morwe,"
Quod the marchant, "and so doon oother mo
That wedded been. I trowe that it be so
For wel I woot it fareth so with me.
I have a wyf, the worste that may be;
For thogh the fiend to hire yeoupled were,
What sholde I yow reherce in special
Hir hye malice? She is a shrewe at al.
Ther is a long and large difference
And of my wyf the passyng cruelltee.
Were I unbounden, also moot I thee!
We wedded men lyven in sorwe and care.
Said
the Devil (fiend)
an animal trap

shrew (jruː) n 1 Also called: shrewmouse. any small mouse-like long-snouted
shrewd (jruːd) adj 1 astute and penetrating, often with
shrewdie ('jruːdɪ) n Austral. and N.Z. informal. a shrewd person.
shrewish ('jruːɪʃ) adj (esp. of a woman) bad-tempered and
shrew mole n any of several moles, such as Uropsilus soricipes of E Asia
shrewmouse ('jruːˌmaʊs) n, pl -mice. another name for shrew, esp. the
Shrewsbury ('jrəʊzbərɪ, -brɪ, 'jruːz-) n a town in W central England,
Welsh border; market town. Pop.: 90 900 (1991).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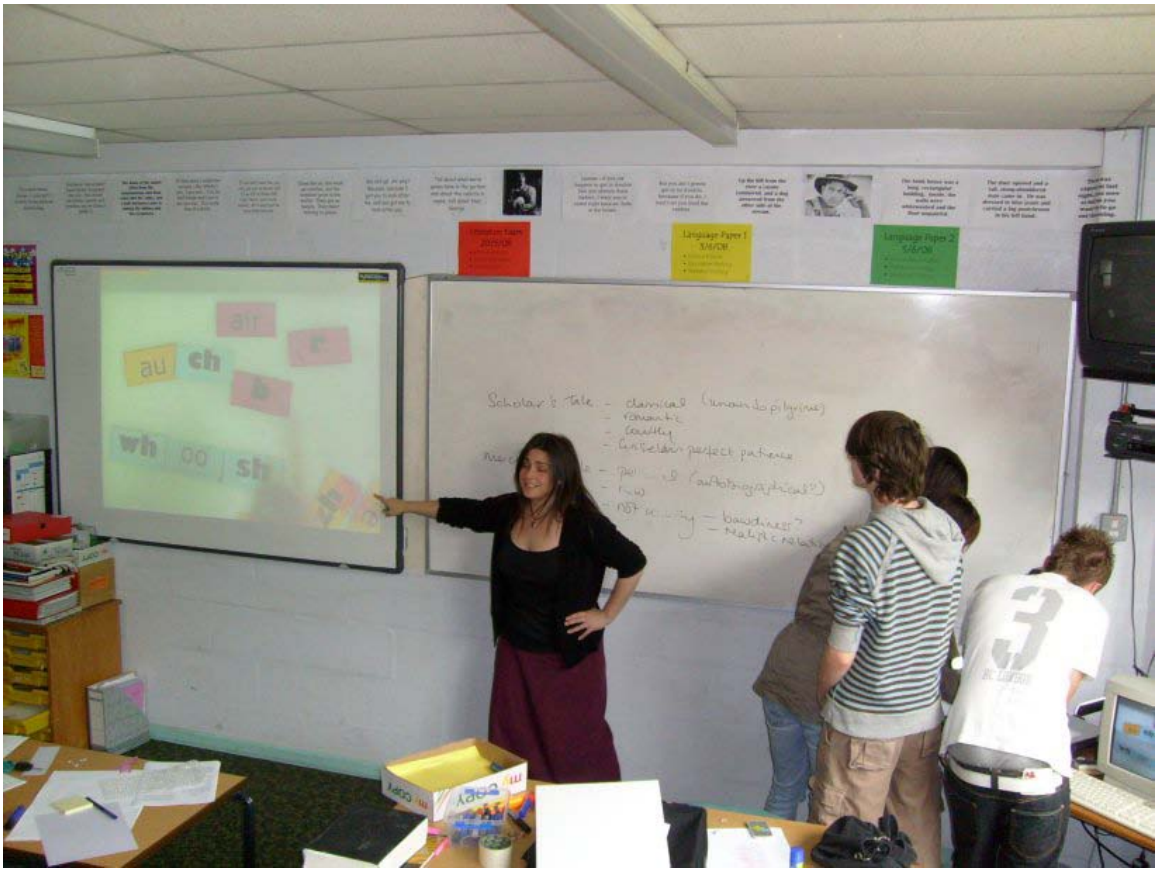
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Appendix One:

Genee Vision Questionnaires

Teacher Questionnaire

Personal details

Name: School: Position Email address:

May we have permission to quote your answers? The replies will be anonymous. Y/N

Key Stage(s) in which the Genee Vision visualiser is used: (you can select more than one option).

