

BBC Digital Curriculum

Proof of Concept

Summary of Results

BBC
June 2002

- This document lays out the results of the Digital Curriculum Proof of Concept, undertaken between April 22nd and May 17th 2002
- It outlines the objectives of the Proof of Concept, and shows the key findings from the information collected from the teachers and students involved
- The process of developing and providing the Proof of Concept also informed the development of the BBC's proposal for the Digital Curriculum and gave assurance of its deliverability operationally, technically & financially
- The results strongly demonstrate that the proposition is effective in practice with the pedagogical approach being recognised as valuable and the functionalities offered by the pilot Virtual Learning Environment working well with the key audience groups
- We have also received suggestions of how the proposed service could be improved, although none of them necessitate any alteration to fundamental aspects of the proposal. The headline themes are included in this paper

KEY MESSAGES

- Overall, students were enthusiastic towards the service, with the vast majority believing it to have a beneficial effect on their ability to learn and grasp concepts
- It was found to be a particularly engaging resource, motivating pupils to study and having a positive impact on those disenfranchised with the learning process
- The majority of teachers responded positively to the service. Most found it offered a style of learning that could fit in with their normal classroom practice. Others were less positive about this, with the shortness of the trial a potentially influencing factor
- The resources were believed to offer a close match to the curricula of each of the Nations
- The functionality proposed to be offered by the Virtual Learning Environment (VLE) was found to be useful, allowing the teachers to obtain considerable value from the service
- A number of teachers were initially daunted by the VLE, but the benefits of the system rewarded their persistence. This highlights the important role training and support would play
- The Proof of Concept confirmed that the service could effectively be run across a variety of network architectures and accessed through different operating systems. The helpdesk support was particularly valued by the teachers.

OBJECTIVES

The Proof of Concept was undertaken to assist in the development and to assess the effectiveness and deliverability of the BBC's proposal for the Digital Curriculum

Objectives of the Proof of Concept

- To enable the BBC to determine that:
 - the new service model would be effective and deliverable in practice
 - the functionalities that would be offered by the VLE application would work with different audiences
 - the new pedagogical approach and types of content would be effective when presented through this proposed VLE interface
 - all aspects of the proposed service would work effectively

- At a detailed level these objectives translated into assessing the following aspects of the Proof of Concept
 - Testing the resources*
 - To test resources against teaching effectiveness, differentiation, student response and match with classroom practice

 - Testing the content structure*
 - The objectives were designed to determine the success of the proposed content structure in each nation and the match with their curricula requirements

 - Testing the service functionality*
 - To test the functionality proposed for Virtual Learning Environment application, in particular those functions that allow teachers to develop lessons and assign them to groups and allow students to interact with the content

TRIAL METHODOLOGY

Which schools were involved in the Proof of Concept?

- Twenty-three schools were involved, consisting of 2 primary and 2 secondary schools from each of the 4 Nations, plus seven additional schools connected to a broadband network in England
- The schools were selected to cover a broad socio-economic demographic
- The IT sophistication of the schools also varied widely and the service was delivered using three separate models: as a standalone system, plugged into the school intranet, and as a full online solution

What were the schools provided with?

- Roughly half a terms material was provided for each of Y1 Numeracy, Y5 Literacy and GCSE Maths (or the equivalent for each of the Nations)
- The materials were used in schools for two weeks (although teachers had the materials for longer than this for familiarisation purposes)

What instruction and support was given to the schools?

- BBC Education Officers in each nation delivered half a day of training for each school and provided ongoing support throughout the Proof of Concept
- Teachers were also provided with a hand guide cataloguing the available resources
- In addition, teachers could make use of a helpline, open from 08:00 - 17:30 every day of the trial

How was the response to the trial collected?

- Teachers were asked to provide daily written feedback (via templates) on lesson and resource usability
- At the end of the pilot they were also asked to fill in questionnaires on the content and the VLE functionality
- This data collection process was supplemented by observational visits by BBC Education Officers and BBC production team members
- In total, 365 questionnaires were received in time to inform the analysis contained in this document.
- As part of a separate process, the University of Durham were commissioned to undertake an independent study of the success of the trial

