

**ICT in secondary schools**



## Background

In January 2012, the Secretary of State for Education announced plans to disapply the National Curriculum Programmes of Study and Attainment Targets at KS3 and KS4 in England from September 2012.

Whilst schools would still be required to teach ICT at KS3 and KS4, they would be free to determine what is taught. The Secretary of State said that schools would be encouraged to offer more rigorous computer science courses. He stated that there was a need for more ICT-related training and professional development and added that if new computer science GCSE courses were developed, the Coalition Government would consider including this as an option in the English Baccalaureate (EBacc).

Other education policy reforms also impacted on the provision of ICT:

- BECTA, the organisation that was responsible for influencing strategic direction and development of national education policy regarding technology and for developing the national infrastructure and resources strategy for technology, has been abolished.
- Public sector cuts, combined with the Coalition Government's policy of devolving funds to local level, mean that many local authorities and other organisations that have supported schools are no longer able to provide this support.
- Academies and free schools are not required to follow the National Curriculum.

In light of these policy developments, the NASUWT undertook a survey of teachers and school leaders working in secondary schools in England to establish the impact in schools. This Report summarises the main findings from the survey and considers the implications for policy and practice.

## Methodology

An online questionnaire survey of teachers and school leaders was conducted over a two-week period in March 2012.

The questionnaire focused on five broad areas:

- the impact of the introduction of the EBacc on the teaching of ICT;
- the impact of cuts to services, including cuts to school budgets and cuts to local authority services, on ICT support within and to schools;
- teachers' access to ICT-related training and continuing professional development (CPD), including Computer Science;
- teachers' and school leaders' views on the likely impact of proposed changes to the ICT curriculum Programmes of Study and Attainment Targets; and
- the teaching of ICT across the school curriculum.

Almost 2,000 teachers responded.

The respondents were teachers and assistant, deputy or headteachers; 3% were newly qualified teachers; and 1% were special educational needs co-ordinators (SENCOs).

Over a third of respondents taught ICT as a subject and almost a quarter held specific responsibilities for ICT (for example, they were an ICT co-ordinator or head of an ICT department).

## Main findings

### Impact of the introduction of the EBacc

Over a third of respondents (36%) said that the introduction of the EBacc has led to a reduction in the time allocated to teaching ICT at KS3 and KS4.

In an earlier survey conducted by the NASUWT in May 2011, 15% of respondents reported that the introduction of the EBacc had resulted in a reduction of time allocated to teaching ICT.<sup>1</sup> This suggests that the EBacc is having an increasingly significant negative impact on the time available for teaching ICT.

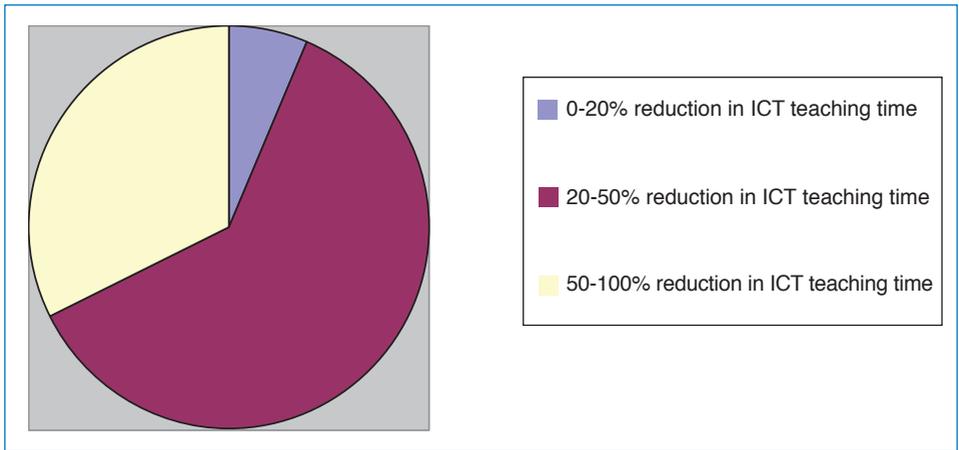
Where respondents reported that the introduction of the EBacc had led to a reduction in time allocated to teaching ICT, almost two-thirds (61%) reported a reduction of between 20% and 50% in time allocation. Almost one-third of respondents (32%) said that the EBacc had led to a reduction of between 50% and 100% teaching time for ICT.