KS1 KS2 KS3 KS4 Post-16

How many Genee Vision visualisers does your school have?

I use the visualiser:

(You can choose more than one option)

In my classroom	In a colleague's room	In the ICT room	When I book it	When it's timetabled

Curriculum subjects for which the visualiser is used

How effective do you find the visualiser?

	Invaluable	Valuable	Of some impact	Of little impact	Of no impact
For demonstrating processes					
Showing detail to the whole class					
Presenting pupil work					
Integrating with other display technologies (IWB etc.)					
Binging creativity into the class					

I use the Genee Vision Visualiser for:							
Creating curriculum materials	Projecting images to the whole class	Recording images for future use	Distributing images for school use	Distributing images for pupil use	Individual- and small-group pupil use	Creating animations	Other

How long did it take to learn how to use the Genee Vision Visualiser?	An hour or less	Less than half a day	About a day	More than a day	I still haven't learned to use it properly.

How did you learn how to use and apply the Genee Vision Visualiser?:				
It's an intuitive system that tells you how to use it	I worked it out myself	I used the Genee Vision website	Interactive education gave us a demonstration	We had a demonstration in a CPD session

Which of the following resources did you use to assist your understanding of the Genee Vision Visualiser?				
Training	Manual	The Genee Vision user guide on the website	Interactive Education Support	Online case studies

Now that I am using it I find it	Invaluable	Valuable	Of some impact	Of little impact	Of no impact

The thing I find most useful is	Whole class display	Sharing pupil work	The storyboard software	The split screen	The zoom facility
Other (Please specify)					

Please use this opportunity to say what impact you feel the Genee Vision Visualiser has had on your teaching and your pupils' learning.

Appendix Two: emails to schools

Email 1: 16.06.08

Dear Colleague,

We understand that your school has purchased a Genee Vision Visualiser from Interactive Education Ltd. and is using it within the curriculum.

The MirandaNet Fellowship is about to undertake an evaluation of the Genee Vision Visualiser for Interactive Education Ltd., who would like to find out how all of its users integrate the technology into teaching and learning, how it links with other display technologies, how teachers and young people use it, and the ways in which it might have changed teaching approaches. Any other information would also be extremely useful.

We would be most interested in your feedback - and that of your pupils. To make this as simple as possible we've set up an online questionnaire at:

http://www.mirandanet.ac.uk/geneevision/teachers for teachers, and:

http://www.mirandanet.ac.uk/geneevision/pupils for pupils.

If you would like to collaborate further, or join the MirandaNet Fellowship, we would be delighted to hear from you.

My contact details are below, but you can also contact me at:

john.cuthell@mirandanet.ac.uk and at MirandaNet: http://www.mirandanet.ac.uk

Many thanks,

John

Dr. J. P. Cuthell
232A High Street
Boston Spa
Wetherby
West Yorkshire
LS23 6AD
+44 (0)1937 541015
0787 981 2004

Email 2: 16.06.08

Visual Learning: improving teaching and learning through the use of visualisers

We understand that your school has purchased a Genee Vision Visualiser from Interactive Education Ltd. and is using it within the curriculum.

The MirandaNet Fellowship has been approached to investigate the impact of Visual Learning in education, and in particular uses of the Genee Vision Visualiser. MInteractive Education Ltd. would like to find out how all of its users integrate the technology into teaching and learning, how it links with other display technologies, how teachers and young people use it, and the ways in which it might have changed teaching approaches. Any other information would also be extremely useful.

We would be most interested in your feedback – and that of your pupils. To make this as simple as possible we've set up an online questionnaire at:

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My contact details are below, but you can also contact me at:

john.cuthell@mirandanet.ac.uk and at MirandaNet: http://www.mirandanet.ac.uk

When the project is complete it will be available on the MirandaNet website.

