

LEARNING TO USE ICT IN CLASSROOMS: TEACHERS' AND TRAINERS' PERSPECTIVES



Part three:
The full evaluation of the English NOF ICT
teacher training programme
(1999 - 2003)

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For the full report and leaflets about ICT in schools based on this evaluation can be found on
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www.mirandanet.ac.uk/elearning/dfes_nof_part1.zip
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In depth NOF case studies can be found on the client research, development and publication website developed by
Canterbury Christ Church University College
<http://client.cant.ac.uk/research/case-studies/>



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Overview

The New Opportunities Fund (NOF) ICT training for teachers and school librarians was launched in 1999. The main aim was to use the £230 million investment to improve the use of ICT in the classroom in the UK. £180 million of this total was invested in England. Online delivery of these courses was a major thrust of the planning for 1999-2003. This confidence in access to online technology was based on the investment of £1.9 million since 1997 in the National Grid for Learning (NGfL) infrastructure, and other initiatives such as the laptops for teachers scheme. The initiative should, therefore, be seen as one aspect of Government investment in ICT in schools.

The opportunity to fund ICT teacher education came from a once-only source - the Lottery funding. But there were restrictions in the use of this funding. For example, support cover could not be paid to teachers nor could the money be used for investment in capital equipment including laptops. Also the plan depended on the swift implementation of a major upgrade in equipment and connectivity in schools. These were not ideal conditions for ICT teacher education, but there was no other funding route available. Often it is by taking risks that a step change is achieved in practice. This report records this process.

Between 1999-2003 there have been exponential developments in UK schools' technological capability. A majority of schools started at a low level of multimedia capacity and pedagogical understanding. For a few schools the gap was too great to bridge, but the investment in infrastructure since 1997 is now having an impact on the practice of schools that are moving forward.

This report comments on the ICT capacity perceived by the schools at the end of 2002. In the background hovers the impact of changes in the technological infrastructure in the schools and the changing perceptions of learning, with particular reference to elearning, which have emerged throughout the five years of this major national initiative.

The NOF programme has taken nearly all the participants to a new standpoint in terms of technology and pedagogy. At the time of the survey a few schools provided evidence, not just of improvements in ICT in the classroom, but of systemic change in the school. The dynamics of a constantly changing scene mean that many of the schools that have contributed will have a more advanced story to tell since the data was collected.

Evidence of the impact of investments on elearning are now beginning to appear. Teachers who have reached a moderate standard in ICT skills and knowledge now have available a growing range of appropriate educational content provided through Curriculum Online. Elearning and efacilitation are now better understood through the efforts of leading bodies like Ultralab and the National College for School Leadership. A substantial change in government policy means that the DfES ICT In Schools Division may be ahead of the profession in recommending the use of ICT to promote transformational learning. This can be defined as collaborative as well as independent learning that continues outside the school day.

Unfortunately, at the start of the training there were a number of schools (or teachers) who felt that this initiative was being done 'to them' rather than 'for them' and this influenced their commitment and interest in processes such as auditing and action planning. The ICT programmes that follow NOF are more likely to be based on research based practice methodology where the teacher becomes a researcher and makes changes in the classroom as a means of learning about what ICT can do. Teachers now have opportunities to develop and manage their learning programmes. This was not part of the CPD climate in 1998/99.

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The changes in the profession's perception of the role of ICT in education are not all due to the NOF programme. Indeed, it is probable that the varied contexts and needs that have been identified in this study could never have been satisfied or even anticipated by a single national programme. Much has been learnt about ICT teacher education during this period that was not widely understood at the start, although there were pockets of good practice throughout the country. The rest of the UK ICT community, schools, approved training providers (ATPs) and the policy makers, have participated in a steep, and sometimes painful, learning curve. As one ATP said, 'We were asked to do the impossible. We went a mile, and then a bit more.'

Credit goes to many of the ATPs in this report. As responsible members of the ICT community, they responded to quality assurance (QA) guidance from the TTA and were willing to learn and change at a cost to themselves. For example, the term 'training' itself presented connotations of information transmission which are no longer acceptable. Rethinking the vocabulary of 'training' will be one important way forward.

The basis of the NOF training was to promote a pedagogical approach to using ICT in the classroom. The evidence from both teachers, the TTA's QA process, and the ATPs indicates that both major and minor adjustments had to be made during the programme. The profession was not necessarily ready for online training, and it was therefore often replaced by face-to-face training. The quantitative survey concludes that 80% of the schools were satisfied with the training. But in the 20% of the sample who were not satisfied, some register frustration, and a few even anger, with one quarter of the providers. However, the ripples from this active engagement with the process, although not always constructive, have heightened professional awareness of the importance of ICT in the transformation of learning which, in itself, is a positive outcome. It should be said that the programme showed a considerable degree of improvement, particularly in the last year, resulting in over 75% of teachers completing the training. This aspect is discussed in more detail later in this report.

On the negative side, many teachers found the pedagogical aspects of the programme difficult to assimilate, chiefly because they did not have the requisite basic skills. This was because the aims of the programme were sometimes inadequately transmitted by government and/or misunderstood by the schools. As a result both teachers with low level skills and advanced skills participated in a programme which appeared to target only the middle band. As a result, some teachers with low level and high-level skills were equally dissatisfied with the programme.

Accreditation in this report is used to refer to assessment of evidence of completion or learning assimilation, which is different from accreditation in its wider sense. If ATPs introduced accreditation the costs had to be met from sources other than the school's NOF training entitlement. The absence of agreed standards did mean that teachers were working at different levels across the country even though the same syllabus was being tackled.

One unexpected obstacle for the online element of the programme was the slowness in the introduction of ICT equipment across the country, although it had been funded the year before. Also, despite 12 UK government ICT initiatives since 1974, not enough teachers had adequate ICT tools and/or competence to make full use of a programme about the pedagogy of ICT.

The government hoped that a major delivery element would be online. This proved not only to be technologically problematic, but did not fit into the professional culture of learning of most teachers at the time. Nor did the needs identification CD-ROM. The vocabulary, concepts and technical requirements were beyond most naive users. Nevertheless, some ATPs are now saying, that in both

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these areas, the online delivery and the professional culture, the situation three years later is quite different.

The requirement to register for NOF training did promote thinking in the schools about their elearning capacity. Although face-to-face tuition remains the delivery mode of choice for most trainees, the NOF programme must take some credit for promoting awareness of elearning and blended learning. In retrospect, it would seem that online learning was more applicable where specialist subject training was chosen because of the richness of up to date material that can be delivered, and where teachers were geographically dispersed. A major issue in this initiative remains the lack of support cover for the teachers who were studying these new technologies and their pedagogical implications. This was because the rules of the Lottery prevented the payment of support cover.

In the context of achievement, the support of senior management and good leadership appears to be the vital element in motivating teachers who were responding to a variety of other government initiatives during this period.

Now that most of the NOF training is over, many schools are now opting to continue their ICT programmes in a range of guises. In addition, the spin-offs from the programme have been extensive. One is the number of schools that booked for the INTEL "Teach to the Future" programme and the increasing numbers of schools booking for basic skills programmes like the European Computer Driving License (ECDL) to nurture the increasing awareness of the effectiveness of ICT in the classroom.

Increased capacity building is also apparent in the wider education system, in individual schools and in the national economy. Over two thirds of the ATPs have generated additional funds by providing additional training, and exports in this area have risen.

However, it must be remembered that the majority of the 47 ATPs changed their original programmes because they did not fit the needs of the schools. The TTA reported on the ATPs cooperation with the QA process to raise standards. In retrospect, it becomes apparent that, where ATPs were successful, they often had to redesign their customised resources at considerable cost. The flexibility of the ATPs in these circumstances does not seem to have been given much credit to date by the programme disclaimers.

The challenges with regard to the NOF programme should be seen in context. Solutions need to be looked for within the evidence in order to create the circumstances in which most teachers are using ICT intuitively in the course of their professional life. The findings suggest that post-NOF initiatives need to focus on systemic change in schools if an impact is to be made on the learning culture of the schools. More understanding on the detail of the pedagogy of ICT and on the reality of transformational learning by policy makers and by the profession needs to be achieved in the coming years.

Lastly, if the English are serious about transformational learning, the current examination systems will need to be revised as a matter of urgency. The profession is unlikely to feel able to take risks and innovate if assessment is only measuring traditional learning styles. Most of all the profession seems to need time to reflect, to debate and to expand on the language of pedagogy and to consider how ICT can advance learning.

Context of the investigation

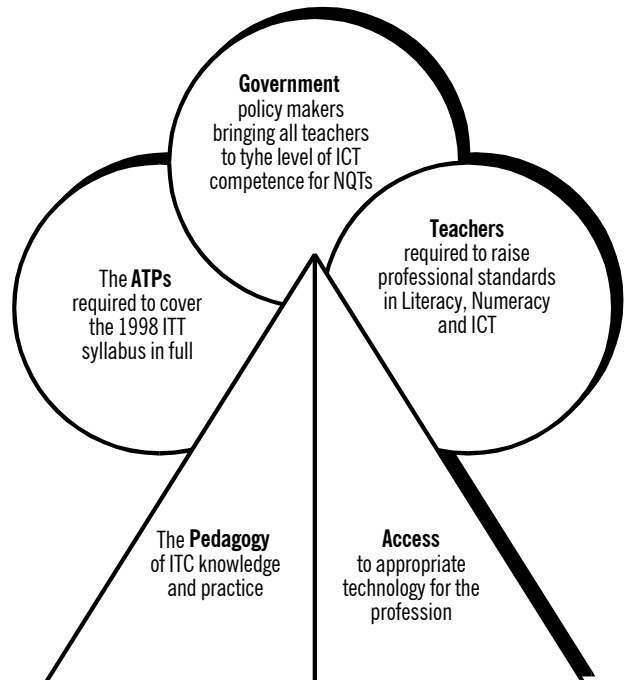
Pedagogical strategies

A unique aspect of this ICT initiative was that each of the ATPs had to design a programme which focused on the pedagogy of using ICT in the classroom, rather than on basic skills training. The intention was that where basic ICT skills were required then the training would be given within a pedagogical context or the schools would arrange separate training prior to starting the NOF programme. This model was based on the 1998 TTA ICT syllabus for initial teacher training in subject teaching which was designed to equip every Newly Qualified Teacher (NQT) with the knowledge, skills and understanding to make sound decisions about when, when not, and how to use ICT effectively in teaching particular subjects (DfEE 1998 p17).

The aspiration of the NOF programme to raise each teacher's ICT standard to the level of new teachers entering the profession was a good one. The TTA carried out consultation on the suitability of the initial teacher training syllabus for the NOF training. The responses were positive and few changes were made.

Five years later the original ICT syllabus is, not surprisingly, out of date. For example, the Internet and elearning are not well covered because they were not well established in education in 1997/1998. As a result the internet and elearning were added as equivalent modules to subjects like data handling and word processing. This equal placing obscures the potential of elearning for transformational impact in classrooms which is now emerging. In retrospect, the tone of the syllabus also promotes 'information transmission' and 'training' styles of learning which might have coloured the development of some of the ATP programmes (Pachler 1999).

At the time there were other considerations, chiefly ones of practicality. The basis on which the programme depended, the knowledge and practice of pedagogy and ICT skills were not yet established. The wide deployment of appropriate technology did not happen soon enough either, which meant that schools were ill equipped intellectually and technologically. Figure 1 indicates that the project suffered from the potentially discordant aims of the partners. The foundations of the project, which depended on good pedagogical theory and reliable technical backup, were shaky because full technological provision and pedagogical strategies were emergent rather than established. As a result, policy makers, ATPs and the profession had different perceptions of the state of ICT in the country. Additionally, the teaching profession was only just emerging from the top-down initiative overload of the 1990's.