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<sup>1</sup> NASUWT (2011), English Baccalaureate Survey, Birmingham, NASUWT.

Fourteen percent of respondents reported that posts had been lost as a result of the introduction of the EBacc.

**Table 1: Reduction in ICT teaching time for survey respondents reporting a reduction in ICT teaching time**



Responses suggest that the time allocated to ICT is likely to continue to decrease. For example:

***their school 'is getting rid of all discrete ICT lessons and will apparently meet the requirement [to continue to teach an ICT curriculum] through [a] cross-curricular [approach].'***

***ICT 'will no longer be taught as a core subject in years 10 and 11' and that school leaders 'are directing tutors to advise their students that ICT is intended for the middle to bottom sets only'.***

### **Cuts to services including local authority services**

Schools are facing significant cuts to their budgets. More generally, public sector cuts, combined with the Coalition Government's policy of devolving all funds to schools, mean that many of the organisations that have provided support to schools in the past are no longer able to provide support.

Respondents were asked about the impact that the cuts were having on ICT provision in schools.

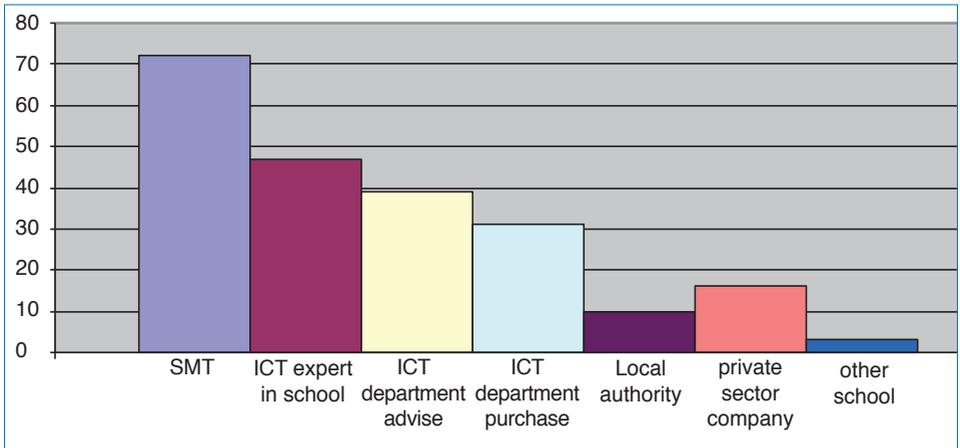
Seventeen percent of respondents reported that cuts to the school budget have led to a loss of ICT teaching posts; 23% reported that they had led to a loss of ICT technical or support posts.

Respondents were asked to indicate who now carries out this work. Over a quarter of respondents (29%) said that classroom teachers carry out the work and almost a quarter said that the work was carried out by the ICT department (24%) or ICT teachers (24%). Almost a quarter of respondents (23%) said that support staff had taken on the work. Over a quarter (27%) reported that nobody now does the work.

### Purchasing decisions

Almost three-quarters of respondents (72%) said that senior managers make decisions about purchasing ICT equipment. Forty-seven percent said that ICT experts employed by the school advise teachers and other staff about the purchase of equipment; 39% said that the ICT department provides advice and support and 31% said that the ICT department chooses and purchases ICT equipment. Only 10% of respondents said that the school gets advice from their local authority. Sixteen percent said that a private sector company provides advice and support to the school. Only 3% of respondents said that their school obtains support from other schools.