Many thanks,

John

Dr. J. P. Cuthell

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+44 (0)1937 541015
0787 981 2004

© J. P. Cuthell PhD

Email 3: 23.06.08

How are you using your Genee Vision visualiser?

Dear Colleague,

We understand that your institution has purchased a Genee Vision Visualiser from Interactive Education Ltd. and is using it within the curriculum.

The MirandaNet Fellowship has been approached to investigate the impact of Visual Learning in education, and in particular uses of the Genee Vision Visualiser. MInteractive Education Ltd. would like to find out how all of its users integrate the technology into teaching and learning, how it links with other display technologies, how teachers and young people use it, and the ways in which it might have changed teaching approaches. Any other information would also be extremely useful.

We would be most interested in your feedback – and that of your pupils. To make this as simple as possible we've set up an online questionnaire at:

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http://www.mirandanet.ac.uk/geneevision/pupils for pupils.

If you would like to collaborate further, or join the MirandaNet Fellowship, we would be delighted to hear from you. Thank you if you have already completed the questionnaire. If another colleague would be better suited to answer the questionnaire, the please pass on this email to them.

My contact details are below, but you can also contact me at:

john.cuthell@mirandanet.ac.uk and at MirandaNet: http://www.mirandanet.ac.uk

When the project is complete it will be available on the MirandaNet website.

Many thanks,

John

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0787 981 2004

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Email 4: 25.06.08

Teaching and Learning: the Impact of Visualisers.

Dear Colleague,

Could you take a few minutes to let us know how you use visualisers in your school?
We understand that your institution has purchased a Genee Vision Visualiser from Interactive Education Ltd. and is using it within the curriculum.

We would be most interested in your feedback – and that of your pupils. To make this as simple as possible we've set up an online questionnaire at:

http://www.mirandanet.ac.uk/geneevision/teachers for teachers, and:

http://www.mirandanet.ac.uk/geneevision/pupils for pupils.

At the MirandaNet Fellowship we are investigating the impact of Visual Learning in education, and in particular uses of the Genee Vision Visualiser. Interactive Education Ltd. would like to find out how all of its users integrate the technology into teaching and learning, how it links with other display technologies, how teachers and young people use it, and the ways in which it might have changed teaching approaches. Any other information would also be extremely useful.

Thank you if you have already completed the questionnaire. If another colleague would be better suited to answer the questionnaire, the please pass on this email to them.