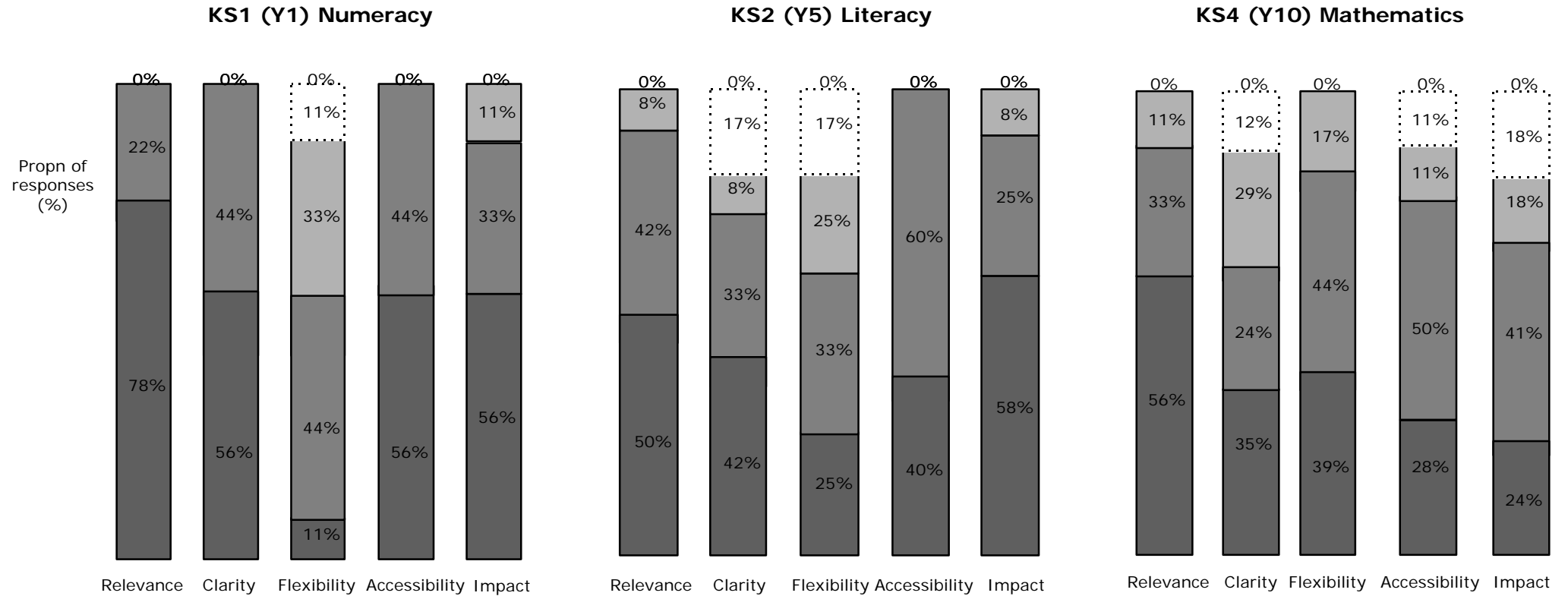
How is success being defined?

- In the questionnaires, respondents were asked to rate each aspect of the service on a scale of 0-4
- A score of 2 and above indicates that the respondent found the aspect at least satisfactory and has been taken as our success benchmark

CONTENT

OVERALL RESPONSE

Overall, the vast majority of teachers found the resources relevant, clear, flexible, accessible and effective. However there is still room for improvement, particularly in the flexibility of the numeracy and literacy resources

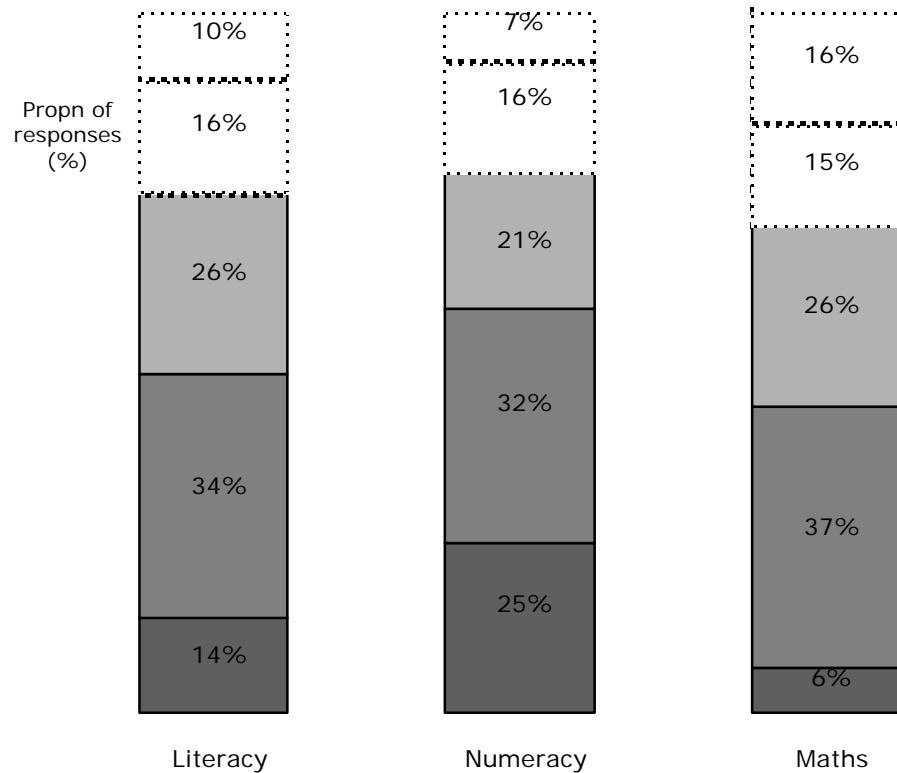


Key



Three quarters of the resources used were effective at improving students' level of understanding.

How effective were the resources at improving the students' level of understanding?



- **Students believed the resources improved their ability to learn**

“You don’t realise you’re learning – you’re enjoying it and then at the end, you realise just how much you’ve learnt”

English Literacy student

“Using the service made it interesting to learn. I liked the trigger game - you had to think quick and the ideas stayed in your head”

Maths student, N Ireland

- **Teachers also saw value in the service as a supplementary resource to their current teaching methods**

“The resources appeared to raise the attainment levels of the pupils”

