

AN EVALUATION OF

Information
& Communication Technology
IN POST-PRIMARY SCHOOLS
2006

executive summary



Providing Inspection Services for

Department of Education
Department for Employment and Learning
Department of Culture, Arts and Leisure



INVESTOR IN PEOPLE



CUSTOMER SERVICE EXCELLENCE

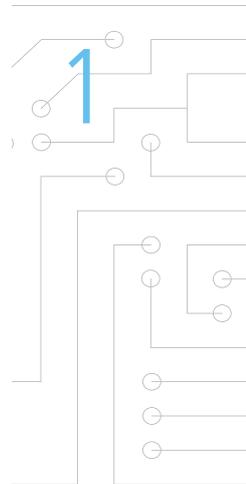
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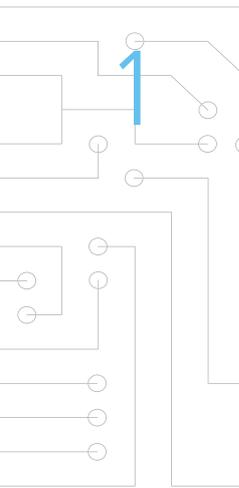
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1. INTRODUCTION

- 1.1 The report is a summary of the findings of an inspection on the use of information and communication technology (ICT) in supporting and enhancing teaching and learning in post-primary schools in Northern Ireland (NI). The inspection was undertaken by the Education and Training Inspectorate (Inspectorate) during the 2005/2006 academic year. A copy of the full report is available on the Inspectorate website at www.etini.org.uk.
- 1.2 The findings from this survey are based on evidence from the inspection of 21 post primary schools (Appendix 1); the majority (15) of these schools were part of the normal schedule of standard and follow-up inspections. The inspectors visited 380 lessons.
- 1.3 In addition, in June 2006, the senior managers of all post-primary schools were asked to complete an online self-evaluation questionnaire in order to provide important background information on ICT infrastructure, and an overview of ICT in post-primary schools. The Inspectorate appreciates the high return rate (71%) from schools, which contributed significantly to the evidence base upon which the inspection was able to draw.
- 1.4 A number of quantitative terms are used in the report when commenting on aspects of provision for ICT. These terms should be interpreted as follows:

Almost/nearly all	more than 90%
Most	75% - 90%
A majority	50% - 74%
A significant minority	30% - 49%
A minority	10% - 29%
Very few/a small number	less than 10%





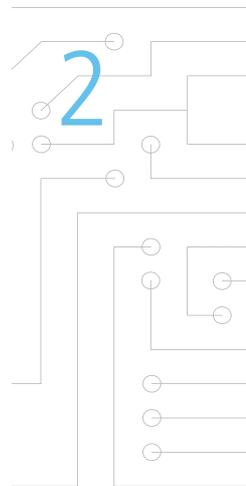
1.5 In assessing the various features of the provision for ICT, inspectors relate their judgements to four performance levels which can be interpreted as follows:

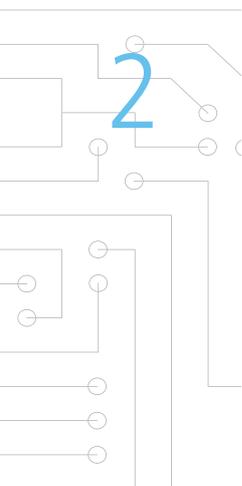
Grade

- | | | |
|----|-------------------------------|--------------------------------------|
| 1. | Significant Strengths | good (ranging to outstanding) |
| 2. | Strengths outweigh weaknesses | fully satisfactory (ranging to good) |
| 3. | Weaknesses outweigh strengths | fair (ranging to fully satisfactory) |
| 4. | Significant weaknesses | poor |

