Five factors are identified that are present in the development of good ICT learning opportunities in secondary schools:

- ICT resources
- school leadership
- ICT leadership
- general teaching
- ICT teaching

Each of these five enablers are necessary, but not sufficient in themselves to provide good ICT learning opportunities, although good ICT learning opportunities increase significantly as the number of ICT enablers in place increases.

Secondary schools with a high number of ICT enablers in place usually had good general leadership and good general teaching, so providing a sound foundation on which to build their ICT capability.

In secondary schools, ICT teaching tends to precede ICT leadership followed by ICT resources. This differs from findings in the primary study where ICT development followed a logical progression in which ICT leadership preceded ICT teaching. The findings do suggest that ICT resources are not being wasted in those secondary schools that are not yet able to make effective use of them.

As with primary schools, however, there is a necessary concern for those schools which do not have the base levels of leadership and teaching on which to build.

The analysis also reemphasizes that the provision of good ICT learning opportunities is not dependent on the socio-economic background of schools and the prior attainment of pupils.

Although there is still a great deal of work to be done in improving the ICT learning opportunities available to all, an increasing number of schools and pupils from a full range of backgrounds now have the chance to harness the benefits of ICT in teaching and learning as identified in the report.

As with previous reports, the analysis is based on statistical association and so cannot prove a particular causality (that is, whether one factor causes or helps to cause another factor); however, it does give further credibility to the conclusion that the impact of ICT is dependent on how it is used in the classroom.

Further information

A PDF of this summary, and PDFs of the report on which it is based, can be downloaded from the Becta Research website – as are supporting data in the form of tables of correlation between Ofsted grades and QCA attainment data.

The complete findings about the relationship between ICT resources and school standards, published as part of the DfES/Becta research and evaluation series, are also available from the Becta Research website, http://www.becta.org.uk/research/reports/ictresources.cfm
Key Findings

ICT learning opportunities and pupil achievement

ICT learning opportunities refer to the amount and quality of opportunities provided by a school for pupils to develop ICT resources. Good ICT learning opportunities exist where ICT has been used effectively to enhance the learning experience and the pupils' learning objectives are intense. The research supports the view that ICT can enhance pupil learning and the appropriate selection and management of ICT resources can improve pupil achievement.

The first graph on the left shows the relationship between ICT learning opportunities and pupil achievement in schools where there are also good resources with good ICT teaching.

The scale on the left hand side of the graph represents the percentage of pupils achieving at or above the national average in Key Stage 3 and GCSE level. The height of the bar represents the percentage of pupils achieving at Key Stage 3 and GCSE level.

The findings relating to ICT and ICT leadership in secondary schools correspond with the findings from the study of primary schools for the same period. Where there are pupils who have good ICT resources, there is a positive relationship between ICT learning opportunities and pupil achievement.

ICT resources and ICT learning opportunities

The quality of ICT resources varies between secondary schools. Good ICT resources are present in all ICT learning opportunities where ICT has been used effectively to enhance the learning experience and the pupils' learning objectives are intense. The research supports the view that ICT can enhance pupil learning and the appropriate selection and management of ICT resources can improve pupil achievement.

ICT leadership and ICT learning opportunities

Good ICT leadership is essential for a school to offer good ICT learning opportunities. Where ICT leadership is unsatisfactory or weak, it is highly unlikely that good ICT learning opportunities will exist. As with all leadership, pupil achievement is higher when ICT learning opportunities are good and better supported by good ICT leadership.

School leadership and ICT learning opportunities

For a secondary school to offer good ICT learning opportunities, good school leadership by the headteacher and key staff is important, but appears to have less of an impact on ICT resources. Pupil achievement is, however, higher when ICT learning opportunities are good or better supported by good school leadership.

ICT teaching and ICT learning opportunities

Good ICT teaching is also essential for a school to offer good ICT learning opportunities. If ICT teaching is less than satisfactory, it is unlikely that good ICT learning opportunities will exist. However, ICT teaching alone will not guarantee good ICT learning opportunities.

As with good teaching, pupil achievement is higher when ICT learning opportunities are good or better supported by good ICT teaching. When teachers' understanding of ICT is good, the ICT development of pupils is much higher.

Additional positive outcomes

ICT teaching opportunities and pupil achievements in English, mathematics and science at Key Stage 3 and GCSE level are poorer in schools where ICT learning opportunities are good or better supported by good ICT resources.

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The quality of ICT learning opportunities is positively related to the attitudes and behaviour of pupils in secondary schools.

Additionally, analysis revealed that the quality of ICT learning opportunities is also related to whether parents have a positive view of their child's school. Similar conclusions were made in a previous study.

ICT enablers

ICT teaching and ICT learning opportunities

Schools with good ICT leadership are typically more likely to offer good learning opportunities in ICT.

There is also a correlation between good teaching, teachers' knowledge and understanding of ICT and ICT teaching at Key Stage 3 and GCSE level. There is generally a greater prevalence of very good ICT knowledge and understanding when general teaching is good.

Once again, pupil achievement is higher when ICT learning opportunities are good or better supported by good teaching.

Introduction

Recent evidence about ICT and standards in secondary schools is based on a detailed analysis of the results of Ofsted inspections and QCA data on schools' performance in national tests for the academic year 2000-01. The analysis focuses on the quality of ICT opportunities for pupils in schools and whether there is a link to improved standards. The findings support the case that ICT can improve learning opportunities in our schools. The full findings are published in the report Secondary Schools – ICT and Standards. This leaflet provides a synopsis of the main findings. Information about how to obtain the full report is given at the end of this summary.

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