Secondary teacher, Maths, Scotland

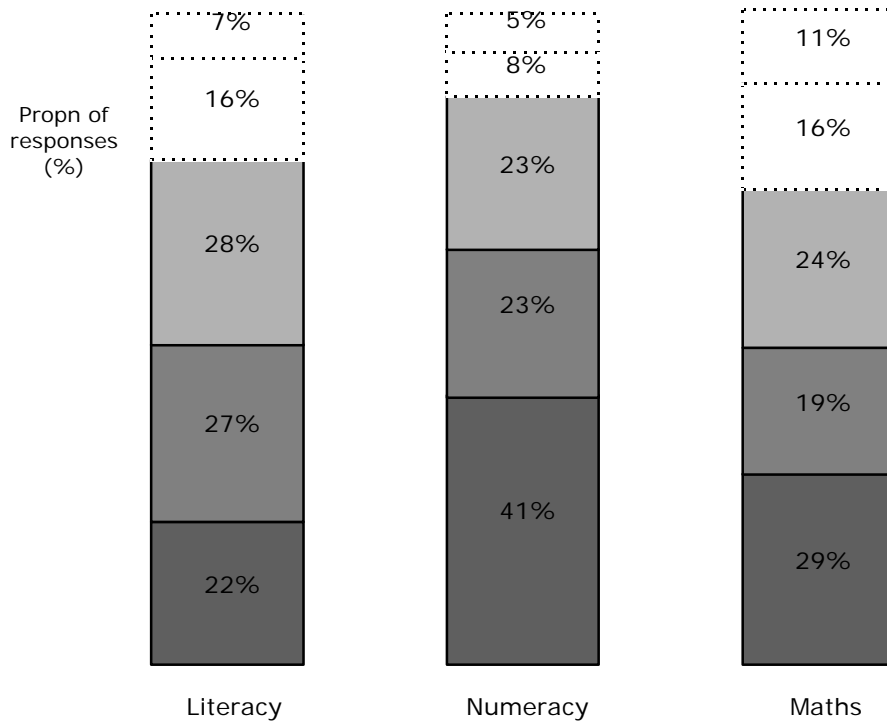
“We’ve covered a lot more than we would have done using traditional paper-based methods”

Primary teacher, Literacy, England

- **Some of the resources were seen as less valuable, particularly those predominantly text-based resources in the Maths portfolio**

Many of the materials were effective at allowing students to learn independently. Providing tighter controls within the resources would provide further improvements

How effective were the resources in supporting independent learning?



- **The service gave students the chance to learn at their own pace**

“I now understand the hypotenuse – the teacher tries to go slowly but I could go back with this until I understood it”
 Secondary Maths student, Scotland

“The children appreciated the interaction [provided by the service] and coped very well getting from one area to another. They were in control”
 Primary teacher, Literacy, Wales

- **This allowed teachers to refocus their time towards helping those who needed it most**

“Usually I spend the first 5 minutes giving out books etc. When I got to the classroom they were already 5 minutes into the lesson”
 Secondary school teacher, Maths, Scotland

“Once the children had grasped it, they could get on with the activities unassisted, allowing me to concentrate on the less able children”
 Primary teacher, Numeracy, England

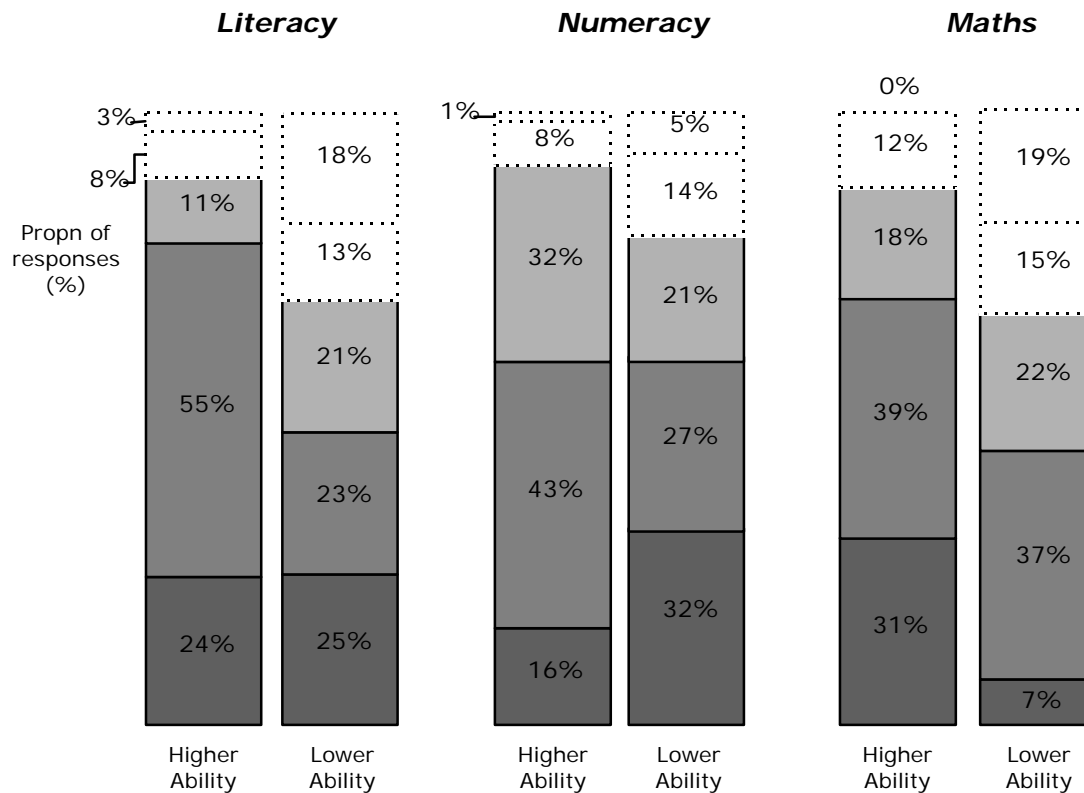
- **Feedback suggested that the ability of the service to support independent learning could be improved if the resources were designed so that pupils had to fully complete them before being allowed to exit**

Key



Many of the resources were recognised as valuable for supporting a mixed range of abilities, but it is clear that greater differentiation would be required, particularly in order to support lower ability students

How effective were the resources in supporting higher and lower ability groups?