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John

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0787 981 2004

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Appendix Three

Schools responding

Acocks Green Primary School

Bellerive School

Beverley School for Autism

Bigland Green Primary

Bordesley Village Children's Services

Bristnall Hall Technology College

Campbell School

Duloe

Fens Primary School

Heathlands at Townsend

Holyhead School

Inglehurst Junior School

John Hampden Grammar School

King Edward VI Grammar School

Leyland St Mary's CTC

Macclesfield High School

Murrow Primary School

Northwick Park Primary School

Northwick Primary School

Radipole Primary School

Rivington and Blackrod High School

The Shrubberies Special School

Thomas Deacon Academy

Thornton Community Primary School

Waverley Abbey Junior School

William Read Primary School

Woodhouse Grove

Yarnfield Primary

There were three anonymous respondents

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Schools contacted

LICKHILL LODGE FIRST SCHOOL

HOLY TRINITY CE PRIMARY SCHOOL

WOODBRIDGE PRIMARY SCHOOL

WILSON STUART SCHOOL

WASHWOOD HEATH TECH COLLEGE

ELMORE GREEN JMI SCHOOL

CHASE TERRACE TECH COLLEGE

KERESLEY GRANGE PRIMARY SCHOOL

BRISTNALL HALL HIGH SCHOOL

THORNTON PRIMARY SCHOOL

FINSTALL FIRST SCHOOL

ST MARYS CATHOLIC PRIMARY SCHOOL

ALUMWELL JUNIOR SCHOOL

TIPTON GREEN JUNIOR SCHOOL

BISHOP CHALLONER SCHOOL

STEVENSON COLLEGE EDINBURGH

MATCHBOROUGH FIRST SCHOOL

SACKVILLE COMMUNITY COLLEGE

WOODBRIDGE PRIMARY SCHOOL

ROBERT CLACK SCHOOL OF SCIENCE

NEROCHE PRIMARY SCHOOL

KING ETHELBERT SCHOOL

ST CHRISTOPHER PRIMARY SCHOOL

CHASE SIDE PRIMARY SCHOOL

BRISTNALL HALL HIGH SCHOOL

ILMINGTON PRIMARY SCHOOL

MURROW PRIMARY SCHOOL

QUEENS SCHOOL

QUEENS SCHOOL

ST LEONARDS CE SCHOOL

FELMORE PRIMARY SCHOOL

THE KINGS SCHOOL

PARKVIEW SCHOOL

THE PLUME SCHOOL

FENS PRIMARY SCHOOL

HUNSBURY PARK LOWER SCHOOL

BIDEFORD COLLEGE

NORTHFLEET SCHOOL FOR GIRLS

BENFIELD SCHOOL

HIGHAM LANE SCHOOL

HABERDASHER'S AKSE'S HATCHAM COLLEGE

BENFIELD SCHOOL

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HIGHFIELD COMMUNITY SCHOOL

WHITEHILL JUNIOR SCHOOL

HOLYHEAD SCHOOL

OAKWAY JUNIOR SCHOOL

SUTTON COLDFIELD GRAMMAR SCHOOL FOR GIRLS

HONEYBOURNE FIRST SCHOOL

JOSEPH LECKIE TECH COLLEGE

CENTRAL NEWCASTLE HIGH SCHOOL

TIVILDALE HALL PRIMARY SCHOOL

PARK HALL JUNIOR SCHOOL

ST.PETERS RC PRIMARY SCHOOL

SOWERBY BRIDGE HIGH SCHOOL

PARKVIEW SCHOOL

ROBERT CLACK SCHOOL OF SCIENCE

HOLY TRINITY CE PRIMARY SCHOOL

SAINT MARY'S CEVA PRIMARY SCH

TOWERS SCHOOL

DR.CHALLONER'S HIGH SCHOOL

BARKING COLLEGE

COLLATON ST MARY C OF E (VA) PRIMARY SCHOOL

BIGLAND GREEN PRIMARY SCHOOL

TRURO COLLEGE

DEVONSHIRE JUNIOR SCHOOL

ST BENEDICTS RC HIGH SCHOOL

NORTHFLEET SCHOOL FOR GIRLS

MACINTYRE WINGRAVE SCHOOL

SHREWSBURY HIGH SCHOOL

THE FIRS SCHOOL

OAKHAM PRIMARY SCHOOL

SHIRELAND LANGUAGE COLLEGE

SEAHAM SCHOOL OF TECHNOLOGY

FAZEKERLEY HIGH SCHOOL

DORMANSLAND PRIMARY SCHOOL

TETHERDOWN PRIMARY SCHOOL

ST .CHRISTOPHER PRIMARY SCHOOL

HUNTINGTON SCHOOL

COLMORE JUNIOR SCHOOL

THE KINGSWINFORD SCHOOL

BICTON COLLEGE

ST AUGUSTINE'S CATHOLIC HIGH SCH.

ST MICHAEL'S PRIM SCH, ENFIELD

FIRTH PARK COMM. ARTS COLL.

