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Title: Developing Keyboard Skills in Reception Children
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As a reception teacher and a full-time nursery nurse working as classroom assistants at Hunwick Primary School we decided to look at the development of children's keyboard skills and what affects their learning related to using keyboards. The school is a village school catering for pupils with a wide variety of abilities and socio-economic backgrounds. The school caters for children from 4 to 11 years of age. There are currently just under 180 pupils on roll in the Primary School in six classes, with key stage 1 organised in whole classes and key stage 2 organised in mixed age groups. We have 28 pupils in reception this year with a wide range of abilities in relation to ICT.

In reception children use a wide range of ICT equipment in most areas of the foundation curriculum. Children regularly use digital blue cameras, digital microscopes, programmable toys, laptops and talking books to support their learning and in their play. Children always have access to this equipment and regularly choose from this technology. Computers play a central role when using some of the equipment. The digital blue cameras and interactive microscopes are connected to either PC's or laptops. Children must therefore have some basic skills in using computers in order to use the microscopes and digital blue cameras. All of the children in our class must learn to log on to the school network. This takes some children only a few weeks and others almost the whole year. As this is an essential stage in the development of children in our ICT-rich environment we decided to focus our study on children's early keyboard skills in order for them to access the other technologies.

In this study we focused on how the children are able to log on to the computers and cope with finding different keys on the keyboard in the class situation. The research was carried out in a reception class over a period of a few weeks on a daily basis during the Autumn and Spring terms 2006. We selected a pair of children to observe that show examples of two different abilities of children in relation to ICT. We made observations of the children's developments in logging on and using a keyboard in general.

Children in reception like to use computers on a daily basis. As the children need to log onto the computers, it was decided by both members of staff that it would be a good idea to provide the children with 'log on' cards. This was to enable the children to have independence to log themselves onto the computers. However children don't just log on with their first name, they use the first initial and their surname and so the 'log on' cards provide the initial support of spelling their surname which they often are not able to do when they first start school.

In our classroom children have access to three different types of keyboard. A standard keyboard, a laptop keyboard and a BIGKEYS PLUS keyboard. A BIG KEYS keyboard is a simplified keyboard featuring only the letters, return key, space bar, shift button and number keys. The buttons are large and brightly coloured. All children started on the BIGKEYS PLUS keyboard and the more able children were then able to progress onto the standard keyboard. Children sometimes work in pairs, each taking turns at logging on and working on different programmes. This provides an excellent basis for the children to collaborate and learn together. The children were also watching the other children logon etc. This proved to be a good way to further language work which generated a great deal of discussion with other children.



Other children were able to use the key board by using different keys, for example lower keys, space bar, return key and the delete button. Children were able to, with some help at first, enter their name using the keyboard, delete text and insert new text.

The reception staff supported all of the children by supervising them through the logging on process, i.e. asking questions, finding different keys on the keyboard etc. This support gives the children enough confidence to carry out the task. More able children then began to use the BIGKEYS keyboards independently and when they showed they were able, they progressed further using the standard keyboards with capital letter keys.

Adam

When Adam started in reception this year he knew his first name but could not spell his lengthy surname. He knew some of the letters in his surname but not many others. Although he had seen keyboards in nursery school the activities which he had used were heavily reliant upon using the mouse. He had never needed to use a mouse other than to pretend to type as part of his play. Adam began by using the BIGKEYS keyboard. He matched the letters from his 'log on' card to those on the BIGKEYS keyboard. By the spring term Adam had advanced onto using the standard keyboard, having learnt the position of the keys, but he still required his name card to support him.

After the Easter holidays Adam had learnt the sequence of the letters and was becoming more confident in logging on to the network using the standard keyboard without his name card. Adam then made an immediate transition onto using the laptops keyboard. He was able to transfer his skills that he had initially learnt from using the BIGKEYS – the layout and position of the keys, the different functions of the keys (return, space, backspace, shift) and the letter formation.