- There were clear examples that the structure of the resources supported learning at both ends of the spectrum

“Tasks are well pitched and maintained children’s interest irrespective of their ability”

Primary teacher, Literacy, England

“The ability to structure activities to suit the needs of groups was particularly valuable. It allows students to develop skills in a non-threatening manner”

Secondary Maths student, Scotland

- However, wider differentiation is required, particularly for lower ability children

“It would be good if the numeracy games could be designed to further stretch the higher ability pupils”

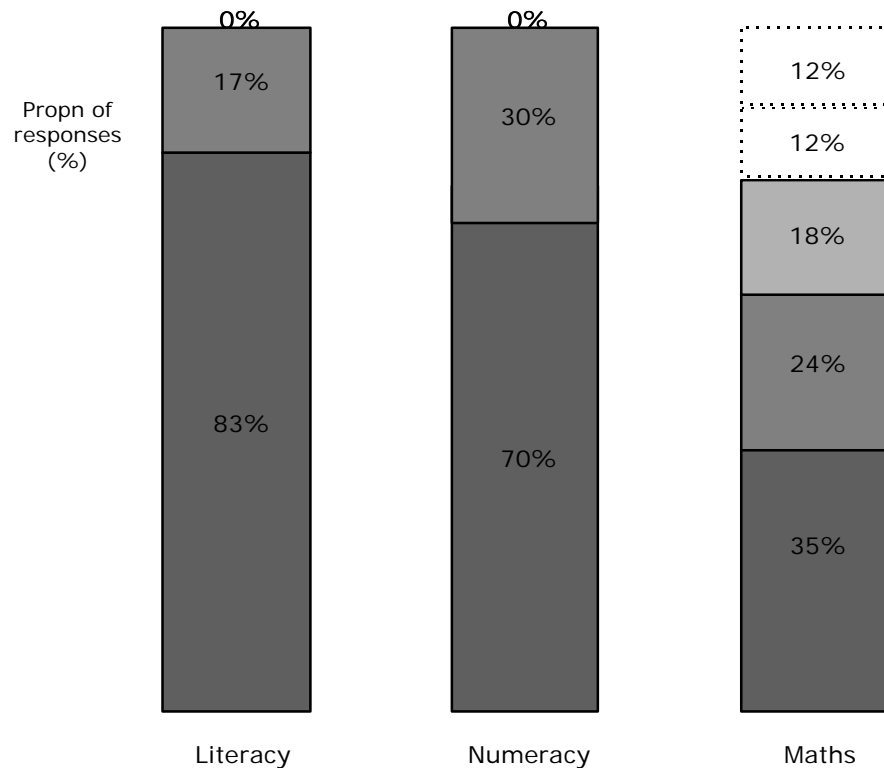
Primary teacher, Numeracy, Scotland

“It would be good to have some more resources targeted at less able pupils”

Secondary teacher, Maths, England

The primary content was found to be very effective at motivating the students. A similar result was achieved at secondary level, but some resources were found to be too text-based and others were not quite pitched at the correct age range

Was the content motivating enough to be used regularly?



- The service had a major effect on the motivation levels of the pupils

“If only our language lessons could be like this every day”
 Primary pupil, Scotland

“My pupils stayed in over lunchtime to use the service – if only I could get them to do that normally!”
 Primary teacher, Literacy, N Ireland

- It was effective at engaging disenfranchised pupils back into the learning process

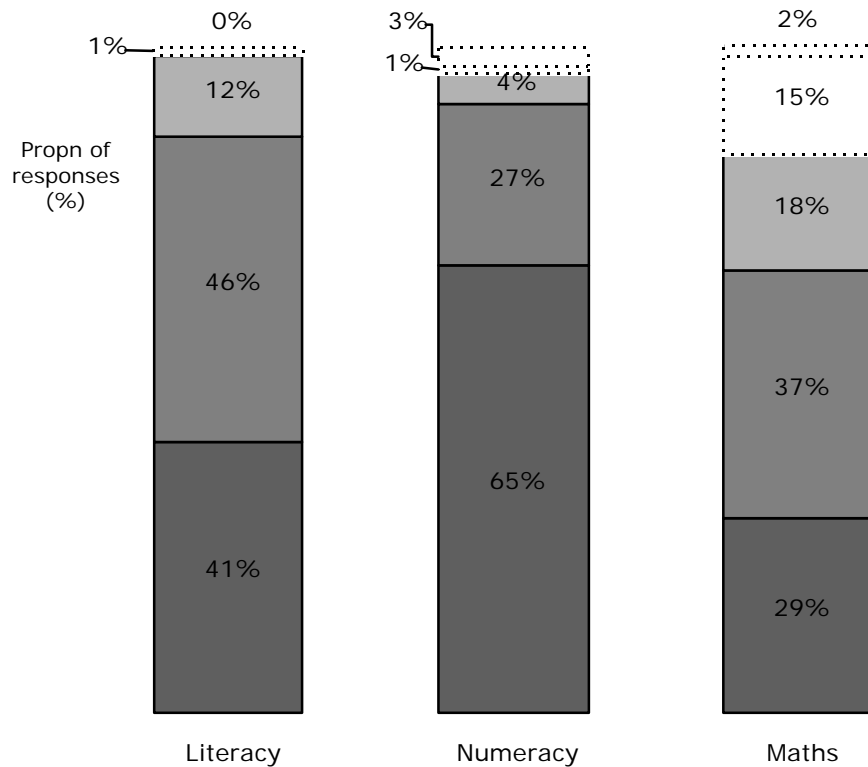
“Even pupils who are generally disinterested in everything, including computers, found the lesson interesting and challenging”
 Secondary teacher, Maths, Scotland

“The children’s behaviour was better and individuals remained motivated despite having to share computers – not an easy task!”
 Primary teacher, England

- Some Maths resources could have been made more motivating by improving their level of interactivity and pitching them more accurately at the target age group

The look and feel of the content made it appealing to the users. Students were keen to offer further advice in how the design could be further enhanced

How appealing was the look and feel of the resources?



