

## **Strategies to improve the effectiveness of Internet use by low ability pupils.**

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**Research Topic:** Technology-Integrated Pedagogic strategies; Secondary geography teaching and learning

**Geographical Area:** England - Eastern Region

**Educational Sector:** Secondary

**Abstract:** This small-scale study examined how the guided use of the Internet could support the teaching and learning of Geography at Secondary school level. The study examined use of strategies [outlined below] to support the use of the Internet by low ability pupils. It was carried out with low ability Year 9 pupils over a period of three months, during which they studied the topic of Development and a Geographical review of Brazil. Evidence of the pupils' growing competence and confidence in using the Internet was gathered through observation of pupils carrying out their tasks, research diaries, group interviews and a questionnaire. The main findings of the study are listed below:

### **Findings:**

- Although familiar with computers, the pupils were less confident about using them than higher ability groups that were studied.
- Several pupils (three girls from the mixed group of 15) expressed a preference for working from books rather than using the computer for research. Reasons that were given included that it was easier to find exactly what they wanted and that they were less likely to be distracted by other opportunities.
- Observation of pupils carrying out Internet searches showed several common problems: Some pupils were immediately distracted by "banners" offering other services and they became hopelessly "lost"; others tried to choose a suitable website but were frustrated when they could not find the information they needed.
- Once suitable sources had been found, all of the pupils were able to carry out copying and pasting tasks so that they could collect words and images from the Internet and create their own documents.
- Several pupils reported problems with the complexity of text and design that many websites present.
- The most successful strategy with the group of low ability pupils that this research focussed on was to create a "portal" page which included Internet

links selected by the teacher. This page was easily constructed using Microsoft Word and a rudimentary knowledge of HTML. Pupils reported that they were pleased with their success when using this but several pupils agreed that they were not challenged by this high level of support. These pupils were then asked to type in the URL of the site themselves and they reported that this simple action made them feel they were doing more for themselves, although inaccurate typing caused occasional problems with this approach.

- In some sessions, pupils were asked to look out for keywords when making Internet searches. These were suggested by the teacher with some pupils and agreed in conversation with the teacher with other pupils. Most pupils reported that this improved their success when searching for information.
- In some sessions, pupils were frequently reminded to stay on task and concentrate on finding the information they were searching for. This was a successful strategy, keeping them on task and helping them find the information, but the pupils, observer and teacher all had reservations about this method because it "Set a negative tone" on the proceedings.

**Participants' Information:** Although several groups of pupils were involved in the project, this report concentrates on one group of 15 low ability pupils. They were the fourth of four sets in a half year cohort of about 100 pupils. They have a variety of learning and behavioural problems. At the end of Year 9, they achieved National Curriculum levels of 3 and 4 in Geography. Some comparison took place with higher ability pupils who were taught in groups of 30, eventually achieving National Curriculum levels of 6 - 8.

**Equipment and Materials Used:** The Internet lessons took place in two of the college's I.C.T. suites. Pupils generally worked individually on PCs which have a high speed (T1) Internet connection. The computers were linked to laser printers. A portable tape recorder was used to record group interviews.

**Applied Method of Analysis:**

The research project was, essentially, a case study which employed the following sources of evidence:

- **Teacher perspective:** The main device to record this was a research diary which covered a wide variety of aspects of the project. The teacher was interviewed by a member of the University research team, which served to stimulate recall of the lesson and aided reflection on the project.
- **Student Perspective:** Some pupils were able to keep research diaries, although this was limited by the nature of the group itself. The pupils took part in a group interview and completed a questionnaire. The interviews were particularly successful as the pupils found it much easier to express themselves vocally than by writing about their experiences.

The interview was structured by using a script of questions to prompt responses from the pupils about areas of interest e.g. the use of computers and the Internet at home. Despite the use of the script, an element of flexibility was retained so interesting responses could be immediately explored by the means of further, improvised, questions.

The questionnaire covered much of the same ground as the interview. It mainly involved the pupils ticking boxes to answer closed questions, although opportunities were given for extended writing in answer to open questions - mainly to try to get responses from pupils who were prevented by shyness from participating fully in the group interview.

- **Independent perspective:** The lessons were usually observed by a Learning Support Assistant or a trainee teacher. They shared their observations through interviews. A lesson was also observed by a member of the University research team. Almost all of the lessons were observed by at least one person and their evidence was invaluable.

### **Conclusion/ Discussion:**

The following points are based on evidence collected by interviews and the observations by the teacher and assistant. The data was analysed by combining the evidence from these various sources. The evidence was then sorted into a number of statements. Statements were discarded if they were not supported by at least two sources of evidence. There was very strong agreement between the different sources of evidence.

- The interviews and questionnaires suggest that the pupils in low ability groups have less access to computers and the Internet at home than pupils in higher ability groups and so they may be less confident and competent when using them at school;
- Pupils quickly developed skills such as cutting and pasting text and photographs from web pages into their own word processed documents;
- Pupils identified the problem that text on web pages is often difficult to read for the following reasons: small text size, long sentences stretching across the screen, difficult vocabulary and the text being set against a strongly coloured or patterned background.
- Pupils reported that they found difficult sections of text easier to read when they cut and pasted the words onto a plain background and made the text larger and the width of text narrower using word processing software.

- Pupils in low ability groups reported that they were confused by the complexity and wide range of options offered by some web pages. However, strategies can be developed to help them to focus on the search for key words on the page, without being distracted by links and information which will not help them with their task;
- Pupils reported that their behaviour is better in the I.C.T. suites than in the classroom. This seemed to be supported by observation by the teacher and other independent adults;

**Recommendations:** I would recommend employing the strategies listed above with groups of pupils with similar ability levels. It can easily be adapted for use in a wide range of subjects. I am going to use this approach with similar groups in the future, including the questionnaire so that I am able to judge the experience of the pupils, rather than make assumptions.

**Research Evaluation:** The Humanities Department of the college studies arranged setting of pupils so that the lowest ability pupils are taught in small groups. This made the sample sizes in this project very small and so it can be argued that confidence in the findings about this particular case may be quite low. However, many observations about the problems faced when using the Internet were reported by a significant proportion of the groups and so the findings could be illuminating despite the relatively small numbers of pupils involved. Greater confidence in the results of a similar study could be obtained by involving pupils from a number of schools.

Carrying out this study has contributed to my own professional development by helping me achieve a better understanding of the problems found by many pupils when using the Internet and by helping me to develop strategies to aid them. I hope that this will make a wider contribution within my college and beyond, by putting forward the findings as a basis for other staff to develop strategies for using the Internet more successfully with low ability pupils in Geography and other subject areas.