The aims of the partners in the NOF training constrained by the lack of knowledge and practice in ICT pedagogy and inconsistent access to the technology in 1999

Whereas most leading ATPs started by emphasising the pedagogy they were often distracted by the teachers' need for basic skills training. Assumptions had been made that the teachers who started this

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course would already have passed this stage because of the NGfL money which had been spent in this area. This assumption was an obstacle to teacher achievement.

It is in this context that the evaluation team report on what has been achieved by all the partners in this national initiative which, despite the limitations, has made a positive difference to the climate for ICT and learning in schools.

Previous evaluation findings

Newspaper reports and surveys that were conducted in the early stages of the programme highlighted some of the problems that were occurring in this complex and radical programme. Partly as a result of press demands for more information about individual ATPs performance, NOF decided to put summary ATP quality assurance information on the NOF website.

The early research, on the other hand, did not always present an accurate picture of what was happening. The first OFSTED investigation was taken too early in the training to measure results, and the majority of ATPs were not sampled (OFSTED 2001). The second OFSTED report found an unprecedented willingness in the teaching profession to embrace ICT. It noted that the senior management team was a vital element in promoting change. OFSTED also reported that the lack of specialist knowledge in secondary schools was a major challenge to be overcome. OFSTED was particularly keen that teachers should feel empowered to adapt the materials to their needs rather than try to deal with them all. (OFSTED 2002)

In her NOF/TTA funded research, Leask (2002) indicates that the NOF ICT programme was introduced too early before all the factors for change were in place. Her report concentrated on data derived from quality assurance reports. She comments that since 1998, when the initiative was announced, teachers and school librarians have made significant progress nationally in integrating ICT into professional practice.

In this national training context, Leask's comment on English attitudes is significant. From an international standpoint, Leask, who is Australian, reminds the English about national characteristics which have impacted on previous reporting of this project.

“ A recent British Council survey of the international market for UK ICT in education products found that potential overseas business partners saw the tendency of English people to understate achievement and to be very self critical as disadvantaging UK companies. These self-deprecating traits may provide some advantage as they spur people on to achieve highly but the disadvantage is that there can be a reluctance to recognise and celebrate achievement. Coverage of the NOF ICT training programme in the press has given little recognition to what has been achieved and this is damaging to companies involved who have achieved highly and who wish to access further markets (p.43). ”

This current MirandaNet report provides the quantitative evidence and the case study detail which is required if lessons are to be learnt now that the programme is nearly over. The evaluation methodology was designed to ensure that the findings are as valid as possible.

Investigation methods

The MirandaNet evaluation team aimed to evaluate this national programme on behalf of the whole ICT community, so that the wider profession could learn from the implementation. Since the challenges of this NOF programme have been widely reported it is to the credit of the TTA that they wish to engage in evaluation into the programme's delivery and outcomes and celebrate those in the ICT community who made the most of this opportunity during the four years.

The intention of this evaluation was to draw on the voices of as many participant groups as possible: teachers, senior managers, school staff trainers, government policy makers, quality assurance agents, and the journalists who specialised in NOF training. The intention has been to collect, analyse and evaluate the significance of this wide range of perceptions and viewpoints.

In this way the team hoped to seek evidence as widely as possible in order to provide guidance about the best ways of helping teachers to use computers intuitively in their teaching.

The main objectives of the evaluation were :

- *To evaluate the impact of the training across England.*
- *To identify the qualities shared by providers who are being recommended by the schools and the TTA QA consultants.*
- *To identify the conditions in schools that facilitate effective training and learning progress.*
- *To highlight evidence of systemic change in schools.*
- *To present recommendations for continuation programmes by the wider teacher education community.*
- *To look at the issues of relevance to initial teacher training (ITT).*
- *To display the results of the investigation in ways which are accessible to future providers of similar training and of ITT.*

Accordingly, the evaluation focused on six main questions:

- *What was the political context and the pedagogical climate that the ATPs were operating in?*
- *What were the attitudes of teachers to the ICT programme across the country?*
- *How did the ATPs respond to the schools' needs across the four years?*
- *What were the conditions in particular schools that allowed the NOF programme to flourish?*
- *How did the case study schools adapt to the demands of the programme?*
- *What evidence exists in the case study schools of systemic change linked to the use of ICT?*

The evaluation outcomes are:

- *An analysis of the interviews with the policy makers and the educational press.*
- *The results from the quantitative national survey in 1,000 schools, from the interviews with 26 ATPs and the case studies from 15 schools who registered the achievement of learning progress as a result of the NOF programme.*
- *Recommendations for future ICT programmes based on the findings from the stakeholders.*

In order to meet the aims and objectives of the project a combination of quantitative and qualitative evaluation methods were agreed. The quantitative survey was particularly important as the programme

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had been widely criticized. Accurate results were imperative whether positive or negative to avoid reliance on anecdotal evidence. These results from the national picture were also needed to balance the case study investigation into the schools that recorded learning progress as a result of the NOF programme.

The quantitative questions for the schools focused on the type, perceived quality and cost effectiveness of different training models. Access to computers was also covered.

The cohort for the statistical survey covered a full range of training models and a wide range of school and teacher characteristics. One thousand schools were surveyed at the end of 2002. Six hundred and thirty eight replies were received, a high return which indicated a genuine interest by the schools in feeding back information. These replies were analysed to identify the issues across the whole cohort. The responses were coded and entered onto the computer packages, SPSS, for ease of storage, processing, analysis and retrieval. Pie charts have been used to illustrate the analysis as they best illustrated the statistical spread.

The free response section was important in recording a full range of views about the training programme in all contexts, not only where the programme went well. Careful attention was paid to validity and reliability issues by triangulating the data. Nvivo, the research software, was an invaluable adjunct to traditional coding methods.

Around 30 schools were selected which reported general satisfaction with the training outcomes. A more probing questionnaire was sent which helped to narrow the case study cohort, and also ensured some backup schools for case studies. A similar questionnaire was used for the ATPs to ensure some cross-referencing between the schools and the ATP perspective. Some questions, however, probed issues that were not common. All the interviews were conducted with a semi-structured schedule of questions.

These evaluation tools were designed by the team based on issues that arose from the quantitative questionnaire data analysis. Other factors emerged as the study progressed: published and other paper sources; the previous evaluation reports; results from online forums within the professional organisations, NAACE, ACITT and MirandaNet, and interviews with the key policy makers.

The eight dimensions and perspectives on NOF training which were identified from these resources were used to frame the questions, filter the data and weigh up the critical issues in the emergent ICT communities. These factors were:

- *The impact of NOF models on teaching and learning*
- *The transformation of teaching and learning*
- *The style of training*
- *Elearning and ecommunities of practice*
- *Internal motivation for teachers*
- *External motivation for teachers*
- *The management of change in school*
- *Professional ownership of change.*

These factors were added to as the data was analysed and new themes emerged.

Fifteen schools were selected as case studies which incorporated as wide a range of circumstances, experiences and views as possible. Schools were chosen from contrasting localities and were of different

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types in order to ensure as much diversity as possible. The sample size was agreed according to the distribution of schools in the country, five secondary schools including one special school and ten primary schools. Although we wanted to analyse the factors that had led the schools to feel that NOF had been a success, we did not want to investigate schools where conditions were so good that government initiatives could not fail. The principles of selection for these case studies were established through the survey data and the interviews conducted in the first three months. Criteria for selection as one of the fifteen schools included an example of a school which had failed its ICT OFSTED, one which had changed their ATP and a school that had parted company with their ATP and completed the training in-house. Only two of the schools were outstanding in ICT practice before NOF began.

Responses to questions about the model of training were provided by the nine heads and three deputy heads who were directing the project. These heads or senior managers were also asked to nominate two other teachers for interview who demonstrated differing levels of competence and confidence: in all, twelve ICT coordinators, eleven classroom teachers and two teaching assistants were interviewed.

A further phase investigated the role, experience and perspectives of relevant ATPs. The ATP questionnaire was intended to elicit information about the effectiveness of the model, reflections on students at different stages in their training and considerations of benefits and hindrances of different arrangements tried. The data was collected by semi-structured email questionnaires followed up by 25 minute telephone interviews which were digitally recorded and transcribed or by face-to-face interviewing. Great efforts were made to match the ATPs with the case study schools to increase the opportunities for matching different perspectives. It was disappointing that only 24 ATPs accepted the invitation to be interviewed. The major reason appeared to be that many of the trainers had finished the programme and returned to schools.

The study has also focused on the opinions of the other key members of the UK ICT community. In this process, 30 minute semi-structured telephone interviews were conducted with key policy makers from the TTA, BECTA, OFSTED, the DfES and specialist journalists in order to explore the widest possible perspectives on the setting up of the programme, the sustaining of the programme and the lessons learnt from the initiative.

All participants in the NOF programme were also invited to contact the MirandaNet team directly or to participate in online discussions and forums. This online data collection was another means of triangulating the information and gave space to any members of the ICT community who wanted to have a voice. These replies were important in sampling the general context especially since there has been so much negative comment surrounding this programme.

The evaluators have adhered to the British Educational Research Association's ethical guidelines at all stages. In particular, informed consent has been requested prior to individuals participating in the study. Confidentiality has been preserved by making all entries anonymous.

Policy makers' and quality assurance perspective

Overview of the ATPs

Interviews were conducted with key policy makers from the TTA, OFSTED, BECTA and the DFES as well as QA consultants who had been involved with the programme in recent times. The problems and challenges of this programme were well known and acknowledged. The policy makers acknowledge that they had learnt from this project and would take this learning into account in designing future programmes.

There are elements they would wish to avoid in future and there are, in addition, a number of positive aspects that policy makers would be keen to replicate. For a non-mandatory programme, the levels of participation (exceeding initial estimates) have been exceptionally positive. The involvement of a wide range of providers has also helped develop the national training capacity in the sector, which certainly did not exist at the start of the programme. The quasi-market model, where schools could choose the most appropriate provider from a normally quite wide selection, functioned better as the programme has progressed and schools could make more informed choices.

These Interviews with the TTA and the QA personnel provided a picture of the forty seven ATPs. The majority of ATPs were a partnership or consortium so they are not easily grouped by type of organisation. In addition, the largest training provider had a local agreement with one hundred local education authorities or training companies. As a result, over two thirds of the local education authorities in England were either one of the twelve LEAs who were training providers in their own right or were in partnership with approved training providers.

Universities made a significant contribution to the training and fifteen universities and/or institutions approved to train students to become teachers were directly involved in the programme. Four training providers specialised in school library training and five specialised in training teachers to support pupils with special educational needs. Three subject associations were approved to provide training in their specialist subject.

The remainder of the organisations involved all had experience in delivering teacher training. Their size varied from a single school to the educational arm of a major TV and media company. In this respect, the NOF achieved its aim of trying to ensure that any organisation that felt that it could deliver the training programme should be permitted to apply to become an ATP.