**Table 2: Who makes decisions about the purchase of ICT equipment?**



### Provision of support

Forty-three percent of respondents reported that local authority ICT-related support has declined or disappeared in the last two years.

Forty percent of respondents said that their school is now an academy and so does not receive support from the local authority.

## Up-to-date information

Respondents were asked whether information about the latest ICT was easier to obtain now, whether it was more difficult to obtain or whether there had been no changes. Over half of respondents (57%) said that it was more difficult to obtain information about the latest ICT.

## Strategic planning

Two-thirds of respondents (66%) reported that it is now more difficult to identify relevant ICT partners and almost two-thirds (64%) said that strategic planning for ICT is now more difficult.

## Decision making

A number of respondents expressed concerns about the way in which decisions about ICT were made at school level.

***‘in short, the IT illiterate are making decisions for the IT literate’.***

***‘the key problem is that the decision makers (SLT), including the Secretary of State, don’t really know enough about ICT’, but ‘their decisions impact on the country’s future’.***

## ICT-related training and continuing professional development (CPD)

Respondents were asked whether they received regular ICT-related training or CPD. More than three-quarters (77%) said that they do not receive regular ICT-related training and CPD.

Looking specifically at teachers who teach ICT as a subject, worryingly, 83% said that they do not receive regular ICT-related training and CPD.

Over two-thirds of survey respondents (69%) reported that identifying relevant ICT training and CPD has become more difficult, and well over half of teachers (61%) said that they have no say in decisions about their training and professional development.

## Proposed changes to the ICT Programmes of Study and Attainment Targets at KS3 and KS4

The Secretary of State for Education stated that disapplying the Programmes of Study and Attainment Targets would increase opportunities for teachers to innovate and introduce an exciting and challenging ICT curriculum. Over a third of respondents (37%) said that they thought the plans would lead to a decrease in curriculum innovation.

***‘we already have an innovative curriculum’ and argued that ‘Gove’s criticisms are unfounded’.***

Over half (56%) of teachers and school leaders said that they thought that disapplying the Programmes of Study and Attainment Targets for ICT would lead to job cuts.

The overwhelming view from survey respondents was that schools will not have enough time to properly plan and prepare a new programme of study – 79% of respondents strongly agreed or agreed with this statement.

***‘Michael Gove has no clue as to how much time and effort it takes to put schemes of work together and develop a balanced learning offer to the students. Another said that ‘we will need a whole year to plan and train. I can’t see why it is reasonable to change ICT for September 2012 but not [the rest of the curriculum] until the next year. Planning is not easy at all and we are starting from scratch.’ Another teacher said: ‘I like the freedom to teach more innovative ICT and computer programming but the timescale and lack of support for the subject as a standalone is worrying’.***

More than three-quarters of respondents (76%) said that changes to the ICT curriculum should be introduced when the National Curriculum is reformed.

A number of respondents voiced concerns about the way in which decisions about the ICT curriculum are being made.

***‘I am worried by the lack of consultation and time allocated to these proposed changes for ICT. Why would anyone consider making such a drastic change as this? The current curriculum is the result of long discussions and development and should not be disregarded so lightly’.***

**Another respondent questioned Michael Gove’s assertion that the ICT curriculum is boring and asked, ‘has he actually spoken to children?’**

Teachers voiced concerns about the impact that the planned reforms would have on how ICT is taught in schools.

***'disapplying the National Curriculum [would] lead to more teaching of programme-specific IT skills (such as Microsoft Office) and less teaching of any programming at all'. Another said that it is a gross simplification to say that ICT is badly taught and that the focus 'should be [on] how to improve the pedagogy, including expanding the computing element. We should not be trashing the ICT curriculum in favour of computing, rather we should be putting in place measures which keep up with the pace of technological advancement'.***

The relationship between what is covered in the ICT curriculum and other skills that pupils need for life beyond school is important, although not something addressed specifically in the survey. However, some respondents did make reference to the issue.