2. EMERGING ISSUES

- 2.1 Although the use of ICT as a tool for whole-class teaching and the pupils' independent learning has increased, there remains wide variation in the extent to which ICT has become embedded in the work of schools. When compared with the baseline survey of 2002, there is clear evidence to show, based upon an analysis of inspection grades, that the majority of schools have made slower than anticipated progress in the further embedding of ICT. The integration and embedding of ICT into the curriculum continue to be a major challenge for most post-primary schools in NI.
- 2.2 It is clear that ICT is still not a sufficiently routine or integral part of the teaching and learning process in the majority of post-primary schools, and the key reasons for this include:
- the inadequate emphasis on, and under-investment in, a systematic programme for the continuing professional development (CPD) of teachers, focusing on the necessary pedagogic skills to deliver effective learning and teaching with and through ICT and building further on the foundations of the New Opportunities Fund (NOF) training initiative;
 - the fact that ICT is not sufficiently integral to the school development planning process; most schools are struggling to translate strategies and policies for ICT into effective action plans, which have stated and measurable success criteria that are monitored, evaluated and reviewed;
 - the lack of innovation in curriculum planning for ICT; it has yet to become a driver for whole-school improvement in most schools;
 - the relatively disjointed rhythm of the school day in most post-primary schools;
 - the decline in the amount of curriculum and in-service support for ICT developments, along with the confusion across the schools as to which organisation should take the lead in relation to supporting schools and developing the teachers' pedagogic competence;
 - the continuing lack of flexible access by teachers to appropriate ICT resources;
 - the lack of awareness, expertise and experience among staff to implement learning platforms such as an intranet or a virtual learning environment (VLE);





2.3

- the insufficient focus on the development of strategic ICT leadership skills for school leaders and senior managers.

The key features of the minority (14%) of schools where ICT is well embedded and its use is integral to the pupils' learning across many aspects of the school curriculum are:

- an accurate, up-to-date and agreed baseline of provision has been established;
- a focus on good quality teaching and learning, and high standards of achievement underpin the improvement agenda in the school;
- a clear strategic vision for the development of ICT exists and is a key theme in school development planning and the associated monitoring and evaluation processes;
- the C2k managed service is complemented with significant, sustainable investment in ICT, often in new technologies such as electronic interactive whiteboards, wireless-connected portable computers along with the full integration of legacy computers;
- the teachers have good access to ICT resources and there are effective support staff, with clearly defined ICT support and development roles;
- the well-informed, supportive and effective leadership and management of ICT, often through a shared approach by a dynamic ICT development group;
- the high levels of staff awareness and enthusiasm about the use of technology for teaching and learning, underpinned by the effective, targeted, and properly funded, continuing professional development of staff;
- the technology is used well to support and inform the management and monitoring of the work of school; and
- ICT is embedded successfully and assessed across a good range of subject areas, and complements the ongoing work to enhance the pupils' literacy, numeracy and broader skills.

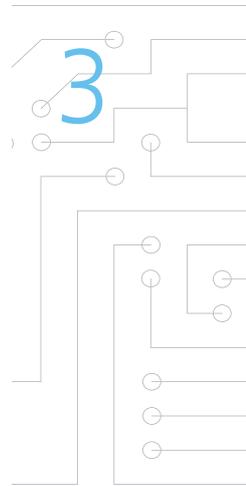
3. SUMMARY OF MAIN FINDINGS

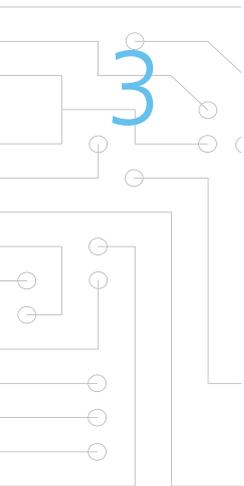
Provision for ICT

- The quality of provision for ICT varies widely. There are significant strengths in the quality of provision for ICT in only 14% of the schools inspected; strengths outweighed weaknesses in 33% of the schools. In contrast, weaknesses in the provision for ICT outweigh strengths in 48% of the schools and there are significant weaknesses in 5%. (Appendix 2)
- There is significant inconsistency in the range, challenge and frequency of the opportunities provided for pupils to learn and apply ICT skills. ICT is embedded strongly and sustainably in only a minority of schools, and the potential of technology to extend learning remains relatively under-exploited.

Planning for Learning and Assessment of ICT

- There are weaknesses in the quality of the teachers' planning for ICT in just under 60% of the schools inspected.
- Most post-primary schools do not build upon the prior skills and knowledge of the pupils, even when their ICT skills have been accredited at the end of primary school education.
- In the majority of the schools, there is an urgent need to review, and strengthen significantly, the assessment and recording of ICT achievements within and across subjects.
- Around 79% of post-primary schools are registered for the CCEA Information Technology (IT) Accreditation Scheme at KS3; this is a significant achievement and a good foundation for these schools to build a flexible, progressive framework for the assessment of ICT across the curriculum.
- An increasing number of pupils are taking specialist ICT courses at KS4 and post-16 level.