The ATPs offered different styles of training: some trainer's courses were predominantly online, while others were predominantly face-to-face. However, it soon became apparent that many schools were not ready to receive online training. The ATPs that had put the emphasis on that type of training had to re-think their delivery. This was not because their first ideas were mistaken. In fact, the tender specification encouraged them to provide online training because the schools were expected to be ready for this form of delivery. Some of those training providers who provided face-to-face sessions at centres also had to re-think their approach as teachers were often unwilling to travel to a centre at the end of a long day in the school. Face-to-face training at the school's own premises or at a neighbouring school's had to be added to programmes that had anticipated starting workshops in more central locations. All these changes increased the costs to the ATPs during the lifetime of the project.

A key finding suggests that no single type of training provider was more successful than another. Those LEAs that were training providers in their own right gained from the experience. They either delivered

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good quality training from the start or responded to their own feedback and the advice given through the TTA's QA process. The specialist trainers – libraries, subject specialist and SEN – also provided good quality training. Most of the companies clearly regarded the initiative as one that merited their investment and also achieved a consistently high quality and had effective mechanisms for quality control.

Quality Assurance process

NOF set up arrangements for quality assuring the programme in each of the four UK countries. In England, they asked the Teacher Training Agency to quality assure the training.

From 1999, the TTA appointed consultants who were part of the QA process and worked within the TTA remit. The consultants responded to a public advertisement, were skilled in the use of ICT in subject teaching and received a training session from the TTA.

However, all communications to the ATPs came from the TTA. Final decisions about action were also taken by the TTA because they had the complete picture and were in a position to make comparisons between all the trainers.

The consultants worked in teams. The ATP was provided with details of the consultants and their CVs before the consultants reviewed that ATP's training. ATPs were able to request an alternative consultant, but rarely did so. The assessors worked within a framework set by the TTA but it was the TTA that had the responsibility to:

- *plan the programme of reviews of the 47 training providers*
- *arrange a schedule of consultants' visits to schools and attendance at training sessions*
- *attend feedback sessions with the consultants*
- *send correspondence to the ATPs*
- *ensure a consistent approach across all the ATPs*
- *arrange additional feedback when required*
- *issue the report on the quality assurance review and oversee the implementation of recommendations*
- *decide on the date for the next review.*

During this evaluation project it became clear that the TTA QA process had been a significant factor in ensuring that the NOF training was modified to suit the teachers' needs. The TTA assessors found that six training providers of the 47 ATPs were receiving some negative ratings, and one ATP received consistently poor responses. This last trainer did not act on the TTA QA assessors' suggestions for programme modification and these matters were being taken up by the TTA.

The quality assurance process provides information about some of the problems that occurred at the start of the programme. For example, many ATPs put maximum energy into the development of materials at the start of the programme because of the time pressure. This concentration on resources sometimes left no time for thinking about delivery, long term support for teachers and quality assurance.

In the early stages the ATPs who had not clarified targets and deadlines found that they had no means of checking on what the teachers were doing. In terms of keeping teachers motivated a clear structure of targets which have relevance, flexibility to meet their own needs and their own circumstances seemed to be important. Despite the published aims of the programme some teachers joined the course with

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expectation of learning basic skills in the early days and became unmotivated when they found the course was about the classroom. Late starters in the training were better informed about what the programme was intended to achieve.

Some ATPs did not set deadlines because they were concerned about overloading busy teachers. On the other hand, teachers using distance materials often asked for more course structure and deadlines. One inherent weakness in some of the original quality assurance systems was that the ATP depended for feedback on the trainers who were being paid to provide the training rather than the trainees who were receiving the training.

Some small ATPs, who had good core training teams, found they had to employ far more staff so that schools were contacted by telephone on a regular basis to ensure that they were meeting the targets. This was a costly and time consuming process. Accessibility to trainers was important, but even when trainers were fairly proactive, teachers did not always contact them. The majority of teachers seemed to prefer to seek help from a colleague who could demonstrate on the spot. A few ICT coordinators complained of the extra work that was generated for them.

Extensive resources were rather daunting for many teachers who tried to work through them in a linear fashion, even when this was not required. In the later stages many ATPs updated the resources on the web. Teachers were not always aware that they were there since the first material had usually been paper-based. Some teachers were also unaware of the costs of producing resources and saw the ICT materials as a poor substitute for the face-to-face training they had been expecting.

The style of the ATPs fell into two categories. Some courses were planned to build sustainability into the system by developing school based trainers, training them in how to work with teachers and how to select materials that met the needs of the teachers. This model could be used flexibly. The second category encompassed courses that were more structured and prescriptive. The set tasks on a prescriptive course did not necessarily fit within normal teaching and were sometimes a source of contention.

The most successful assessment activities were criterion based rather than prescriptive. Self assessment leading onto school based peer assessment seemed to work better than trying to reach external standards set by the provider. In some cases teachers who already had the required skills were invited to submit evidence instead of doing the set task. However, some teachers did not use the autonomy offered them and did not, as a result, negotiate with the ATP about the accreditation standards. Few teachers had the confidence to challenge the system and frustrations arose from this sense of powerlessness. The variety of the assessment methods was also a source of frustration because teachers compared notes and realised that different standards were being demanded. The take-up of further accreditation beyond the NOF training has been low so far.

All the participants in this evaluation have commented on the improvements that ATPs made in their own quality assurance systems and on the success of the external quality evaluation system which was strengthened by the TTA in 2000 when the problems began to emerge. In the face of this rigorous quality assurance only one ATP has proved to be intransigent and tended to blame the teachers when complaints are communicated. However, some ATPs have concluded that producing materials is where their strength lies, rather than running training courses. In particular, trainers from a business environment were not popular with teachers.

From the quality assurance perspective, the most successful schools seemed to enjoy good strategic leadership and collegiate work patterns. The programme flourished where senior managers valued this opportunity and wanted to make sure that their school benefited from it, even if they weren't

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particularly ICT literate themselves. In these schools ring-fenced time, technical support and general encouragement, contributed to staff enthusiasm. The schools used strategies like regular workshops, informal problem solving pairs and groups that helped to balance staff strengths and weaknesses. However, this sometimes meant that the very able were not stretched. Some resentment was caused by heads who insisted that all the staff did the training even when they were already competent in ICT. In a few cases promotion depended on passing the NOF accreditation. The Leask report (2002) concentrates on the results from this process in detail.

The MirandaNet team interviewed TTA officials about how the QA process had been managed. The TTA explained that they had received feedback from over 2,500 schools – more than 10% of the total number of schools during the period covered by the QA process. To maximise the number of schools contacted and to guarantee the quality of the feedback, they used school visits, questionnaires and telephone interviews, as well as other systematic evaluation, development and dissemination strategies. They also used qualified internal staff and external consultants.

Training in secondary schools was usually more challenging for the ATPs, the largest finding it difficult to ensure that their training made an impact in all regions. As a result the TTA adopted a process of reviewing all the secondary schools where progress was slow, or where the training had stalled. Information was shared between the ATP and the TTA to reduce the demand on the schools. This process worked well and was adapted by the TTA to form a closure strategy for the whole programme.

As a part of that strategy every ATP was sent a schedule of their schools and was asked to identify whether each of their schools had completed satisfactorily, were progressing normally, were showing poor progress or had left the programme. The ATP was asked to give reasons if the school was making poor progress and to give an explanation for the schools that had left the programme.

The feedback from the returns was compared to the information collected from the quality assurance process. Where the information from the ATP was consistent with the information collected from the QA process, and where the ATP had done what it could to deal with the schools making poor progress, no further action was taken. Where the number of schools making poor progress was higher than it should have been and/or the reasons were not convincing, meetings were held with the ATP and, in some cases, the schools were contacted by the TTA. Overall, every ATP was successful with some, even most, of the schools they trained, but the majority of ATPs reported some schools where the training had little impact.

In addition to this process, the TTA asked each ATP for the percentage number of trainees that had completed or would complete the training. In assessing the percentage ATPs were asked to discount those trainees that had left the school during the training. This was an essential requirement for a training programme that would normally take between two and three terms to complete – sometimes even longer. The QA process found that schools with a large turnover of teachers were not confined to the inner cities.

The TTA compared the percentage completion figures against their own knowledge of the ATP and asked for regional information from some of the larger ATPs. For five ATPs the percentage completion figure was reduced because it was at odds with the TTA's own information or because the number of trainees discounted from the completion figures was higher than the norm.

The final result, once they had been filtered in this way, indicates a programme that improved during its lifetime. The TTA also maintained that the findings reflected what was apparent from early on – the majority of the ATPs provided good quality training given the funds available and the circumstances in

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which they operated. Two or three of the larger trainers did have to raise their standards and, when they did so, results for the whole programme improved.

As indicated in the figures given below, over 290,000 teachers have completed their training which is a major achievement for the teachers, their schools and the trainers. A percentage completion rate of 78% is higher than many of the critics of the programme would have expected. It indicates the strides that many ATPs have made since the start of the programme and since the ICT systems in schools have improved and become more reliable.

Completion rates among trainees: all figures exclude trainees who left the school during the training.

Phase/type of training	Number of trainees	Number completed	% Completed
Primary	192,405	157,216	81.7
Secondary	159,151	118,692	74.6
Special	15,627	12,610	80.7
Libraries	2,560	2,205	86.1
All Phases and Types	369,743	290,723	78.6

Because the mode of the training varied between a mainly online system to a fully face-to-face system, the criteria for completion varied between ATPs. Predictably the most demanding programmes had lower completion rates. There are also some interesting aspects within the figures. Amongst the library trainers, the four specialist library trainers – those that only concentrated on library training – had a completion figure of 97% for their 1,000 trainees. If the trainers who attempted to provide a predominantly online model of training are excluded from the figures then the overall percentage completion rate increases from 78.6% to over 81%. Therefore, the percentage completion rate of an individual ATP is not an exact indicator of the quality of the training, or to what extent it addressed the aims of the programme.

If the cost of the programme, including management and quality assurance, is divided between only those trainees that actually completed the programme then it works out at £620 per teacher. Some teachers who did not actually complete their training did, for example, complete three or four modules of a five module programme and should have received some benefit from that training. In addition, some 20,000 teaching assistants received training under the programme and several thousand teachers have been trained to support other teachers in the use of ICT.

Conclusions

From the perspective of the policy makers and QA teams the deciding factors in the differences between the training providers, were not based on their type – LEA, university, private company – but their approach. Their eventual success was largely dependent on the effectiveness of their own quality control and quality assurance, their willingness to take on board the recommendations stemming from the TTA's QA process and how quickly they modified their programme to react to the fact that schools were not yet ready for elearning.

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As a result of this programme it would seem that there is now a broad knowledge in the UK amongst teacher educators, trainers and advisers about how to teach, and how not to teach, teachers about ICT. There is also knowledge about accrediting teachers, although most of this is pessimistic (this was not a process that most teachers relished). A crucial point is the apparent lack of knowledge about how ICT relates to learning and about the processes of transformational learning.

The policy makers acknowledged the constraints that had occurred especially in the early days. However they suggested that, in retrospect, the programme is likely to be one where over the next few years thousands of teachers will reflect on the fact that their ability to use ICT in their teaching was given a fundamental shift by their NOF training. Greater ICT awareness in the profession may provide the stimulus for systemic changes in teaching and learning in the future. The policy makers also commented on the flexibility of the majority of the ATPs and their willingness to modify the original programme.



Trainers' perspective: key issues from interviews with the ATPs

The evaluation team planned to include as many ATPs' views as possible in this evaluation. All forty seven ATPs were invited to respond in meetings, by post, by email and by telephone to the initial questionnaire. Twenty six responded to the questionnaire. The explanation for the low response rate may have been that, by the end of 2002, several of the ATPs were no longer training teachers. Twelve ATPs were interviewed in depth.