Jonathon

When Jonathon started in reception he could not spell either of his names and he had only experienced using keyboards as a feature of play at nursery. Jonathon used his 'log on' card with support from a member of staff to find the keys and match the letter shapes. Like Adam, Jonathon has a very long surname and he still finds it very difficult to spell. Jonathon made slow progress, but he has gradually become more confident in finding the letter keys. Now in the summer term he needs to use his 'log on' card but he can match the letters on the card to those on the keyboard. He can now make a start at logging on independently but it is often his stamina and concentration which hinder him. Jonathon is also able to attempt to log on to the standard keyboards and we believe that it is because he is familiar with the layout due to using the simplified BIGKEYS keyboard.

Many of the children in the class have made good progress in their ability to log on and their general keyboard skills. We have witnessed children moving from using the BIGKEYS keyboards to log on through to the standard keyboard. They have a clear understanding of the layout of the keys and the capital letters. Some children are able to log on without the use of their 'log on' cards and some are making that transition at present – becoming familiar with the layout of the keys and the capital letters. However others are still heavily reliant upon using their 'log on' cards and the BIGKEYS keyboards to find the keys and learn the sequence of letters in their name.

We decided to ask some of the children in our class which keyboard they preferred to use. Children always preferred to use the BIGKEYS PLUS keyboard and almost all children commented on the colourful keys - Thomas aged 5 " I like them. I like the colours", Jonathon aged 4 " I like it because of the colours and it is bigger and easier to see". However the most common reason for choosing to use the BIGKEYS keyboard was because "you could see them better", "they are big and you can see keys easier", "you can see the letters best".

The children are attracted to the keyboard, not intimidated by it at all due to the lower case letters displayed on the keys. We found that using the BIGKEYS held the children's attention, and they feel success in their ability to actually use a computer. The children enjoy the BIGKEYS because the colours make it fun. Also we felt that the fine motor skills development was enhanced with BIGKEYS because children were more likely to use it than the standard keyboard. We also continue to find that children who are confident in logging on using a standard keyboard will return to using the BIGKEYS as they find it achievable and straight forward.

Conclusions

- Some children have made progress. Some no longer need their 'log on' cards and are able to use a standard upper case keyboard. These children may have been able to make the same progress in logging on without using the BIGKEYS. However we believe that children have made this progress because of the user-friendly, non-threatening, colourful keyboards. These features make them attractive to young children. The use of lower-case letters appeal as these are used more frequently in lessons and are simple – how often would you normally write your name in capitals?
- Some children have made progress with their keyboard skills but others have not made as much as Adam and Jonathon. The children who have made only little progress are those of a lower ability and those with special educational needs (SEN) and therefore there are other factors which impact on their learning and these findings are not always specific to the use of keyboards. These children generally take longer to understand new concepts across all areas of the curriculum. But in their confidence in using the BIGKEYS they are helping themselves. They want to use the keyboards and they are confident and are not afraid to try, and thus they gain the repetition which they need to support their understanding. They will achieve and no matter how small the steps are they are still continuing to make progress.
- As our 'log on' names require the initial of the first name and then the surname it is not straight forward. It takes practise to learn your surname and the frequent use of the computers with BIGKEYS allows the children to practise and familiarise themselves with the letters they need.
- Computers help the children to think and solve problems; computers do exactly what they are told. As children see the effects of their instructions to the computers they are forced to clarify and change their ideas.

- By using the BIGKEYS and the standard keyboards we as practitioners are able to differentiate even the simplest of tasks and make them suited to the individuals needs.

With the ability to log on to the computers children have the freedom to access a wide range of software. Children can use the internet and use the websites which we have allocated for them and some of the different software in lessons. In afternoon sessions children have the opportunity to access a range of websites and software, being able to log on gives them the independence to follow up on activities and their own interests. We have found that the children's confidence blossoms with their new found ability to log on to the network. They feel in control of their learning and can explore their interests freely which is an important part of the early years' curriculum. Logging on is a vital stepping stone in children's progress.