Teaching and Learning and the Pupils' Experiences

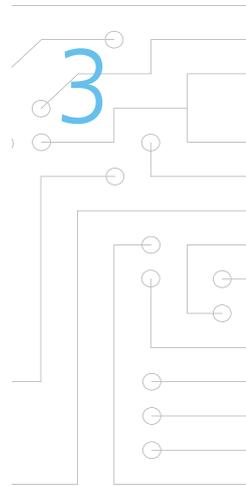
- The quality of teaching using ICT is improving gradually.
- The pupils' engagement in, and attitudes to, learning are mostly good in lessons which involve ICT-related activities.
- Where ICT is used effectively and regularly, it improves the pupils' motivation, their levels of attention, concentration and participation, and leads to higher quality work.
- There are clear indications that the ICT competence and capabilities of most pupils are developing year-on-year.
- In a majority of schools, the range and scope of the pupils' ICT experiences are narrow and, within school, have not kept pace with changes in technology.
- The use of the Internet by pupils is increasing.
- Too few schools take a systematic approach to the development of the pupils' information literacy skills.
- ICT is used rarely by pupils in their subject work to collaborate with pupils from other schools or colleges, participate in online courses or to submit work electronically to teachers.
- Inadequate use is made of ICT to facilitate collaborative links with key partners, such as other schools or further education colleges.
- A few schools have piloted successfully alternative curriculum models to support the further embedding of ICT and these enable the pupils to learn and apply ICT and other transferable skills in relevant subject contexts.
- An increasing number of schools are dealing on a more regular basis with issues around the misuse of new technology by pupils.

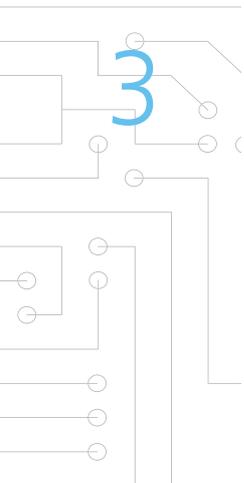
Management and Leadership

- There are clear weaknesses in the quality of management and leadership of ICT in almost one-half of the schools.
- The investment in infrastructure and ICT resources has not been accompanied by the development of adequate strategic ICT leadership skills for the senior managers and principals who have had responsibility for the implementation of the various milestones of the strategies for embedding new technologies.
- In a majority of schools, ICT is used well to support whole-school management and administration, mainly through the management information system (SIMS) modules.
- An increasing number of schools use ICT innovatively to inform and improve management of performance through effective target-setting and the analysis of data to monitor the progress of individual and groups of pupils.
- While a majority of schools have integrated ICT fully into the school development plan, often the associated action plans and targets remain incomplete, with success criteria which lack sharpness.

Staff Development

- In just over one-half of the schools inspected, weaknesses outweighed strengths or there were significant weaknesses in the provision of continuous professional development for teachers in ICT.
- There continue to be variations and inconsistencies across subject departments in the level of support provided by the Curriculum Advisory and Support Services (CASS) of the Education and Library Boards (ELBs).
- A significant minority of teachers are not confident in their use of ICT and struggle to embed it into routine classroom practice.
- The potential use of ICT resources and online services to support the continuing professional development of teachers is under-developed.



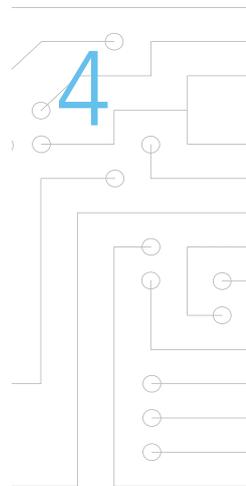


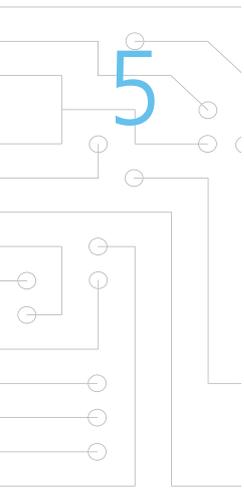
Accommodation and Resources

- Almost all schools are satisfied (68%) or very satisfied (23%) with the C2k managed service solution.
- The quality, range and distribution of the ICT infrastructure in schools have improved significantly in recent years.
- Since 2002, the average ratio of pupils to computers has improved significantly from 6:1 to around 4:1.
- The availability and use of whole-class presentational technologies such as digital projectors and electronic interactive whiteboards have become more widespread.
- In most schools, there has been inadequate investment in portable technology which can be deployed flexibly.
- Less than 25% of the schools facilitate access to ICT equipment by the local community.