The answers from the responders fell into two main categories: **school culture and leadership** and **the management of the programme**.

School Culture and Leadership

The ATPs were agreed that a positive attitude towards the NOF training on behalf of the senior management was important in providing a favourable school ethos and in creating a positive attitude towards ICT training.

The Leask study (2002) that focused on the evidence from the QA process found that ICT training was successful where senior management :

- *Had a clear vision for the role of ICT in the school.*
- *Appointed a teacher within the schools to liaise with the provider and to support colleagues through training, including applying the training in the classroom.*
- *Established synergy with other national initiatives.*
- *Made directed time available and provided ongoing support.*
- *Waited to start the training until equipment was available.*

The ATPs comments endorsed five of these seven factors.

Evidence for Leask's other two points are endorsed by the schools' observations later in this study. These were:

- *Choosing the ATP carefully.*
- *Taking up issues with the ATPs if there were problems.*

Leask also concluded that there are four factors that lead to more effective training.

- *Technical support, equipment and infrastructure.*
- *Low staff turnover.*
- *Positive staff attitudes.*
- *The match between the learning styles of participants and the chosen training models.*

Although the ATPs endorsed these factors they pointed out that they were not always in control of creating favourable conditions in the schools. The only one of these factors which they were able to manage unilaterally was the match between learning styles and training models. The restriction on their freedom to manage this was the limited training budget per head.

The ATPs made the same point as Leask made about the importance of 'fully informing senior management about the purposes, outcomes, timescales, commitment required – often through a

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half-day training or conference' (p34). The majority of the ATPs who had set up these meetings found these were a significant opportunity for co-operation and collaboration with the schools. Sometimes these conferences were an opportunity to explain to senior management the factors which would influence success. There was some evidence that the trainers and the schools did develop a more positive relationship as the programme progressed. The greatest problem in a packed training schedule was the failure of the technology, which the ATPs did not control as they were most often dependent on school or LEA resources.

Another challenge was the NOF terms which did not permit payment for teachers' time. ATPs were, therefore, hampered by teachers' attitudes towards the lack of support cover which contrasted with other government initiatives like the literacy and numeracy strategies. Some teachers were difficult to engage and motivate as they were resentful about the training which they saw as an imposition on their time.

ATPs observed that the school culture and the strength of the leadership were the factors that influenced positive reactions to the training in schools. The ATPs, while finding great variation in the support given by the school, emphasized the essential role played by senior management in supporting change.

Senior management created a positive atmosphere by talking about the training in relationship to the school vision and talking through the staff's reservations. Support from the school was also manifested in numerous practical support gestures like implementing technical support for the training, providing supply cover, rearranging staff meetings, making timetable changes, providing discussion forums, making time for workshops, paying for travel expenses and supplying appropriate hardware. These strategies were significant in making the teachers feel valued and promoting positive attitudes towards the training.

Management of the programme

Within **the management of the programme** category were four themes:

- *Needs identification*
- *The management of the trainers*
- *Blended learning*
- *Tracking, monitoring and accreditation.*

Needs identification

The NOF programme was introduced into an arena of wide-ranging needs, schools contexts and expectations. ATPs often abandoned the TTA Needs Identification CD-ROM for a simplified or more integrated approach. Unskilled teachers found it to difficult to load the Needs Identification CD-ROM or answer the very detailed ICT questions.

Our evidence indicates that many schools entered all their teachers for the training, rather than those teachers who needed it. As a result, the ATPs became increasingly flexible in their needs identification strategies in order to handle the wide range of abilities and aptitudes of the teachers. Problems with the ICT technology, little or unreliable access, and lack of teacher ICT skills were the major barriers to successful training encountered by the ATPs. On the other hand, ATPs often commented on the fact that between 1999 and 2003, both technology and access had improved and, therefore, the current technological picture is now very different.

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Many ATPs had not anticipated the wide variety of skill levels of teachers. The funding for ICT in schools had included an element for skills training but, in fact, many teachers starting NOF did not have basic ICT skills. Added complications included a wide-range of previous experience and competence levels on the part of the middle range participants, as well as the extremely varied school contexts in which the ICT knowledge was to be applied. Another problem in some schools was that the detailed TTA Needs Identification process raised expectations of highly individually differentiated training which was not, in fact, available.

The few trainers who used the TTA CD-ROM for needs identification found this ineffective, chiefly because it did not load easily and was too detailed for beginners. Many ATPs came to realize that the Needs Identification process was too complicated, and that, in order for their training to be successful they had to be flexible in the approach. Many attempted to individualize programmes to meet the needs they found, often involving additional costs. The following comment made by a senior manager typifies some of the challenges:

“ Our experience was that there was considerable confusion over the original needs identification process and the standard of LEA verification varied greatly from authority to authority. Consequently, there was no common starting point that could meaningfully be used to individualise programmes and we incurred an additional overhead in effectively starting this process from scratch with each school. ”

Most ATPs produced their own versions of needs identification related to TTA Expected Outcomes, involving a combination of online and/or paper formats, group sessions and face-to-face, resulting in a variety of different needs identification systems. Three approaches are exemplified here:

Using the TTA Needs Identification CD-ROM

“ Initially, we encouraged trainees to use the TTA CD-ROM for identification of needs and, though this contained excellent exemplar material, it did not generate sufficiently precise indicators to use to devise an action plan for individuals. We then devised a much simpler paper or electronically based tool based on the eighteen NOF Expected Outcomes. ”

Integrating the TTA Needs Identification into the ICT programme:

“ We designed a modular programme and produced our own needs analysis booklet to help schools and teachers plan which modules would suit them best. Some schools gave everyone a copy of the booklet, others used a more central approach. Each module was priced separately so some staff could receive more training than others if this was required. ”

Simplifying the process

“ We issued our own simplified tick sheet, which was modified in the light of experience. ”

Many teachers in the school survey indicated that the electronic format of the TTA Needs Identification CD was too difficult to load and the lack of ICT skills of the participants made it hard for them to answer the wide ranging questions. This trainer highlights the technical problems that emerged in using the CD-ROM:

“ We started off using the Needs Identification CD provided but quickly found that this did not go down well in the schools. It was sometimes difficult to install and use and raised completely false expectations on the part of the teachers which we were not always able to completely fulfill. ”

Management of the trainers

The evidence from the ATPs suggests that the strategies used for trainer management, and the choice of personnel, was chiefly affected by these four factors:

- *The delivery model : whether it was predominately online or face-to-face.*
- *Their size as an ATP, and the number of schools they covered.*
- *The kinds of schools they were involved with and the school context: whether the training was being offered to primary/secondary/specialist schools, and whether it was targeted at whole school or subject areas.*
- *Their geographical location, coverage, and how dispersed the schools were.*

A rigorous approach to recruitment and to the training of trainers, backed-up by a thorough QA system, were the most cited ways of ensuring quality training and trainers. Most ATPs stressed the importance of using, as trainers, existing classroom practitioners. Four characteristics, listed here in descending order of importance, emerged as significant.

- *Trainers were expected to have had recent classroom experience as ATPs recognized the need for the trainers to have credibility with the teachers.*
- *Trainers needed a proven track record of using ICT in the classroom.*
- *Trainers required the ‘ability to relate to and empathize with teachers in schools’.*
- *The demonstration of good teacher training skills was important.*

Interestingly, being an ICT specialist/coordinator in schools was not necessarily seen as being essential or as necessarily advantageous. Some ICT specialists were thought to lack the people skills which were essential in this challenging training remit.

ATPs commented on the fact that many trainers, especially the in-house ones, were motivated by a desire to gain experience of training and mentoring colleagues rather than to make extra income.

Several trainers were enthusiastic about the local trainers from schools and LEAs. This quote is typical of the ATPs’ observations about this issue:

“ Professional involvement of trainers in the development of the course and course materials helped to create a team spirit which has been beneficial to the quality and success of the programme. The payment was not overly lucrative due to the significant set-up and running costs. Nevertheless, the ability to make the commitment to trainers of ongoing work for the course of NOF has been valuable in raising the profile of ICT across the region. ”

But the commitment of the local trainers to other initiatives and the extra time demanded of them were again considered as problems that arose from using existing classroom practitioners and training personnel. ATPs found that practising teachers were the group most difficult to employ as trainers, because of the need to cover their classes. Their confidence in their own training was affected by a lack of time to be involved in e-mail discussions and tutoring on a more regular basis.

The ATPs also commented on the value of supply teachers, teaching assistants and technicians in the effective delivery of the programme at the school end.

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Many ATPs stressed the importance of regular and frequent communication between key personnel:

- *To build a good team spirit*
- *To exchange ideas and problems*
- *To offer further training and support.*

ATPs described several team building models. In one example the ATP recommended regular and consistent communication between the project management office and the trainers and between the trainers themselves plus a rigorous quality assurance system. The members of the team were all local and most were in-house.

A second successful ATP suggested face-to-face meetings at least twice per term to support and update the trainers. In this way trainers had the opportunity to exchange ideas and experiences with each other, which helped form a cohesive unit.

Other training programme elements that worked included: trainer get-togethers; forums for trainers and a bulletin board of training ideas that worked and suggested workshop plans.

There was no clear argument about the need for dedicated full-time staff. Although 'dedicated' staff had more time to prepare and therefore were able to bring added value to their training these staff did not seem to be consistently better than staff with multiple responsibilities. In terms of ICT skills one ATP commented that the quality of training was completely independent of whether the trainer had ICT responsibility or not. Quality was more a function of teaching experience and training skills.

Another ATP noted the proverb, 'If you want something done give it to the busiest person'. In other words:

“...multiple responsibilities did not necessarily obviate quality support. There were also clear instances where other responsibilities informed and helped provide a context in which the programme could flourish.”

The ATPs agreed that, in order to make systemic changes in using ICT for teaching and learning, there was now a need for the education of trainers, efacilitators and school leaders in the management of change. The pedagogical issues were rarely articulated. The TTA ICT syllabus for teachers would need to be rewritten to embrace the wider issues about teaching and learning and to put greater emphasis on the impact of the Internet which was not apparent in 1998.

Impact of blended learning

The NOF programme planners hoped that the mode of delivery would be largely online since considerable sums had been invested in the National Grid for Learning. However, the roll-out of the equipment to schools took longer than anticipated and it also took time for teachers to familiarise themselves with the equipment and for any teething problems to be resolved. There was also some doubt that trainers existed within the teaching force who were ready to train teachers online. The culture of efacilitation had not yet been created.

Many comments from the ATPs were based around the fact that teachers' and the schools' cultures of learning did not, to varying degrees, accommodate online learning and, therefore, the benefits of this learning method were difficult to judge fairly.

One ATP mentioned that many of the schools requested more school-based training than they could afford to offer. Another suggested that distance learning might seem cheaper on paper, but if the outcomes were not reached it was then an expensive method of teaching.

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All ATPs recognized the value of a blended learning model, as that combined the best elements of both approaches. Some provided face-to-face delivery backed by online learning: others produced an online model supported by a face-to-face element.

For one large ATP with an online delivery model the majority of training was provided in the form of mentoring. This service offered professional support and guidance to the teachers that were using their remote learning materials and facilities. This ATP did suggest, in hindsight, that a blended approach towards training delivery might have avoided some of the challenges they faced.