***'problem solving is what should be taught. Programming is a good skill to learn but useless without good problem solving and logical thinking skills.'***

## Computer Science

The Secretary of State for Education has stated that schools should teach pupils computer science. Teachers and school leaders were asked if their school already teaches pupils computer science. They were also asked if they held a computer science qualification.

Three-quarters of respondents (75%) said that their school does not teach pupils computer science. Just 16% said that they had a computer science qualification. Given that the survey was self-selecting, those with a particular interest in ICT and computer science may be over-represented in the sample. In reality, far fewer than 16% of teachers may have computer science qualifications.

A number of respondents questioned the rationale for arguing that schools should teach computer science.

***'how can schools be expected to provide adequately for the teaching of computer science and ICT when there is under-resourcing and lack of space in many schools for further growth?'***

***'Gove is wildly optimistic if he thinks that the vast majority of kids will be enthused by programming at KS3 – we need computing, but as an option', and 'I don't agree that students need to be taught computer science – it is a very select few people who go into this industry and I feel this will lead to fewer students picking ICT for KS4 study'.***

**Another teacher argued for a balance between ICT and computer science: *'I am glad that the restrictions about what you can teach will be lifted. It makes it easier to teach skills needed locally and apply skills to real-world situations. I would like to see a balance between teaching students to be users of ICT and the creators/programmers of systems. We need both, not one or the other.'***

## Teaching ICT across the curriculum

The survey sought to get a view of existing practice in schools and to get teachers' and school leaders' views on whether schools might seek to teach the ICT curriculum through other subjects.

The survey asked if ICT teachers worked with other departments to jointly plan and assess ICT in other areas of the curriculum. The overwhelming majority of respondents (88%) reported that ICT teachers did not work with other departments to plan and assess the ICT curriculum.

Just 12% of respondents indicated that ICT teachers do work with teachers in other departments. Of these, more than three-quarters (82%) said that their school does not allocate specific additional time for joint planning and assessment. Therefore, in most schools cross-curricula approaches to delivering the ICT curriculum would appear to create additional workload burdens for staff.

Respondents were asked for their opinion about how disapplication of the ICT Programmes of Study and Attainment Targets would impact on ICT teaching across the school curriculum in the future. Just over a third of respondents (42%) said that they thought that the change would lead to an increase in ICT being taught through other subjects. Forty-six percent said that they thought there would be no change.

Focusing on the amount of time for teaching ICT as a curriculum subject, almost two-thirds of respondents (63%) said that they thought that the plans to disapply the ICT curriculum would lead to a decrease in the amount of teaching time allocated to ICT.

Many respondents provided additional comments on the future of the ICT curriculum in schools.

***'I am an ICT teacher. SMT keep referring to ICT ending and being replaced by computer science... Implication seems to be a contraction of taught ICT at KS3 and decline in take-up in KS4. ICT teachers in the school are concerned about the future of the subject even though the school says the changes will be implemented in September 2013'.***

## Conclusion

The survey provides an interesting snapshot of the position on ICT and raises a number of issues and areas where further research is needed.

- There is clear evidence that the EBacc is having an increasingly significant negative impact on the curriculum and qualifications offer in schools.
- There is evidence that cuts to school budgets and cuts to public sector services have affected ICT teachers and ICT support staff in schools.
- The findings raise serious questions about schools' ability to make decisions about the purchase and use of appropriate ICT. In particular, they point to the lack of information and support available to help senior leaders make appropriate and effective decisions about the strategic development and use of ICT within and across schools.
- The findings highlight the need for a coherent and comprehensive range of information and support, something that is in direct opposition to current government policy.
- The findings point to major issues in ensuring that teachers access appropriate ICT-related training or CPD. They suggest that many schools will struggle to provide pupils with an appropriate, up-to-date, challenging and engaging ICT curriculum offer. They point to particular problems relating to the teaching of computer science.
- The findings suggest that there is a massive knowledge and skills gap and that a substantial programme of CPD will be required if existing teachers are to teach computer science. Linked to this, it is likely that ICT-related teacher-training courses will need to be updated to include a stronger computer science element.
- The findings confirm that many teachers are being prevented from both maintaining and developing their subject knowledge and expertise.
- Teachers and school leaders emphasised the need for time to plan and prepare a new programme of study and for changes to the ICT curriculum to be introduced at the same time as reforms to the National Curriculum.
- The findings are consistent with concerns being raised by many teachers and school leaders about the pace of education reforms and a lack of understanding about what is involved in implementing education reforms effectively at school level.
- The findings also support the NASUWT's view that the Coalition Government is placing ideological change above education quality and the interests of learners and teachers.