4. CONCLUSION

- 4.1 Almost all schools recognise the importance of ICT as an essential tool for learning, and its potential to enhance and enrich the way young people learn. Significant funds have been invested by the Government in the development of ICT in schools and the positive impact of the continued investment is most noticeable in the good quality ICT infrastructure across the schools.
- 4.2 There is clear evidence that the ICT competence of young people is increasing and that effective embedding of ICT can and does lead to higher levels of participation in lessons and improved quality of work. The quality of teaching using ICT continues to improve gradually. Nevertheless, the most recent inspection findings reveal emphatically that only a minority of the post-primary schools have embedded ICT effectively to enhance and extend pupils' learning, across a sufficiently wide range of curriculum areas, and the potential of the new technologies remains under-exploited.
- 4.3 The pace of the impact on teaching and learning of the large scale investment in the technological infrastructure has been too slow, and there has been a strategic deficit in providing the necessary continuing professional development of staff in the effective use of ICT in the classroom. In 2002, an ETI report on ICT in post-primary schools identified some key areas for improvement in order to strengthen the quality of ICT provision and to raise the pupils' standards of achievement. A number of the recommendations of the previous report have not yet been addressed adequately. In most schools, ICT is not yet integrated routinely into teaching and learning and its impact as a driver for school improvement and raised standards is not adequately exploited.
- 4.4 The entire education system in NI, at all levels, is undergoing a process of very significant change. The review of the NI curriculum has focused much attention on the need for our young people to develop many essential skills and capabilities. ICT has a key role to play in developing and supporting young people as self-assured and independent learners, who can understand and apply new technology with confidence. There is an onus on the DE, in collaboration with the range of key stakeholders, to revisit the various strands of the strategy for the development of ICT, and to refocus on a more consistent and effective approach across the schools in ensuring that pupils access and use ICT as an important aspect of their learning. It is also essential that the learning needs of teachers in this regard are given a much higher priority.





5. RECOMMENDATIONS

Schools

In order further to embed ICT, school principals and senior managers need to:

- set clear expectations, and provide well-informed and firm leadership, for a systematic and robust process of self-evaluation of the work of the school, including ICT;
- develop and promote a clear and realistic vision for the use of ICT across the curriculum;
- undertake a baseline audit of the current stage of development of ICT across the curriculum, involving pupils, staff and parents;
- develop a collegial approach to the further embedding of ICT, based on a sharing and dissemination of existing good practice within and outside of school, and an investment in time for teachers to explore, experiment with, and reflect on the necessary pedagogy;
- monitor, review and evaluate the progress that pupils make in applying ICT and the impact of it on the standards of their work;
- establish realistic targets for subject department contributions to a coherent and progressive development of the pupils' ICT skills;
- provide better access for staff to ICT resources, with particular consideration given to the flexible deployment of wireless-connected portable devices;
- make more effective use of the ICT infrastructure and resources provided;
- provide pupils with better opportunities to develop and apply progressive ICT skills, be creative and to take responsibility for their own learning.

Department of Education

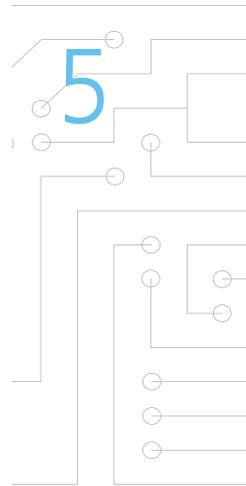
For further progress at a strategic level, there is a need:

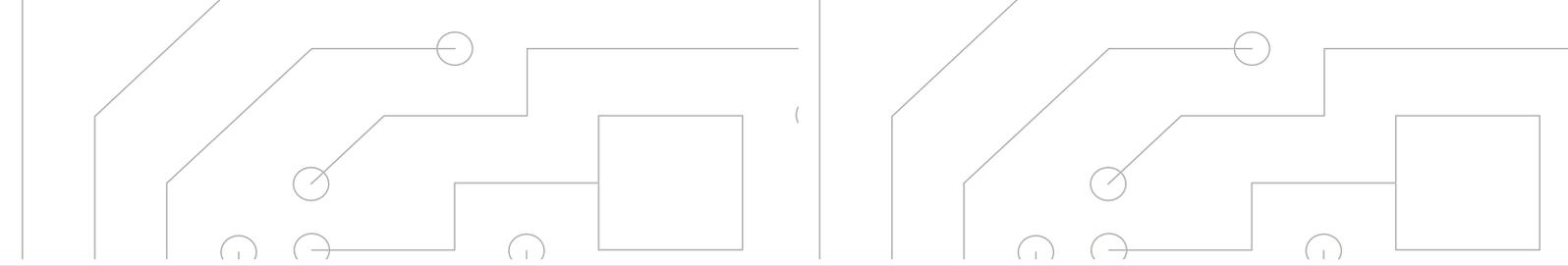
- for clarification of the roles and responsibilities of the various educational organisations involved, in relation to the promotion and implementation of a firm, coherent ICT strategy, with consistent support for schools and teachers across NI;
- to revisit the emPowering Schools strategy in order to focus more strongly on the continuing professional development needs of teachers;
- to encourage schools further to adopt and apply the Becta Self-Review Framework (SRF) for ICT;
- to extend the criteria for the selection of specialist schools to include effective embedding of ICT as a required outcome;
- to give serious consideration to the provision of high-specification wireless laptops to teachers;
- to develop further the strategic ICT leadership skills of the principals and senior staff with responsibility for ICT;

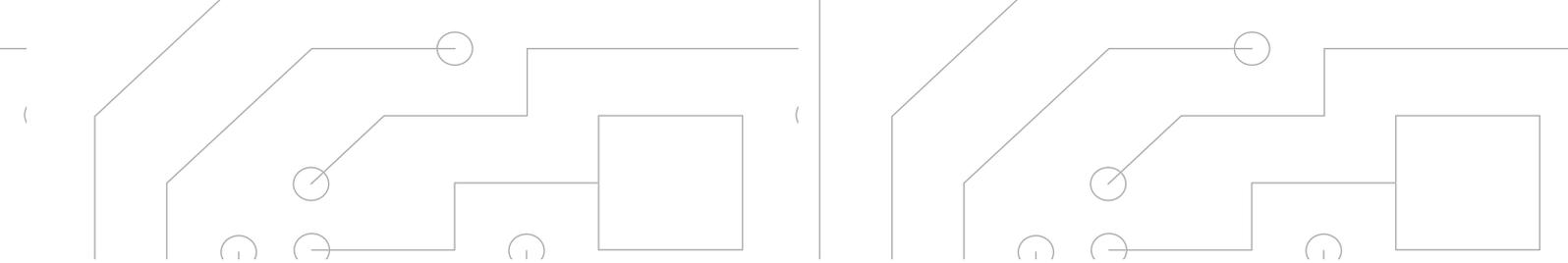
C2k

There is a need:

- for improved communication with schools and other important stakeholders regarding the potential of LNI, and urgent action to remedy any lack of functionality in key aspects of its use by teachers;
- for updated software and subject content, along with significantly improved bandwidth;
- to encourage and promote the use of LNI to underpin the implementation of the revised curriculum and associated staff development, and other major strategic initiatives.