“ Having aimed at an entirely online mode of delivery at the outset, we found that we had to amend our approach to achieve more commitment from schools. Specifically, we organised more basic ICT skills resources and training as we found that most of our customers were looking for this before they aspired to the Expected Outcomes as defined by NOF. We also offered a range of face-to-face training and support visits to encourage engagement in the training and cover the technical and other issues that might be preventing schools from making progress with the training. ”

This comment is typical of ATPs who made many changes to their programme to allow for teachers who were not accustomed to learning online. Understandably, teachers who prided themselves on good face-to-face teaching skills felt uncomfortable about being taught remotely particularly when their online skills were not adequate.

Other large ATPs covering large geographical areas were pleased with the blended approaches they developed. These included:

- *Paper text and CD-ROM materials produced by subject experts who had a secure pedagogical understanding of teaching and learning.*
- *Online support provided by websites and a conferencing system.*
- *Email discussion groups, particularly with the shared input in ongoing resources development which provided the context for revisiting issues.*
- *Online support supported by at least one face-to-face training day per year.*
- *A team of school consultants 'to provide an injection of support' for schools who were making poor progress.*

At its best elearning appeared to demand the talented use of sophisticated web learning environments and well designed websites.

References to the use of web resources were infrequent. There appeared to be significant problems with the reliability of a major conferencing system, which could not handle the numbers involved. This could not have been foreseen by the ATPs who had chosen this system for its reputation and reliability. Unfortunately, many trainers' and teachers' confidence in online learning seemed to be undermined by these technical failures.

Many of the ATPs designed their own NOF website to cater to the specific needs of their trainees. This extract represents the processes some of the ATPs went through, particularly those who were subject based:

“ We designed our own website from the start. As usual, our particular subject never fits neatly into anything that is set up for mainstream. We had definite ideas about what we wanted to offer our trainees online, and the capability to do it ourselves. ”

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Further, many websites were designed in-house, as this was seen as being more effective in covering the particular needs of the training being delivered by the ATPs. One of the ATPs who designed in-house explained:

“ The designer put herself in the place of a busy teacher who had not used ICT on a regular basis for subject teaching and who needed to access high quality teaching and learning resources in a short time. The site is organised into National Curriculum subject areas, but there is also a cross curriculum area for issues which cannot be classed as subject-specific – this area also gives teachers free trials of high quality products, so that they can progress their ICT usage. ”

There was also evidence that websites were modified during the programme to reflect changing training needs. One ATP explained how their provision had grown from the initial site which was ‘merely a portal-site – but as the community grew, so the site concept emerged. Our site is not derivative, but built around the needs of the programme users.’

It is also apparent that the websites differed widely in design and in the range of functions. Contrasting website designs were based on different concepts about teachers’ learning. For example one ATP boasted a website with a limited range of functions. The intention was to start candidates with a paper based programme. As they completed the programme they were required to start making use of, for example, an online evaluation form which was a gentle linear introduction to working online.

Another ATP expected far more of the teachers by putting all their resources online and developing a discussion area, a personal log of progress, additional links and resources, a calendar of events, and contacts with other schools. This ATP found that the most effective areas were the teachers’ resource pages, which were uploaded by individuals.

Other ATPs gradually produced innovative sites which integrated teachers’ ICT skills with their learning about ICT in their subject area. These sites require teachers to think in a multimedia way about using the Internet. This kind of use helps them to understand how children perceive online learning opportunities. For example, one of the ATPs created an innovative interface which covered all subject and phase areas, integrated moderators’ weekly messages and online ezines, which is an online magazine, with more substantial subject cameos, professional tasks, examples of portfolios and good practice. These linked through to moderated online subject and phase specialised conferences. It is not surprising that so many modifications were made in this new area

Despite the growing understanding of the role of blended learning and the design of websites, face-to-face delivery was seen as the most effective form of delivery at certain points in the NOF programme:

- *As an initial step before online training began*
- *As being more appropriate to teachers’ current learning styles*
- *As providing motivation*
- *As inspiring confidence and improving attitudes towards ICT, especially where trainees’ skills levels and familiarity with ICT was low*
- *As allowing more flexibility over individualised needs and circumstances/contexts for schools and teachers.*

Many of these above elements were recognized during the programme by the larger providers who had initially provided only online, or a high proportion of distance learning, training. A selection of comments

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indicates the power of the face-to-face strategy especially at the start. A flexible trainer gives a sensitive description of the way in which the elements of blended learning might interact:

“Anecdotal evidence suggests that the flexibility of online materials suits a busy teacher’s schedule, but conversely lacks the driving force towards completion that the face-to-face approach generates. Whilst online materials are flexible in terms of the timing of training sessions, the materials are very inflexible and cannot be adapted to the needs of individuals. Tailored materials and practical in-class work was very much a feature of our training.”

However, problems were encountered with the face-to-face approach when trying to accommodate it into the school’s available time. In contrast, online was seen to be more time-flexible. Additionally, face-to-face was considered to be more problematic than online training for subject training as trainees were more geographically dispersed. Face-to-face was also not so cost-effective in imparting the full range of material, especially subject specialist material and recently up-dated material.

ATPs explained that schools had an overwhelming preference for face-to-face delivery model. The reasons behind this seem to be that this form of delivery corresponded more closely with: the trainees actual learning styles; their perceptions of “good” learning and their professional working environment.

For many teachers the term “training” meant that a person would be in contact, a perception that many ATPs had to deal with if they worked on line or sent resources.

That the culture of learning, and attitudes towards ICT, has been changed by NOF was apparent to the ATPs. They further suggested that using online communities, the sharing of ideas and resources as well as the development of collegiality were perhaps concepts that needed to be tackled in any post-NOF initiative.

Tracking, monitoring and accreditation

Tracking, monitoring and accreditation were managed in a variety of ways: face-to-face contact, core sessions, online through systems and paper based documentation.

The main points stressed by the ATPs were that regular contact and good communication between all the key players were essential to ensure the degree of ownership individual schools and teachers wished to exercise to reflect their particular situations and needs. Good communication also identified potential non-completions and ensured remedial support was offered. ATPs found that clear explanation of completion criteria was important. Whole school support was required in the monitoring which also involved having school management fully engaged in training and supporting staff. According to some trainers simplicity in accreditation was a key element.

“A simple spreadsheet noting the names of teachers and the stages of their progress worked as well as anything.”

Said one trainer...another trainer argued for simplicity:

“We produced an online system for submission of evidence and tracking progress towards accreditation. This was monitored by an individual school linked tutor. Where schools were willing to take part the system worked really well and it was simple to operate and monitor.”

There were differing requirements for participants to achieve in order to complete the NOF-ICT training according to the ATPs. Some demanded a portfolio plus action plan for a completion certificate.

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The ATPs who described the process in detail emphasised the connection with the classroom. This was an important manifestation of the intention to promote pedagogy. The following trainer links the programme with lessons:

“Two forms of accreditation were available to teachers. All teachers were encouraged to work towards accreditation of their classroom practice for which they had to compile a portfolio of evidence which had to include at least three lessons showing use of ICT. Teachers could also work for accreditation of their personal ICT skills by working through individual modules provided on the training CD. ”

Trainers who believed in practice based research methods had little funding scope for the more individualised tutoring that is required. However, those that took this route did seem to have a good rapport with their clients. The following trainer’s comments about holistic and organic training approaches indicate some of the benefits of this approach. It is interesting that whereas several trainers have not continued in this field, this trainer plans to continue:

“We found that the simplest approach was to ensure that assignments were based on actual classroom practice and therefore as closely as possible were integrated into teachers’ normal planning processes. Our definition for completion in a module is based upon an action research model and encompasses a cycle of planning, delivery, evaluation and review. With a school typically receiving direct support for the majority of a school year we could be flexible as to when the critical delivery phase was undertaken. We feel that this action research model is critical for acceptance by teachers and would advocate its use in future projects. We did not find micro-tasks and artificial assignments with a more abstract relationship to classroom practice to be effective. ”

Deadlines were considered to be important, especially if the teacher deadlines matched school development plans. Strong co-ordination with agreed, but flexible deadlines seemed to work best. One successful ATP commented that various elements of flexibility within a strict structure agreed by contract over a short-medium period had been a huge success of the course.

Other ATPs talked about the challenge of working with schools. This extract illustrates some of the problems:

“We made things very difficult for ourselves by trying to accommodate the needs and timescales of the schools. This resulted in some training taking much longer than anticipated or was necessary. When we gave schools deadlines, particularly for the final cohort, we found that they pushed themselves to work to those deadlines. ”

Frequent mention was made in this context of the importance of the school ethos. ATPs explained that adherence to ‘deadlines’ varied. Success depended particularly on the attitude of senior management.

The resentment that teachers felt about using their own time for this training sometimes focused around the accreditation, particularly the portfolios that were required by some ATPs:

“The staff often asked what is a portfolio of evidence, what is being looked for, how much do they want. . . some staff were happy with the units, and some staff weren’t happy with the units and then overlaid on top of that was the fact that people didn’t have computers, internet access at home so they were restricted to doing it at school. Or people who had it at home said, “Well why should I be using it you know, surely this is training it should be in school time”. So there were those issues. ”

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Some staff were anxious about the accreditation aspect of the course, but portfolios could work in the right conditions.

“ We just had to do it: a lesson with the children and perhaps an example of some photographs and just a Post-it in our folder saying how we'd done it, and that was the beauty of it. I think everything was completed very quickly. It wasn't lingering on and on and on. ”

Although few teachers seemed to be interested in the formal qualifications that some ATPs decided to offer, many did complete their portfolios because they contributed to their promotion prospects or to their Threshold payment evidence. On the other hand, some teachers set their own individual targets for future development which fitted in with CPD plans. Often the achievement of the project outcomes was not discussed with individuals as a part of the cycle of professional review and development, but in a more informal way in hallways and staff rooms. One head did a skills check of staff after the training as part of her performance management training. Another school in their last session, did action plans for the teachers further CPD. They are slowly going on courses to carry out these action plans.



Key issues from the school survey

Methodological issues

The quantitative findings in this report present a snapshot of teachers' opinions of the ATPs' programme provision at the end of 2002.

The NOF programme started in 1999. Journalists tended to emphasise the opinions of schools that were not satisfied with the training in the first year. Much of this reporting was, of necessity, anecdotal. However, these concerns from the press were helpful in exposing problems early enough to impact on the programme modifications. One of the strengths of the quality assurance process is that intelligent adjustments were made in the first year. Much has been learnt in the process by the core players.

The 2001 OFSTED reports were also discouraging although by this time there was a discernible improvement in the TTA QA returns. This may have been because the OFSTED reports did not attempt to give a full picture of what was happening. For example, the first OFSTED survey of NOF training was conducted too near the beginning of the process, and gave too much weight to secondary schools. The reason for this is that the training took longer to get under way than NOF, the DfES or OFSTED had anticipated. In addition, OFSTED concentrated on those trainers that were active from the beginning which meant that the small local trainers and specialists subject trainers, which were producing better results, were not always covered. (OFSTED 2001, OFSTED 2002).

In this survey the team attempted to redress these gaps in knowledge. The MirandaNet sample represented a broad national spread, an appropriate split between secondary and primary schools was achieved and forty of the forty-seven ATPs were covered. We were also talking to teachers who, in the main, had finished the programme. From the one thousand questionnaires sent out, six hundred and thirty eight replies were received from the teachers who had main responsibility for the NOF training. This high percentage of returns suggests that teachers were keen to co-operate in this review. A separate section is included on the specialist library training which was not covered in this survey.