Key



- The style of the content was received enthusiastically by the pupils

“I thought the graphics of the system were good. I thought the ideas used were helpful and an easy way to learn Pythagoras”
 Secondary maths student, N Ireland

“I liked the colours and sounds associated with the programs”
 Secondary maths student, N Ireland

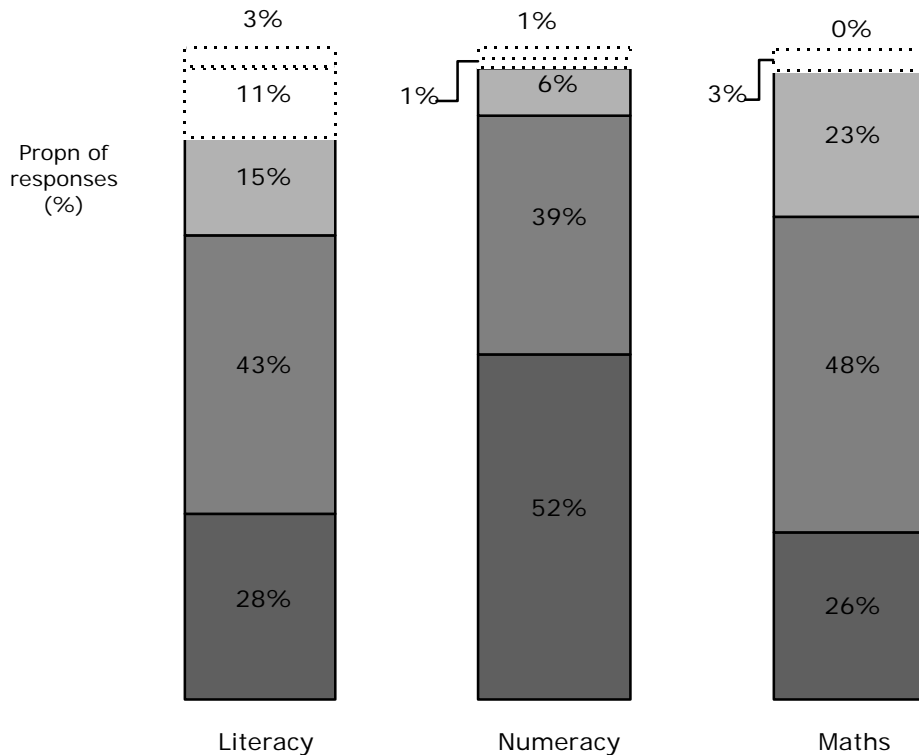
- These positive sentiments were echoed by many of the teachers

“It is wonderful to have such colourful visual tools to approach Maths. It is an excellent resource for both the children and the teachers”
 Primary teacher, Numeracy, Wales

- Pupils had a number of suggestions as to how the design could be further improved. These included:
 - using bolder fonts
 - making better use of sound
 - having a more welcoming and friendly home page

On the whole, the resources provided a close match to the curricula of each of the Nations, allowing the learning outcomes in question to be effectively delivered

How closely did the resources match with the curriculum?



- **Positive feedback has been received across the Nations regarding the appropriateness of the material**

“The content is relevant to curriculum needs. It allows for sufficient choice and revision across a year”

Primary teacher, Literacy, England

“It’s good to have software that supports the Scottish curriculum”

Secondary teacher, Maths, Scotland

“Content was attractive and appropriate both to teachers and pupils”