BILLESLEY PRIMARY SCHOOL

IRTHLINGBOROUGH JUN SCH

UNIVERSITY OF MANCHESTER

SWANHURST SCHOOL

CHARLTON KINGS JUNIOR

WHITGIFT SCHOOL

BORDESLEY VILLAGE PRIMARY SCHOOL

TOTTINGTON HIGH SCHOOL

BROMLEY COLLEGE

BLACKPOOL & THE FLYDE COLLEGE

BORDESLEY GREEN GIRLS' SCHOOL

CWMTAWE COMPREHENSIVE SCHOOL

BORDESLEY VILLAGE PRIMARY SCHOOL

BARKING COLLEGE

GURU NANAK SIKH PRIMARY SCHOOL

DORMANSLAND PRIMARY SCHOOL

COLLEGE HEATH MIDDLE

PORCHESTER JUNIOR SCHOOL

FEATHERSTONE TECHNOLOGY COLLEGE

THANET COLLEGE

ST.IVES JUNIOR SCHOOL

DEVONSHIRE JUNIOR SCHOOL

ST.LUKES SCIENCE & SPORTS COLLEGE

WESTDALE JUNIOR SCHOOL

ACOCKS GREEN PRIMARY SCHOOL

BUCKLAND NEWTON PRIMARY

SWANHURST SCHOOL

ABACUS PRIMARY

SIR GRAHAM BALFOUR SCHOOL

WAVERLEY ABBEY C OF E (AIDED) SCHOOL

MANOR COURT PRIMARY SCHOOL

ST. LUKES SCHOOL

DUDLEY COLLEGE

SHERBOURNE SCHOOL FOR BOYS

ST MARY'S PRIM. SCH, BRIGHTON

LONGCROFT SCH & PERF ARTS COLLEGE

NORTHWICK PARK PRIMARY

ST JOHN RIGBY CATH. LWER SCH BEDFORD

THORNFORD CE PRIMARY SCHOOL

TRIMSARAN PRIMARY SCHOOL

ALLOA ACADEMY

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PENROSE SCHOOL

STANHOPE PRIMARY SCHOOL

TORQUAY BOYS GRAMMAR SCHOOL

SPINNEY HILL PRIMARY SCHOOL

EDGBARROW SCHOOL

HITCHIN BOYS' SCHOOL

CHERITONE FITZPANE PRIMARY

SAWYERS HALL COLLEGE

PARKLANDS PRIMARY SCHOOL

TOWERS SCHOOL

BLANDFORD ST MARY CE 1ST SCHOOL

ABINGTON HIGH SCHOOL

RADCLYFFE SCHOOL, OLDHAM

QUEENSBURY SCHOOL

CENTRAL NEWCASTLE HIGH SCHOOL

ST THOMAS AQUINAS CATHOLIC SCHOOL

WHITEHORSE MANOR JUNIOR SCHOOL

RADIPOLE PRIMARY SCHOOL

NEWBOROUGH PRIMARY SCHOOL

HOUNSLOW HEATH JUNIOR SCHOOL

DULOE CE VA JUNIOR & INFANT SCHOOL

WILLIAM READ PRIMARY

NEVILLE LOVETT COMM SCH

BABINGTON COMMUNITY COLLEGE

BROOKMANS PARK PRIMARY SCHOOL

ALDERSLEY HIGH SCHOOL

WAKEFIELD CITY HIGH SCHOOL

DUDLEY COLLEGE

SEATON PRIMARY SCHOOL

RIVINGTON & BLACKROD SCHOOL

BROADOAK COMMUNITY SCHOOL

PENWITH COLLEGE

COCKBURN COLLEGE OF ARTS

HANDSWORTH GRAMMAR SCHOOL

NORTHWICK PARK PRIMARY

CHURCH LANGTON CE PRIMARY SCHOOL

FELSTED SCHOOL

MACCLESFIELD HIGH SCHOOL

BARKING ABBEY SCHOOL

ROBERT MANNING TECH COLLEGE

ST THOMAS AQUINAS CATHOLIC SCHOOL

LEYLAND ST MARYS RC TECH COLLEGE

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BADGERBROOK PRIMARY SCHOOL

WRENS NEST PRIMARY SCHOOL

PRINCE HENRYS HIGH SCHOOL

WORLE COMMUNITY SCHOOL

CIRENCESTER COLLEGE

LIVINGSTONE PRIMARY SCHOOL

WHITGIFT SCHOOL

ELSTOW LOWER SCHOOL

ELBURTON PRIMARY SCHOOL

SOWERBY BRIDGE HIGH SCHOOL

BRISTNALL HALL HIGH SCHOOL

ROGER ASCHAM PRIMARY SCHOOL

DEANERY C.E.PRIMARY SCHOOL

WADEBRIDGE SCHOOL

MINISTER SCHOOL

ST THOMAS AQUINAS CATHOLIC SCHOOL

BATTLE HILL PRIMARY SCHOOL