By the time of our survey the ATPs and the participants had made so many changes and adjustments in the programme that the measured data are significantly different from the data collected by earlier research. These modifications by the ATPs were based on the feedback from the teachers and TTA QA process during the life of the programme. This research suggests that this QA feedback process was successful in ensuring that the programmes suited the teachers' needs better towards the end of the process than they had at the start. A section has been added to the report based on interviews with the TTA to explain how this QA system worked.

The questionnaire focused on the outcomes of the ICT training, the quality of the provision and the quality of the learning experience. Other questions were asked about the training model and the access the teachers had to a computer and the Internet.

Lickert-style response ratings were used, ranging across five measures from strongly agree, agree, neither agree nor disagree, disagree, strongly disagree. The text sometimes refer to 'neither agree nor disagree' as 'ambivalent'. The Lickert scale was intended to measure the degree of schools' engagement with the training. A scale of emotional response seemed appropriate since the use of computers does appear to engage the emotions. The use of the Lickert scale filtered the best and the worst experiences of the training.

The five ratings also made it possible to record the responses of large numbers of teachers who felt that they had made progress during the life of the programme. It is important to study the pie charts and the bar charts to trace the records of a large majority who neither agreed nor disagreed with the statements put to them. This ambivalence appears to suggest that, for these respondents, there has been an

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absence of serious problems or highlights in the training. This means that there is a majority of teachers, as illustrated in the pie charts, who appear to have had a reasonable experience at the end of the NOF training.

Average findings, however, do not inspire headlines. It is also difficult in reports like this to give average findings the statistical weight they should have. As a result, in this summary of the findings it is mainly the extremes of opinion that are reported - both positive and negative. These extremes are particularly clear in the free response section of the survey instrument.

Another factor that is important in reading these statistics is to remember that the forty ATPs in the survey were training groups that varied significantly in size from one to sixty one. The result of the variability in response numbers was that the ATPs who were training large numbers were statistically advantaged because they received positive responses from the majority of individuals they were training. This is either because the larger trainers were giving better training than small providers, or, more likely, that amongst a very small number, dissent gets a greater weighting.

There were indications that within the groups of teachers attached to the larger ATPs a small number did not always have consistent access to the Internet. This lack of consistent access, however, was balanced by the fact that, in these cases, a range of training models were in operation. Choices could be made about when and how to use the technology.

More than 350, over half, out of six hundred and thirty eight teachers, elected to answer the unstructured question at the end. The wording encouraged teachers to respond on issues that had not been raised in the questionnaire. These replies, which commented on thirty seven of the fortyseven ATPs, offer a wide range of opinion. More than half these free comments were largely positive which is a good result as written questionnaire answers tend to produce a more negative response than interviews.

Nvivo was used by the evaluation team to quantify the themes that ran through the free comments and to identify the main issues. The themes that are recorded emerged in more than two responses. They correlate closely with the findings from the school visits. The headings indicate the scope of the topics that engaged teachers and were uppermost in their minds at the end of 2002.

Analysis of the structured questionnaire replies

The key finding of this survey is that there are no areas of the training which are consistently considered as being negative by a large portion of the sample. In general, the majority of the programme elements were rated positive by at least a third of the sample. A further half of the sample were generally of mixed opinion or ambivalent.

The top five scoring ATPs recorded no negative responses for any questions. Four of these training providers used face-to-face training as part of the model: the other one had focused on mentoring. An inference from these findings that the human interface is important in early ICT training was borne out by the rest of the study.

Up to a quarter of the respondents had misgivings about some important aspects of the training. A significant minority signaled difficulties which required action. We found six ATPs who were giving cause for concern in some areas which accords with the TTA QA reports. Our evidence about one small ATP receiving entirely negative feedback also accords with the TTA QA findings. Our reports on the ATPs and the schools indicate ways in which some of these problems were being overcome.

In terms of the teachers' responses to the training, the evidence suggests that a large majority of teachers did make progress by making creative use of the opportunity offered. This finding is substantiated by the visits to schools which recorded progress in ICT learning throughout the NOF programme.

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Another significant observation was on the progress that individual teachers had made during their training, as well as on the establishment of the ability to articulate any further training they required. Nearly three quarters of the sample gave a positive response to this question. Even respondents who had given generally negative feedback on their ATP responded positively to questions about the ICT progress of individual members of the school staff. The only wholly negative response on this issue was returned by teachers being trained by the small ATP that was resisting advice across the board. (Figure 1)

On the matter of needs identification, just under half of the sample gave a positive response to the match with the identified needs of the individual and what they already knew. A third of the sample felt that the training being provided did not match their experience. (Figure 2) Over half of the ATP trainers had helped teachers to understand the reasoning behind employing ICT in their subject well. The teachers also felt that they were able to judge when it was appropriate to use ICT and when it was not. Six ATPs were not thought to be fully successful in making these aims clear to begin with (Figure 3).

The training programme of just over half of the ATPs was judged to have enabled the teachers to apply ICT in the classroom. These successful teachers also felt able to judge whether a computer based teaching resource was appropriate or not. The same six ATPs were not thought to have been fully successful in this area (Figure 4).

The TTA's earlier quality assurance had produced a relatively poor response in the answers to the question, 'The model of training matches my preferred style of learning.' As a result a number of ATPs were asked to adapt their training model. The improvement in the results in this survey taken in 2002 suggests that this quality assurance strategy had worked since for two fifths of the ATPs, the majority of teachers reported that the training had matched their preferred style of learning and for two fifths of the ATP models teachers neither agreed nor disagreed which suggests that they did not feel strongly on this point. Answering for one fifth of the ATPs, a majority of these teachers were not convinced that their learning style was being recognized (Figure 5).

Most of the positive responses about learning style were attributable to ATPs who had used mixed training models: face-to-face, online, paper-based assessment, computer-based assessment, mentoring, e-mentoring and web-based approaches. A mixed model seems to be helpful when planning to match the type of training with individuals' styles of learning since teachers appeared to have very different needs

Just over five eighths of the teachers thought that the training was well matched to their needs and relevant to the subject or phase in which they taught. One eighth of the sampled ATPs were judged totally negatively in response to this aspect of the quality of training (Figure 6).

The human factor emerged again clearly in the responses about the quality of the trainers. Although a few training providers received generally negative responses, the teachers were still of the opinion that their mentors or trainers were well informed about their subject or phase and were able to offer sound advice and guidance. Just over half of the groups gave a positive response to this aspect of the quality of provision. About a quarter were ambivalent (Figure 7).

In terms of support and administration similar proportions felt that the ATPs had served them well. Over a third of the sample thought they had received above average support from the training provider throughout their training, while seven of the ATPs were thought to have offered below average support. (Figure 8) Half the sample regarded the administration of training and communication by the training provider to be effective. One eighth were rated ineffective.

Pie Charts indicating the spread of teachers' responses

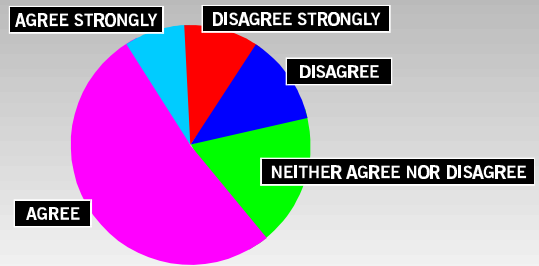


Figure 1. I am aware of the progress I have made and any further training that I may require

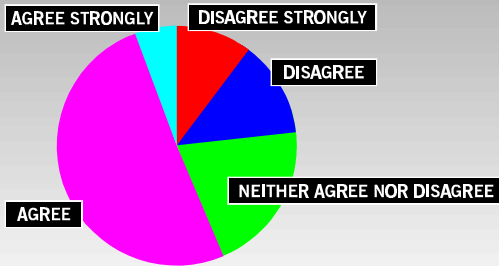


Figure 2. The training I have received or I am currently receiving has taken account of what I already know and is matched to my identified needs.

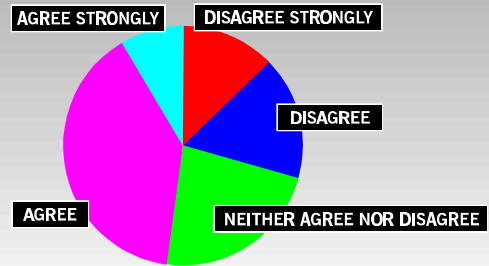


Figure 3. The training helps me to understand when and how I should employ ICT to teach my subject.

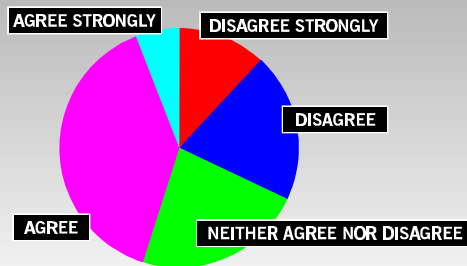


Figure 4. The training has enabled me to apply ICT teaching and to be more critical of when ICT is an appropriate teaching resource.

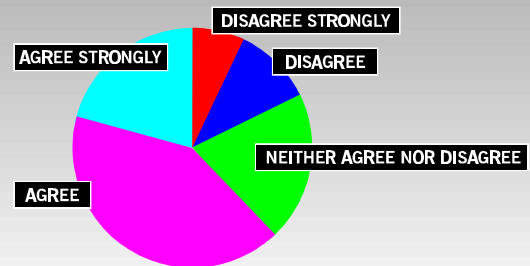


Figure 5. The model of training is one which matches my preferred style of learning.

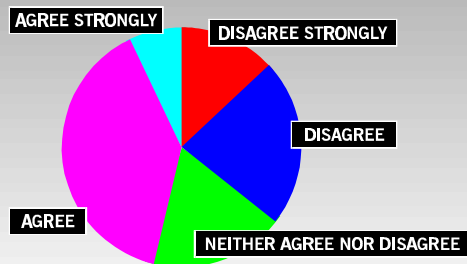


Figure 6. The training materials are well matched to my needs and relevant to the subject or phase in which I teach.

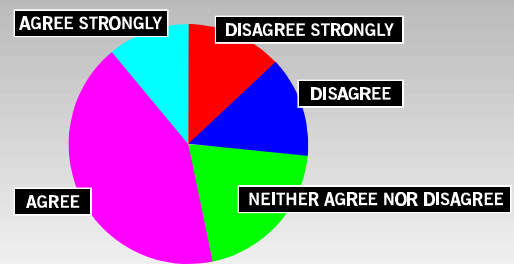


Figure 7. The trainers or mentors with whom I have been working are well informed about the subject or phase in which I teach and are able to offer sound advice and guidelines.

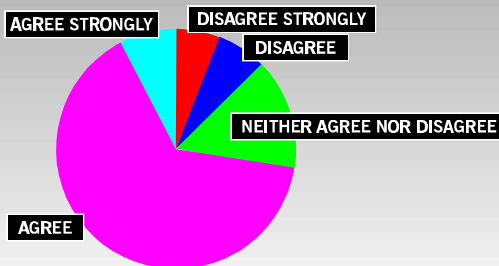


Figure 8. I have received support from the provider throughout my training.

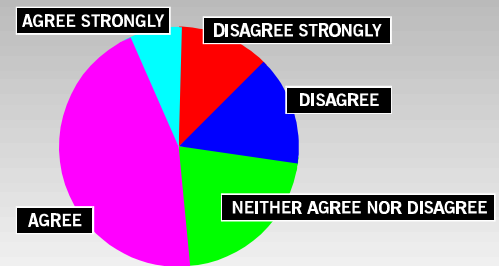


Figure 9. The administration of my training and communication with the training provider has been effective.