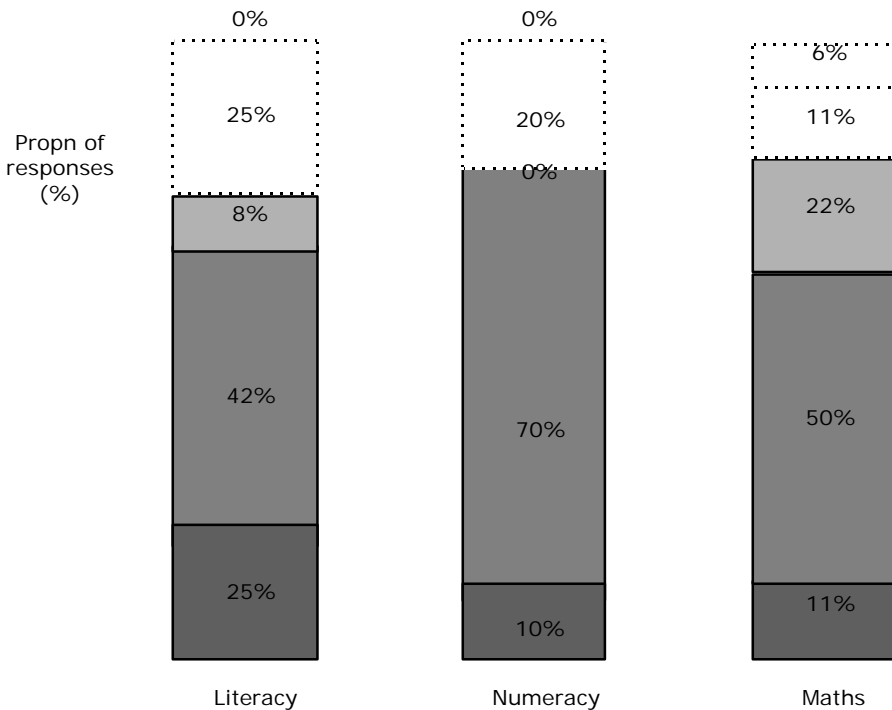
Primary teacher, Numeracy, N Ireland

Key



There was clear evidence that the materials provided were sufficiently flexible to fit in with the varying styles of many of the teachers. However it would be likely to take longer than the two weeks of the pilot for teachers to fully incorporate the new style of teaching offered into lessons

Did the types of resources on offer provide a style of learning that could fit in with your normal classroom practice?



Key



- The range of resources offered meant they could be used to accommodate a variety of teaching styles

“The resources provided very good supplementary activities to vary teaching approaches and provide those children whose learning styles differ with a much more interactive model”

Primary teacher, Scotland

“The resources could be used in a range of contexts depending on a school’s ICT set up, and fitted well into the Numeracy hour”

Primary teacher, England

- There was also a recognition that teachers would take time to get full value out of the service

“The service will make new and different demands on many teachers and it will take time for it to be utilised to its full potential”

Secondary teacher, N Ireland

SERVICE DELIVERY

The process of creating and delivering the service provided key insights into how the service could be most effectively delivered

- The development of the proof of concept provided significant insights that assisted in the development of the BBC's proposition for the Digital Curriculum.
- As with all new applications, there were technical issues in distributing the service to and within the schools. However, it is clear from the Proof of Concept that the fundamental aspects of the BBC's proposal are sound. The feedback provided additional insights into:
 - Capability of existing school infrastructure;
 - Appropriate base specifications/technical standards;
 - Designing the system to allow it to be effectively accessed by users with differing operating platforms and browser versions;
 - Overcoming the problems that will be encountered when making the system compatible through a variety of network architectures,
- There was positive feedback in relation to the level of the support offered to the teachers. Teachers found the initial half-day training useful and the helpdesk particularly useful.

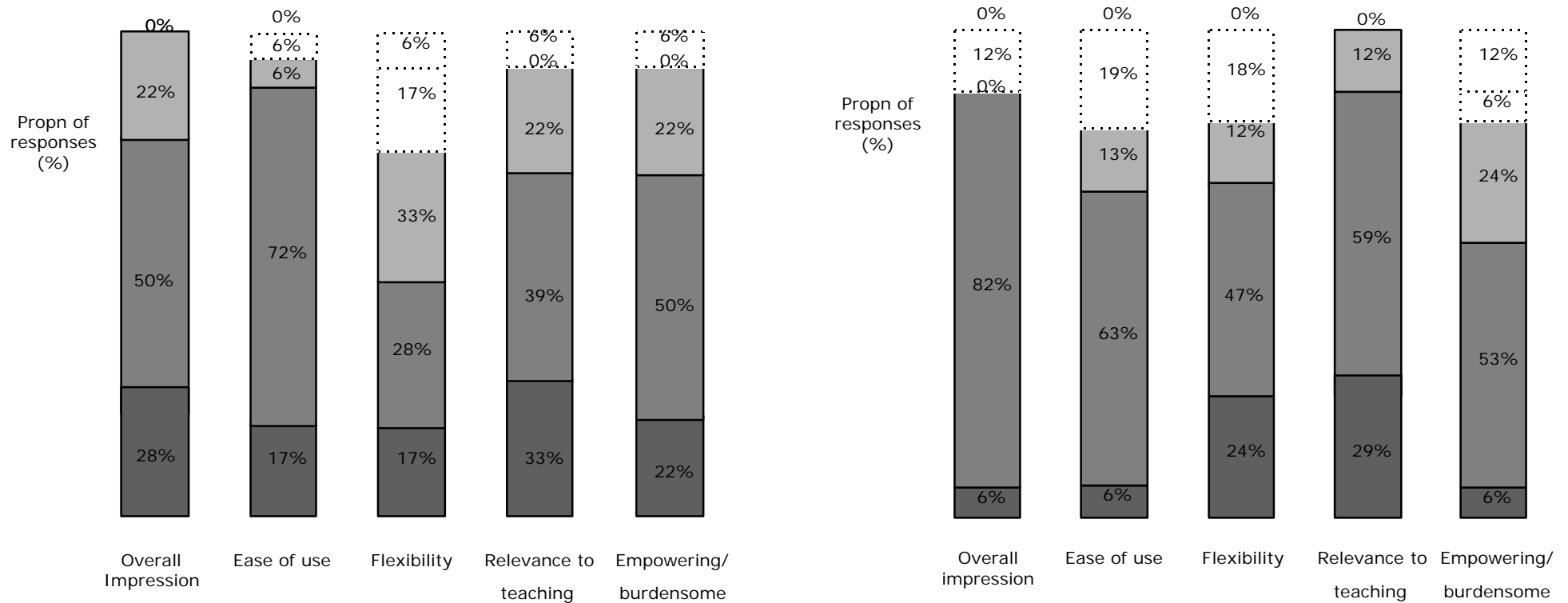
THE PILOT VLE

OVERALL RESPONSE

The pilot VLE made a positive overall impression on the majority of teachers, being seen as a tool that was empowering and relevant to teaching practices. However, improvements would need to be made to improve the ease of use of the system to make it more flexible and user friendly