DUNBURY CE VC SCHOOL

WHITBY HIGH SCH. ELLESMERE

EDGBARROW SCHOOL

UNIVERSITY OF BRISTOL

ST WILFRLDS YORK RC SCHOOL

STANDISH COMMUNITY HIGH SCHOOL

LOTHINGLAND MIDDLE SCHOOL

HOLY CROSS CATHOLIC PRIMARY SCHOOL

YARNFIELD PRIMARY SCHOOL

TUNBRIDGE WELLS GS FOR BOYS

BEDFORD HIGH SCHOOL

THORNFORD CE PRIMARY SCHOOL

ST PAULS CE PRIMARY SCHOOL

WILLIAM READ PRIMARY

CROSSHILL SPECIAL SCHOOL

OUR LADY OF FATIMA SCHOOL

BROOKFIELD COMMUNITY PRIMARY SCHOOL

RICKMANSWORTH PARK JUNIOR AND INFANT SCHOOL

MERE GREEN COMBINED SCHOOL

CRAIGCEFNPARC PRIMARY SCHOOL

HALL GREEN SECONDARY SCHOOL

GOFFS OAK PRIMARY SCHOOL

HARGATE PRIMARY SCHOOL

EDGEHILL COLLEGE

ST. LUKES SCHOOL

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TURNFURLONG JUNIOR SCHOOL

JOHN HAMPDEN GRAMMER SCHOOL

ALBANY SCHOOL

FEATHERSTONE TECHNOLOGY COLLEGE

CARDINAL NEWMAN RC COMPREHENSIVE SCHOOL

VYNERS SCHOOL

WHEATCROFT SCHOOL

WALLACE HIGH SCHOOL

ALVA ACADEMY

THE LEIGH TECHNOLOGY ACADEMY

LILLINGTON COUNTY PRIMARY SCHOOL

NORTON CP SCHOOL

FEATHERSTONE PRIMARY & NURSERY

TIVIDALE COMMUNITY ART COLLEGE

BEVERLEY SCHOOL

DEVONSHIRE JUNIOR SCHOOL

FERNDALE COMMUNITY SCHOOL

SS OSMOND & ANDREWS RCP SCHOOL

HEATHLANDS AT ST LUKES'S

NORTHFLEET SCHOOL FOR GIRLS

HIGHWORTH GRAMMAR SCHOOL

MILTON HALL PRIMARY SCHOOL

HITCHIN BOYS' SCHOOL

SHUBBERIES SCHOOL

LEIGHTON PARK SCHOOL

STIMPSON AVENUE PRIMARY SCHOOL

BOLTON COMMUNITY COLLEGE

BEDWAS HIGH SCHOOL

ST AMBROSE BARLOW RC HIGH SCHOOL

WINTERTON COMPREHENSIVE SCHOOL

WEMBLEY PRIMARY SCHOOL

RIVERSIDE COMMUNITY COLLEGE

RUSHMERE HALL PRIMARY SCHOOL

MOSELEY C OF E PRIMARY SCHOOL

SLADE JUNIOR INFANT & NURSERY SCHOOL

PAGET PRIMARY SCHOOL

HARRIS MIDDLE SCHOOL

PRIORS WOOD PRIMARY SCHOOL

HOLLY LODGE HIGH SCHOOL

BRITANNIA COUNTY PRIMARY SCHOOL

OUR LADY OF FATIMA SCHOOL

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WESTWOOD COMMUNITY JUNIOR SCHOOL

THOMAS ALLEYNES SCHOOL

GLEBE PRIMARY SCHOOL

ROUNDWOOD PRIMARY SCHOOL

LCC INGLEHURST JUNIOR SCHOOL

SAUNCEY WOOD PRIMARY SCHOOL

ST JAMES CE PRIMARY SCHOOL

DEANERY C.E.PRIMARY SCHOOL

ST BERNARDS CONVENT SCHOOL

BILBROOK MIDDLE SCHOOL

ST PHILIP'S C OF E PRIMARY SCHOOL

CLUNBURY CE PRIMARY SCHOOL

ABBEY PARK PRIMARY SCHOOL

WOOD GREEN JUNIOR SCHOOL

SALUSBURY PRIMARY SCHOOL

ST FRANCIS SPECIAL SCHOOL

GREENHILL COMMUNITY PRIMARY

CLEVELAND JUNIOR SCHOOL

DR.CHALLONER'S HIGH SCHOOL

WOODHOUSE GROVE SCHOOL

ST PAULS CHURCH OF ENGLAND SCHOOL

BRUNSWICK PARK PRIMARY SCHOOL

ALDERCAR INFANT SCHOOL

SOUTH TYNESIDE COLLEGE

BELLERIVE CATHOLIC COLLEGE

HOLGATE COMPREHENSIVE SCHOOL

YEADING JUNIOR SCHOOL

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