N.B. A black and white chart can be found in appendix one for those who want to photocopy effectively or print in black & white.

Analysis of the teachers' free comments

The bulk of the criticisms in the free comment section focused on twelve ATPs where there had been problems in the delivery of the programme. Two of these were the larger trainers. A series of challenging difficulties in four cases seemed to have led to the training not being completed or to schools changing their provider mid-stream as instanced by the comment, "Our training was abandoned half way through the course because it was not meeting the needs of the school".

Quality of the trainer

The quality of the trainer was the factor most commented on, both in the negative and the positive comments. This indicates the importance of the right face-to-face approach in the first stages of computer training. Teachers valued a pleasant manner and one teacher was effusive saying that the trainer did a difficult job superbly. Mentors were also mentioned with approval although it was difficult to identify the difference between mentors and trainers because the vocabulary of the various training programmes differed.

This quotation is typical of the kind of approach that was appreciated;

“ Our contact at the LEA tailored the NOF training program to suit our needs and the time which we felt we had available to extend our knowledge. They were very supportive and without this contact we as a school would have struggled to complete our training. ”

Many teachers commented on the learning progress they had made. Factors that contributed to teachers' success included the flexibility of the programme and tailoring to meet the very specific needs of the teachers. However not all the programmes were tailored to needs. Teachers seemed sympathetic to the problems of the trainers in circumstances when there was a wide range of ability to manage in one session.

Other tutors were complimented on being able to meet the needs of the group as the learning relationship grew. This comment is typical of findings that illustrate how trainers adapted and modified during the course of the programme:

“ The trainer grew in confidence greatly between the first course and the second. He employed a range of different activities designed to address diverse learning styles. It was great to have the individual follow – up session after the first training. This gave each participant support at their own level and encouragement to develop skills further. ”

Negative comments were also made about some training styles. There were some indications in the schools section that some of these came from a business rather than an education background. A few of these failed to empathise

The great benefit was the appointment of an in-house partnership tutor who maintained close contact with the Training Provider. Regular visits from the ATP representative were welcome. Our ATP has proved to be a good choice.

After an initial problem, caused by a breakdown of communication and misunderstanding of the situation by the teacher in school, and a meeting with the trainer the training proceeded efficiently.

Most staff were reluctant at the beginning of the training but have since gained in confidence and expertise in using ICT across curriculum areas - but most staff have explored using ICT for teaching and research for the Humanities, P.S.H.E. and R.E also. We have had lots of setbacks with equipment - often during training sessions - but our trainer was always encouraging and patient with us.

Enjoyed the course after experiencing 1 or 2 initial problems. It helped to discuss these with ICT training and the man from ATP.

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with teachers' needs and concerns as this teacher indicates:

“ The face-to-face trainer was too fast. He did not explain in detail and it would have been nice to hand out notes so that we could use it after he had left. ”

Another teacher describes a dull and boring presentation in which the trainer didn't make eye contact with his audience and talked at the teachers for too long. Finally the teacher says, 'His voice was monotone and held no enthusiasm. I didn't learn any extended skills. I left before the end.'

Another complaint was that some ATPs sent too many different trainers, and a few trainers who had been booked did not appear. In the worst cases comments indicated that the trainer did not understand the complexity of a teachers' job, or their needs and had problems adapting the training.

Trainers who were struggling with the task seemed to respond when the teachers began to engage and to manage the situation as in this scenario:

“ Our trainer took some time to appreciate the range of abilities within our group and often took us all through areas we didn't need to cover, thereby wasting training time. The latter sessions were better after we explained this to him! ”

Another teacher commented on the growth of the trainers' confidence as he began to create a rapport with the group:

“ The trainer grew in confidence greatly between the first course and the second. He employed a range of different activities designed to address diverse learning styles. It was great to have the individual follow-up session after the second training. This gave each participant support at their own level and encouragement to develop skills further. ”

Co-operation with the trainer and taking responsibility for the training choice also seemed to be important factors. Mentions were made of initial mismatches between needs and materials, computer breakdowns, poor links with the trainer and lack of interest by the staff. In this context all of these problems were overcome by dialogue and growing trust between schools and trainers.

A few respondents pointed out the differences in reaction to the same trainer from different subject departments in the same programme. This observation encapsulates the complexity of the task being undertaken.

“ Departments and individuals reacted differently to the training. Some felt it was very unproductive because of the lack of competence of some of the trainers. Others who were lucky to match their needs to excellent trainers were more positive. For some the session was a catalyst for taking ICT skills further. For some who are already good at ICT, the sessions were a waste of time. ”

In this context there was evidence that some of the teachers themselves were under-motivated in ICT sessions. This is not the only commentator who mentioned that teachers can be hard to teach.

“ The three initial sessions were good – although spoiled a little by the negative attitudes of some colleagues from another school. ”

Two other teachers were distressed at the behaviour of colleagues who seemed determined, like troublesome children, to interfere with the learning of others.

Collegiality

On the other hand, there was praise throughout the free comments for the support and help of school colleagues who were sometimes more effective than the trainers because they were on the spot. In many cases this support had been the vital element that supplemented the ATPs work and ensured that progress in learning was made.

This detailed reply sums up how colleagues were able to plug the gaps that the ATPs were not able to fill:

“ The training I received was varied. Some sessions were useful, eg PowerPoint, but the training felt rushed with little follow up or opportunity for reinforcement. There were areas I had identified as a need that were not covered, eg Excel, which would have been really useful. We had subject specific training on Control Technology. This was an adequate ‘taster’ session, but lacked the depth and detail we had anticipated. We have since done our own ‘in house’ training with this and other areas of ICT which have proved effective. In preparing lessons in ICT the preparation time with the head of ICT has been a valuable training tool for me and has extended my knowledge more widely than the NOF training did. ”

Evidence of learning progress despite the difficulties is to be commended amongst colleagues who created the opportunities for sharing and working together. Colleagues were soon identified who had enough knowledge to help the rest. This NOF programme seems to have raised all kinds of questions amongst teachers about collaborative, learner-driven ways of learning that they have been exposed to and how to deal with the complexity of training needs. A few schools commented that they would have liked to have the money themselves to do the training which would have allowed them to pursue more collegiate approaches.

Comments were also made about those who were ineligible like the teaching assistants, supply teachers and ICT coordinators. These people are now seen as central to the life of the school. In fact, the funding would have been too thinly spread had they been included in 1998. This need, however, presents an important future consideration for training. ATPs were praised when they made special provision for these groups. There was clearly no simple answer about who to train and who not to train. As this ICT coordinator points out many of the school experts are self-taught technically and few have pedagogical qualifications.

“ As ICT coordinator, I am not entitled to specific training - a bit daft really. I am self- taught. The KS3 strategy units have been more useful – if only I had this 5 years ago. ”

Learning culture

It seems appropriate here to comment on the evidence of teachers’ enjoyment of learning and ‘need to learn more’ attitude which was prevalent in many of these positive replies.

These teachers prioritised their needs and managed their own learning. Clear thinking had been undertaken about how to fit the training into busy schedules. The fact that they had done this did not indicate that this group had time and leisure. Other teachers clearly did not enjoy learning and resented accreditation processes about ICT. Unfortunately it was outside the remit of this evaluation to find out whether these teachers did not enjoy any kind of professional learning or whether this attitude was only applied to ICT. A selection of these comments is reproduced in the box below to show the range of

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perspectives and attitudes amongst teachers who see professional development as an essential area of personal and professional growth.

Initial steps in ICT training

A few teachers wrote about the role of the NOF training in encouraging their school to consider the use of ICT for the first time. This reply sums up those comments:

“ The training in our school had the effect of ‘kick starting’ much of the ICT work both as individuals and in class teaching. Without the training many teachers would still be frightened of ICT. ”

Blended learning issues

Generally, teachers preferred face-to-face training and personal tutoring rather than elearning which was also exemplified in the schools visits. One teacher explained the emotional sense of isolation when the tutor was not present very clearly:

“ Training was appropriate in terms of tasks, but I felt isolated when working on my own. The mentor was very good and it would be good to have one permanently. ”

Ementors were only mentioned once, suggesting that online forms of training were not well established.

There was a majority preference for face-to-face training which has been demonstrated in the school visits as well. Some alternative opinions were expressed. It was clear that there was a place for online and CD-ROM resources as this teacher comments:

“ I do feel that too much of this training was placed onto the ICT Co-ordinator and a good demonstration CD-ROM or web based learning would have been more beneficial. ”

This particular student appears to have more computer knowledge and confidence than most and clearly would be able to manage CD-ROMs and web based learning, whereas these technologies were new and rather threatening to the majority.

Another teacher learner makes a point about the flexibility of online learning, which a few sophisticated learners also made:

“ One of the major benefits of the online NOF training is its flexibility. I can go online when it is convenient and when it best suits the rest of my responsibilities and teaching commitments whilst the training does provide examples or lesson plans it would be an advantage to have examples of lesson plans in each training unit. Some units are better than others. ”

Personal and professional growth:

Perhaps the course should have been at different levels - I didn't really learn anything new - it did however prompt me to try new ideas and evaluate them.

Enjoyed and learnt a lot more about use of ICT, digital cameras etc...didn't learn much about new software - need to do that module.

Hectic schedule of evenings but excellent training and well worth it.

We have good helpful IT teachers in the school. Internet flexibility allowed me to do more during quieter times of the year - eg summer term.

Essential training - creative and develop this product/training for the future. Most enjoyable.

Would like more sessions!

My particular situation is not usual since I left my previous school before NOF training had started and joined my present school as the training was coming to a close. Nevertheless, I have received good support from the school IT Co-ordinator and through my own studies. I have developed my IT skills and awareness considerably.

Needs identification

The teachers referred to some of the problems that had occurred as a result of the needs identification process. This teacher explains that the results of the needs testing had not been reflected in the programme content:

“ Initial criteria were based on teachers having a high level of ICT ability before starting the course, which was not the case. Staff quickly became switched off when they realised the course was not addressing their needs. ”

Sometimes it was clear that the wrong model had been chosen for the particular learner who was answering the question.

“ The training was too remote – not able to ask questions. Not always easy to access. Better if given more personal training with paper copies/manual to enable tasks to be looked at again/reminded how to do tasks. Whilst some of content was relevant and activities useful, I didn't feel I knew the procedures well enough to repeat them independently. This is when a manual would have been useful. ”

This kind of ATP model did exist but was not chosen by this teacher's school.

A few teachers complained that they were expected by the head to go through the ICT training although they were already competent. Some teachers were obviously too experienced for the training. 'As a teacher who is already ICT literate, I feel that the training provided did not match my needs at all.' However some teachers felt that the training was too difficult for them like one teacher who said, 'I would have preferred someone to come in and work alongside me giving me step by step instructions. I had no knowledge of computers previously. The training was too time consuming after a day's work and not user friendly enough.' These comments offer more evidence that the target group for the training was sometimes not understood by the schools. These teachers had not been screened effectively. Requests for more subject based training also came up from time to time when the programme chosen had been a general one.

Subject specialists

ATPs who had specialised in subject areas were congratulated on their success, particularly science and special needs providers. This observation was also exemplified in the case studies. The teachers valued the subject and phase knowledge. This teacher concentrates on special needs provision:

“ Our ATP is very aware of and caters well for children with special needs. They are well respected in this area and the training reflected their knowledge of delivering the curriculum in this field. The training materials were well developed and supportive. The training package was very appropriate in helping me to develop my skills and it matched my teaching needs very well. ”

The help, advice and support I think was excellent, and I never felt a nuisance when I was asking for help. Thank you!