Primary schools

Secondary schools

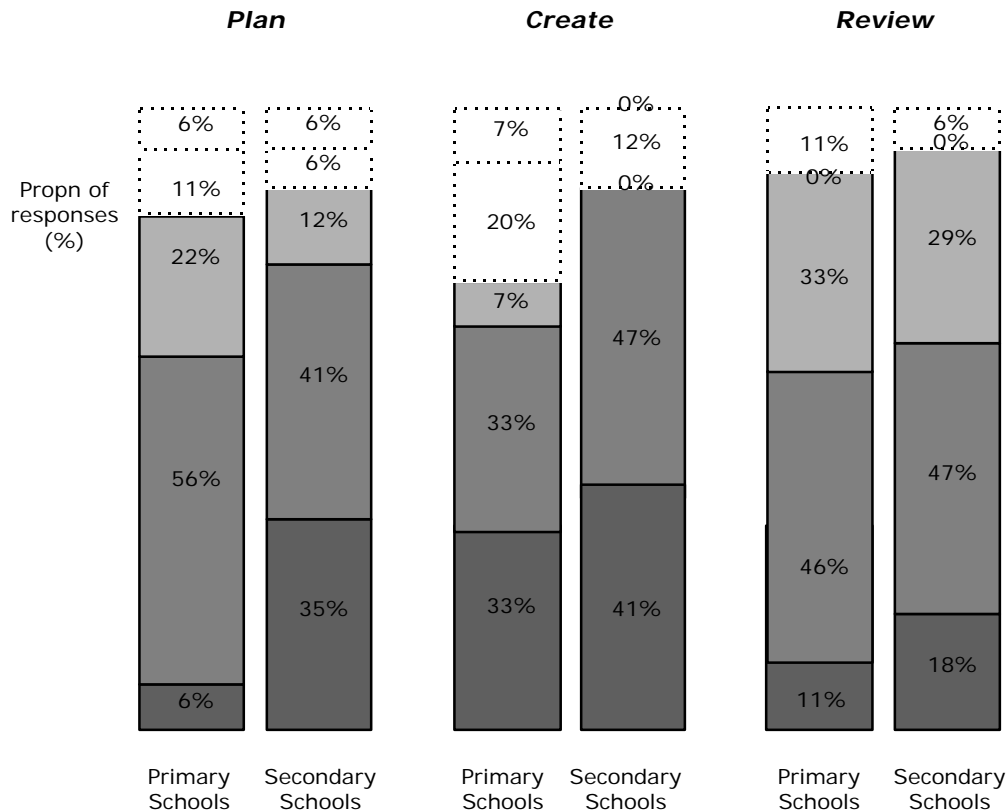


Key



Many teachers found it easy to plan, create and review lessons, particularly at secondary level, although it appears that the functions could become more accessible if they were simplified

How easy was it to plan, create and review lessons using the pilot VLE?



- Many teachers found the pilot VLE functionality valuable in tailoring the service to their requirements

“I found it an essential tool to structure lessons for different classes and groups”

Secondary teacher, Maths, Scotland

“The VLE was very suitable and the advance planning functionality was very much essential”

Primary teacher, Wales

“The flexibility allowed me to meet the needs of my different classes”

Secondary teacher, Maths, Scotland

- Some less computer literate teachers took some time to get used to the functionalities, an issue that could be addressed by further support

“The tool was initially a bit daunting, but got easier over the course of the trial”