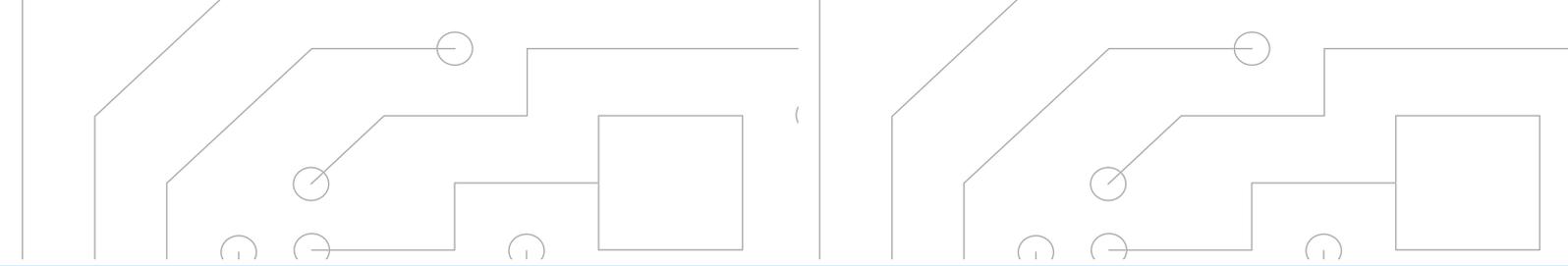




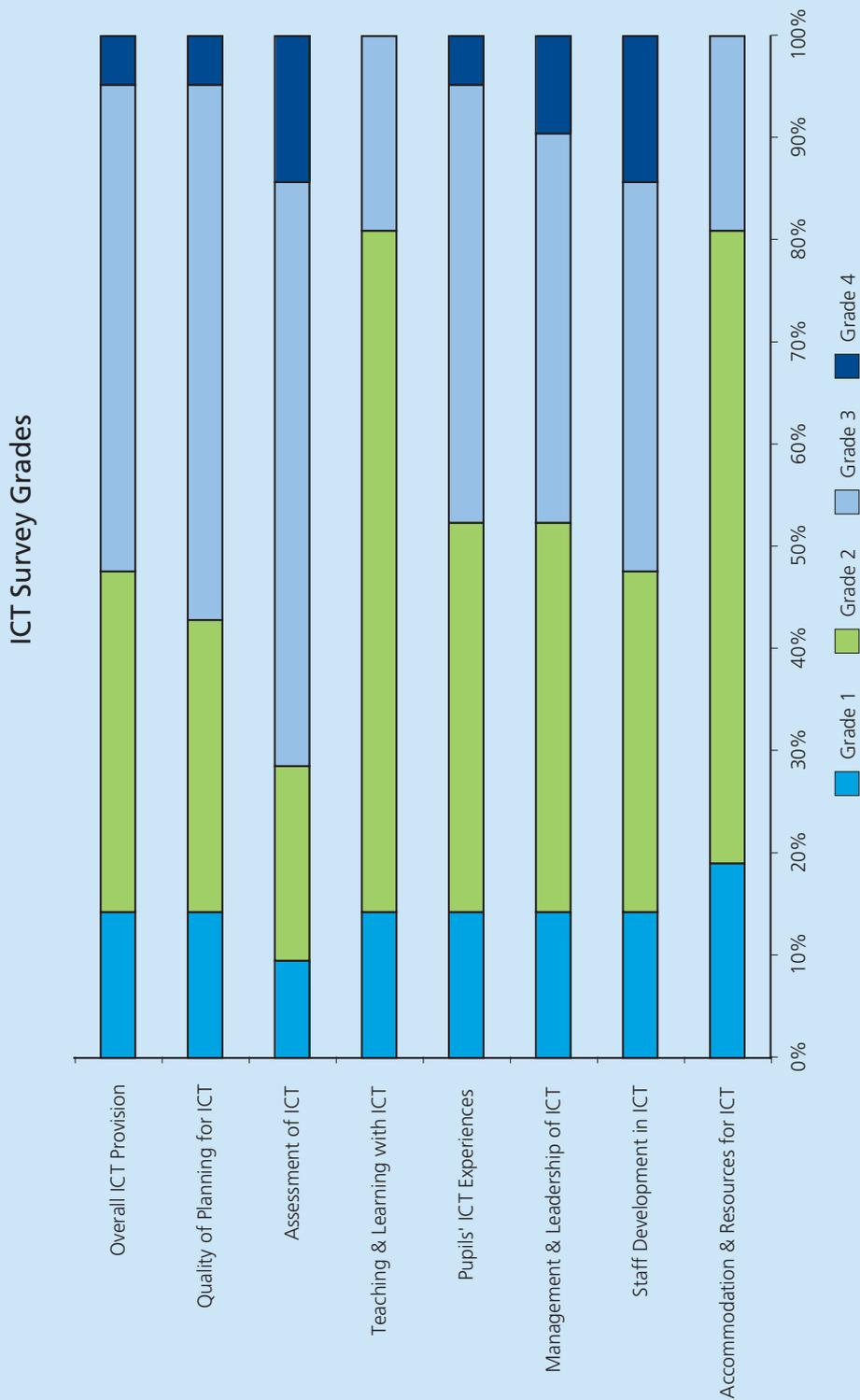
Appendix 1

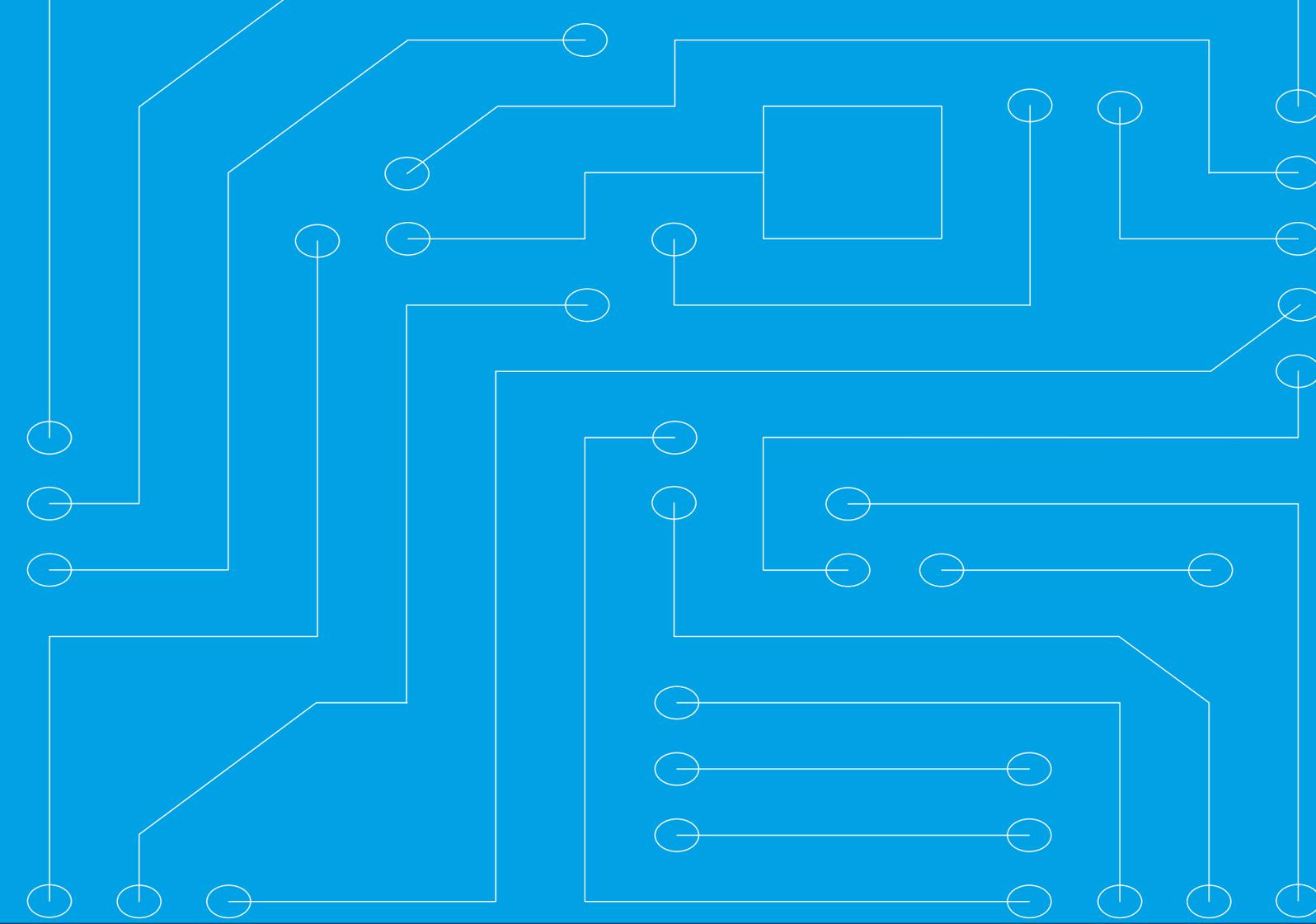
SCHOOLS INVOLVED IN THE INSPECTION

Belfast Boys' Model School
Bloomfield Collegiate, Belfast
Clounagh Junior High School, Portadown
Dalriada School, Ballymoney
Fivemiletown High School
Fort Hill College, Lisburn
Friends' School, Lisburn
Garvagh High School
Glengormley High School
Loreto Grammar, Omagh
Oakgrove Integrated College, Londonderry
Our Lady's Grammar School, Newry
St Brigid's College, Londonderry
St Colmcille's High School, Crossgar
St Joseph's College, Coleraine
St Malachy's High School, Castlewellan
St Patrick's Academy, Dungannon
St Patrick's College, Maghera
St Patrick's Grammar, Armagh
St Pius X High School, Magherafelt
The Royal School, Dungannon



INSPECTION GRADES





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