- Whilst responses to the proposal that every pupil should be taught computer science were mixed, the majority of those expressing opinions emphasised the need to tailor the curriculum to the needs and interests of the pupils they teach.
- A number of teachers made specific references to the need to develop the skills and aptitudes that pupils need for the real world. This has significant implications for National Curriculum reforms and points to the need to ensure that schools have the freedom to design a curriculum that prepares pupils for the future.

## Appendix 1

### **NASUWT principles for the National Curriculum**

#### **All pupils should have an entitlement to a broad and balanced curriculum.**

The curriculum should recognise different forms of learning, including academic and practical learning, and offer rich, engaging and relevant experiences. This is critical to tackling disaffection and addressing poor pupil behaviour. The curriculum should help learners to become confident and successful and enable them to make a positive contribution to society.

Schools should offer a curriculum that secures breadth and balance and is relevant to all pupils.

#### **The curriculum should promote the values of equality, community cohesion, social justice and international solidarity.**

The curriculum should equip pupils with the knowledge and skills to challenge discrimination and injustice. It should prepare them to live and participate in a globalised world. This includes helping pupils to understand and appreciate their own identities and those of others. The curriculum should provide opportunities for pupils to engage critically with issues relating to equality and justice and take part in activities that contribute to social cohesion.

#### **There should be coherence and consistency between policies that relate to the curriculum and other education policies.**

Policies relating to the curriculum must ‘fit’ with, and be supported by, other education policies, including those relating to teachers’ professional autonomy, teachers’ professional development and school accountability. The broader education system must not undermine the principal aims and objectives of the curriculum. In particular, a punitive, high-stakes accountability regime that pressurises schools into narrowing the focus and range of pupils’ learning experiences is not appropriate or acceptable.

#### **Curriculum policy and practice should respect and promote the notion of teachers’ professional autonomy and judgement.**

Teachers must be able to use their professional judgement to determine what is most appropriate for the learners they teach. They should have the flexibility to make appropriate decisions about what they teach and how they teach.

#### **Leadership of the curriculum should build on the principle of collegiality, with teachers working together to design the school’s curriculum.**

Teachers should be actively engaged in the design and development of both the National Curriculum and, within that framework, their school’s curriculum. It is essential that reforms encourage schools to adopt approaches to

leadership that engage all teachers and support collaboration and co-operative working.

**As professionals, teachers and school leaders should have access to, and undertake, regular curriculum-related professional development.**

High-quality continuing professional development (CPD) is essential if teachers and school leaders are to sustain and extend their professional knowledge, skills and expertise. All teachers and school leaders must have designated time to undertake CPD. CPD must be free, well-funded and quality-assured robustly.

**Practice should enable teachers and school leaders to focus on their core responsibilities for teaching and leading and managing teaching and learning.**

High-quality curricular frameworks should allow teachers to focus on teaching and learning. Teachers should be able to draw on the skills of others to support pupils' learning, including expertise from the local community. Tasks that do not require the professional skills and expertise of a teacher should be undertaken by appropriately trained and qualified members of the school workforce.

**Practice should be efficient and avoid unnecessary bureaucracy and workload.**

The curriculum must be monitored rigorously for its impact on workload and organisational bureaucracy. This needs to happen both at national and school level. It should mean that problems are identified and addressed. Failure to do this undermines the professionalism of teachers and school leaders.



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