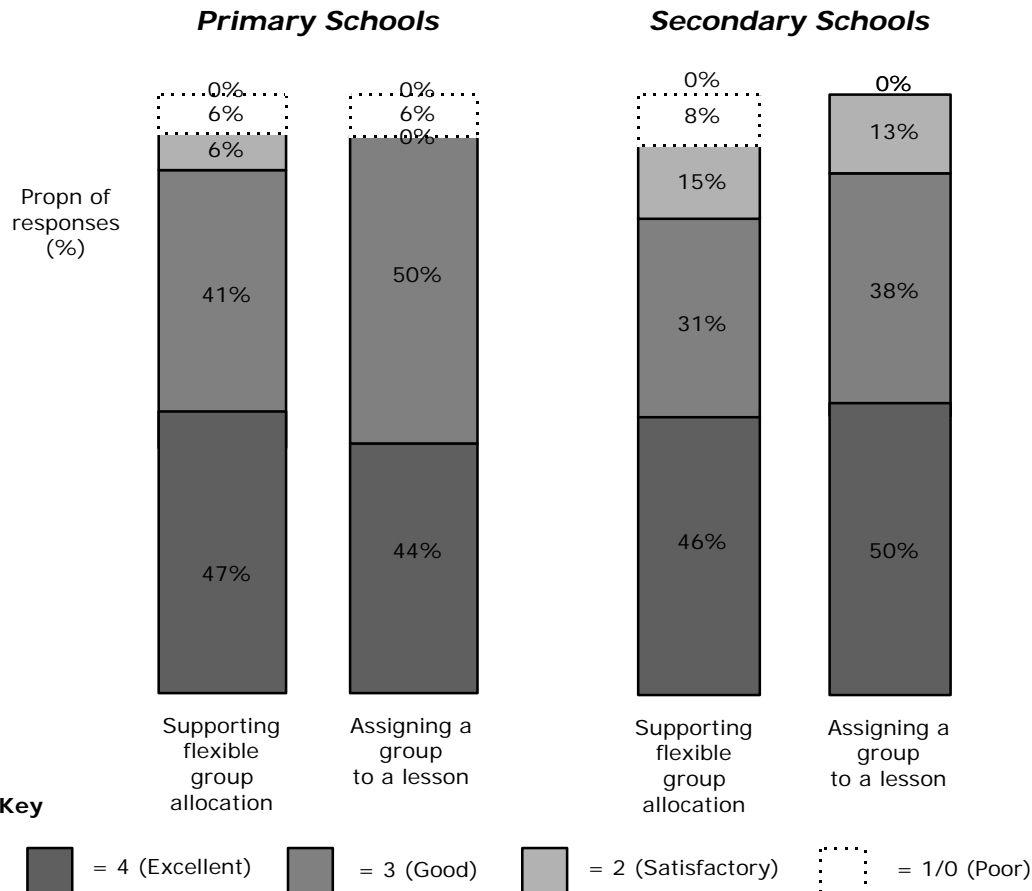
Primary teacher, England

“Knowing there was help at the end of a phone was reassuring”

Secondary teacher, Wales

The pilot VLE was effective at facilitating the process of building student groups and assigning each of them individualised lessons

How effective was the system in allowing you to build student groups and assign lessons to them?



- Overall, building and assigning work to groups was viewed as a useful and fairly simple activity

“The Group Builder facility was simple to use. I did not have cause to alter any groups during the trial, but suspect that this would not be problematic, given the ease of assigning groups in the first place”

Secondary teacher, Maths, England

“The Group Builder function worked well. Things did initially take a little time, but adjustments were easy to make and naming was easy”

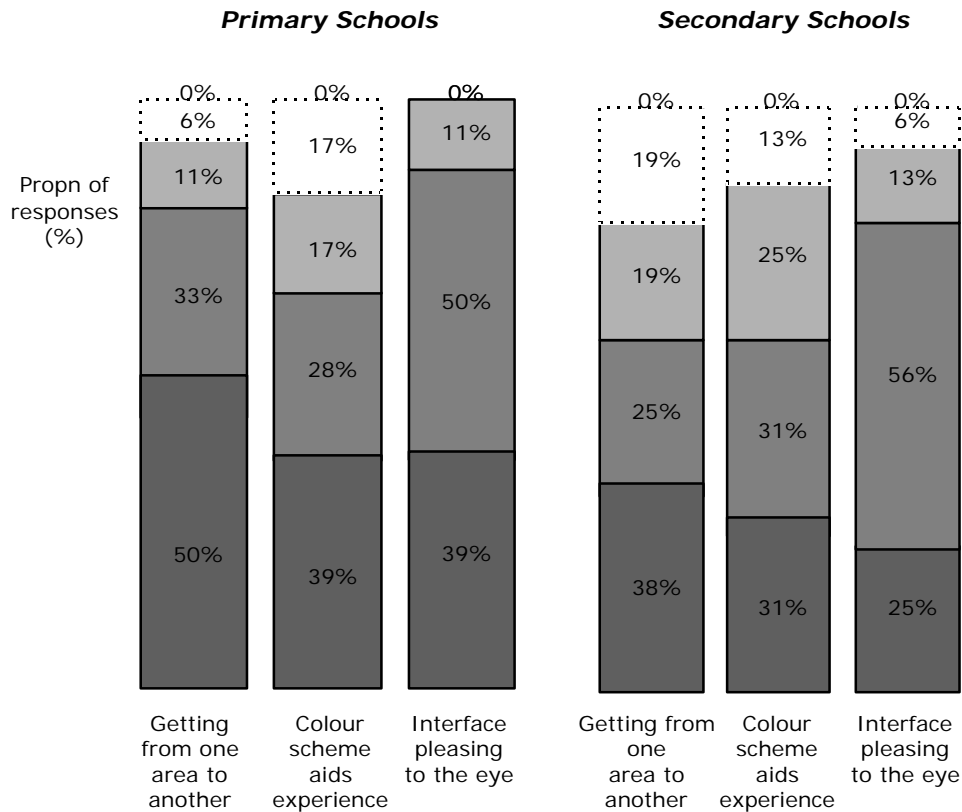
Secondary teacher, Maths, England

“It made classroom management a lot easier. I could assign appropriate work to pupils according to a) their level of ability and b) the groups that were already set up in the class”

Primary teacher, Literacy, N Ireland

The layout and look & feel of the pilot VLE interface made the service look attractive, but the colour scheme could maybe have been used to better effect and the overall navigation simplified

How did the design of the system contribute to the overall experience of the service?



▪ **Students enjoyed the look and feel of the system**

“The VLE really empowered the children to learn”

Primary teacher, Numeracy, Wales

“It’s a good overall look on the screen. It looks modern and user friendly, and the colour scheme appealed to the students”

Primary teacher, Literacy, Scotland

▪ **The interface also helped teachers obtain the maximum value from the service**

“The top-level navigation was intuitive and user-friendly. Terms like ‘Group Builder’ and ‘Planner’ are clear and immediately useful”

Secondary teacher, England

“The terminology used reflected familiar processes within each function”

Secondary teacher, England

▪ **Details of the design were highlighted as issues, suggesting the service would have benefited from more extensive user testing**

“Sometimes it was difficult to read the instructions due to the colour scheme”

Secondary teacher, N Ireland

“The toolbar could be clearer – the pupils couldn’t work it out”

Secondary teacher, Wales

Key