Both NOF trainers that supported our training were effective and supportive. We worked closely together to meet the needs of our staff and all enjoyed the sessions. It was a very worthwhile experience. Thank you!

Very satisfied with the training provided - matched needs of staff.

An advanced learner who should not have been in this programme still found some use for recapitulation on previous learning and time for reflection.

If I had learned anything new I would not have had sufficient time to consolidate my learning!

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Email also seems to have been deployed to advantage in subject specialist programs, which is rarely mentioned by other responders.

“ Our NOF trainer had significant SEN and computer knowledge; therefore her skills were very beneficial. She has been very supportive through email. Very useful. ”

The classroom relevance of the training resources for specialist subjects was mentioned frequently. Data logging resources, for example, were particularly appreciated by the scientists.

Resources for teachers

The nature of the resources, which were of course different for each of the providers, was also a source of praise in about one fifth of the free comments received. Teachers commented on the comprehensive and well organized training materials and good level of support from the teacher advisers which ensured a successful result.

“ The science software is an excellent teaching resource. We have 9 laboratories and 5 of these have networked computers, where pupils can use the materials in the classroom. My aim is to have computers in all science laboratories. Pupils can also access the multimedia science school on networked teaching rooms and the school library. ”

Generalist trainers seemed to find it harder to pitch the resources and sessions in a way that appealed to subject teachers across the board. More work might be done on the different ways of thinking and learning that different subjects seem to promote. Certainly those who received a subject trainer in ICT all wanted more of this kind of training. This may have been because the teachers were, at least, confident in one area of the training, their deep knowledge of their own subject. This may have counterbalanced their unease in mastering an unfamiliar and often problematic tool.

Generalist resources were trying to appeal to a market that was too varied and not differentiated enough. The costs of producing resources before the market for the ATP was established may have been responsible for that. This senior manager’s comments on the lack of depth in the materials stood for several:

“ Trainer – excellent. Content – no way of suiting it to needs or experience – no challenge for experts and no support for beginners -not matching what we actually teach in curriculum. No time for anything specific to be followed up. Mainly a paper exercise. ”

A few teachers observed that some of the modules do not fit in with current schemes of work. ‘Teachers are doing tasks for the sake of it – eg putting out work, pictures behind graphs of exam grades etc.’

Educational software used in the sessions was sometimes not available in the school which occasioned some irritation. Some of the comments indicated that some ATPs had adopted a ‘package training’ approach rather than the pedagogical approach advocated by the TTA. It was clear also that some teachers liked to learn about programmes. It may also have been the case that more basic skills were adopted when it was revealed that many teachers needed this support in order to progress to classroom pedagogy.

The teach yourself or “DIY” strategy advocated by the larger trainers was not appreciated. The paper resources and the CD-ROMs were seen by many as a poor substitute for a human being. Many of the schools had thought that the word “training” implied the presence of a trainer.

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On the other hand, many teachers who were given screen materials complained that there was too much screen reading. They wanted manuals to refer to afterwards. Here is an example of these responses which run counter to the general trend.

“ Support from the ICT department has been excellent and has helped with both understanding and progression throughout the training modules. I feel a “hard copy” of each module would increase my understanding of tasks and enable easy development from training to using new ICT skills. ”

Understandably, sophisticated computer users were not happy with software manuals which had simply been digitised. This linear text, which was not interactive, was an example of bad ICT practice. This kind of traditional material, just digitised, does not help teachers to understand the transformational aspects of computer use.

Access to computers

After the complaints about ‘time’ and ‘too much paperwork’ presenting barriers to learning came poor access to the technology. About one tenth of the comments mentioned computer breakdown and network crashes as an element that was unpredictable. Not only was the session lost, but trust in the computer system was undermined.

In a few cases training was aborted because there was a complete network or computer crash during the session which could not be remedied. In these cases there was no back-up strategy. The ATPs were often reliant on the school facilities. Some questions do still need to be asked about the networking capacity in some schools, and the use of time by the staff who manage the facilities.

In 10% of these replies, some of the comments, born of frustration, were understandably blunt:

“ All pretty pointless if there is no regular access to the computers for the classes I teach. ”

Impact on learning of computer peripherals

Although peripheral equipment was not an integral part of the NOF programme, several references suggest that these are important to the whole picture of ICT in schools because they had motivated the teachers. Digital cameras, programmable toys and interactive whiteboards were most frequently mentioned.

“ In some schools the teachers all had their own laptops as a result of a government scheme, an ATP, school or LEA initiative. Some teachers who did not have laptops mentioned their keenness to own one. The knowledge that this was an acceptable aspiration for the profession indicates that government schemes to increase professional ownership of mobile computers is beginning to be effective. More peripheral equipment was also demanded in subject areas. ”

Lack of time and sense of rushing

The most frequently mentioned issue, other than the quality of the trainer, was the lack of time for teachers to do this training. The sense of rush pervaded many of these replies and clearly affected the teachers’ ability to learn. ‘Although the spirit was willing, tiredness was often a factor in twilight courses.’ These two comments summarise concerns about twilight courses and lack of time:

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“ Training is fine as far as it goes. After school provision is not sensible after a days’ teaching. I require concentration, mental alertness and time to consolidate the learning. A full day would be more effective. ”

“ The effectiveness of the training was marred only by the lack of time available to follow it up and by the timing of the sessions – at the end of a hard days work in school. By the time it comes to put much of what is taught into practice it needs to be relearned, because there was no time available to consolidate the lessons learned, or to fully evaluate the various options available. This was no fault of the provider or of the school, but rather the overall concept for training. ”

Also, for the willing, shortness of time was often a theme:

“ The more general material eg on PowerPoint, was too brief. There was not enough time to try things out and prepare materials for use in the classroom. ”

In this context, resentment about the learning the teachers were engaged in focused on the lack of support cover and frustration with paperwork and testing.

“ The time span for completing the assignments was too short. There was a lot of reading material in addition to the set tasks, there was not enough time to do all the background reading and the tasks themselves, particularly for people who did not have access to a home computer. The feedback on the assignments was not always as quick as it might have been, although it was always constructive. On the whole the course was very helpful and enjoyable. It was very specific and provided plenty of examples of activities which could be used with a class. ”

Irritation with the task or producing a portfolio was mentioned in a few cases as an illustration of the paperwork overload. Four teachers objected to making up portfolio of evidence and a few teachers complained that the accreditation was a paper exercise. One teacher put this more comprehensively:

“ J. was excellent as a trainer but the amount of paperwork involved in completing the course is quite onerous as we already have a lot of work to do. ”



Teachers' perspective: key issues drawn from the case studies

The detailed findings from the fifteen schools help to explain how the schools that judged themselves successful had managed the programme. These schools were chosen to represent a wide cross section of national schools and represent a fair proportion of secondary to primary schools and special schools, which has been explained in detail earlier in this report.

Care has been exercised in making generalizations as each school was so different. For this reason the teachers' words have often been quoted to provide specific examples of practice in the profession's words. The quotations also help the reader to judge the tone of comments and something of the speakers' personality.

This section has been divided into three main categories:

- *School culture and leadership*
- *Management of the programme*
- *Impact of the NOF programme*

School culture and leadership

The cultural attitudes of schools and leaders were crucial to the success of the programme from the start. Several of the schools that had judged their NOF performance to be good admitted that staff had felt resentful about the training at the start especially as it was in their own time. One head who explained in detail his staff's hostility to the idea of computer training. This comment echoes the concerns of a few other heads :

“ The problem was that I had tremendous opposition from the staff. The staff were not happy to use the PCs, they were not confident in using the PCs because they didn't have the requisite skills. There was also a problem where the staff didn't know how to trouble-shoot when things went wrong with the PCs. ”

Teachers' reactions seemed to be varied: 'oh, not sure'; 'haven't got the time'; 'I'm a bit nervous, but I'd like to have a go'. Others were apprehensive, 'Well it's human nature to be apprehensive because it's the unknown, isn't it?'

Sometimes their own positive attitude to change had seen them through. The following attitude was typical of those individuals who took a positive view':

“ In my 11 years there's never been a year that is the same. There's always been an initiative or a strategy, and really my preconceived idea about the NOF training was, 'Is this going to be useful. Is this going to do something for me and the staff?' Because I really do want to improve my IT skills. And I just really was keen that the training matched everybody's ability and everybody got something out of it, so we approached it, I think, quite positively. ”

It would appear from this comment that some individual teachers were more phlegmatic about change than others, and rose to the ICT challenge. This response from a head above indicates that she was keen that the staff and she had a good learning experience.

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Just as the attitude of the teachers was important and so was the access that they had. In just under half of the schools we visited the majority of teachers already had their own mobile computer or access at home and school provided by the senior management. This indicated a threshold of willingness and ability to move to the classroom implementation stage of learning, as the basics were largely mastered.

The attitude of the head who summed up his experience and recommendations for the training with the following comment, was typical of this sample:

“ It comes back to this. You’ve got to have the hardware and the software and the provision altogether. It’s all got to come together. You can’t have one or two of these items. The whole lot has got to be there. And that’s where our success has been. We’ve had the face-to-face, which I’m totally convinced was the final bit in the jigsaw. We had the hardware there. The hardware, the software and the trainer came together and that’s what’s made it a big success. ”

Another head teacher explains clearly the role of senior management in motivating the staff:

“ Without having somebody in management pushing this ICT programme, a) you’d never get the extra funds, and b) you wouldn’t get the support. And if the programme co-ordinator is seen to be supported by me then the rest of the staff will make an effort. But if you don’t get the support of senior management the programme will fail before you’ve even started. ”

One senior manager reported on the need for sustained positive effort throughout the programme and the clear intention to integrate the learning into professional practice:

“ The attitude toward ICT is much more positive now, but I do believe very strongly that that positive feeling has come as a result of the work that the deputy and the other members of staff have done in terms of leading by example. They showed the staff during and after the NOF training what’s available and what they can do in the class in order to support their teaching. Without that consistent push I don’t think the NOF training could have been anywhere near as successful, so I think that added impetus has been, certainly for us, vital in ensuring that people do feel confident to continue to use the resources and continue to see a need to actually develop their own practice as well. ”

This kind of senior management support appeared to be crucial in all the schools in order to balance negative factors, such as time pressures and technological difficulties which could seriously dampen the individual’s enthusiasm for learning:

“ The staff started out with real enthusiasm, then fizzled because they had to do it off their own back, and in their own time. They also suffered equipment failure. It was hard to keep the momentum up. It tailed off due to work pressure and because the person running it was someone who was remote to the school. ”

In this school the senior management turned the programme around by changing its ATP to one offering a training model which provided opportunities for more in-house support.

The findings suggest that a whole school approach to ICT contributed to success rather than individuals having isolated success. However each head teachers’ attitude towards ICT in their personal practice was a significant factor in the permeating of ICT throughout the school. Teacher interviewees

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commented on the fact that where the head teacher did the training alongside the staff, then the teachers felt it was very encouraging. This issues was raised in about a quarter of the schools:

“ I think one of the failures with ICT training is that not enough heads do it. Now, what’s the point of the staff training if they see their head going off and finding other things? It’s got to be leadership. You’ve got to lead from the top on this. ”

There was some evidence in the school case studies that leadership training from the National College of School Leadership was beginning to have impact on school development plans and on heads’ understanding and competence in elearning based on Talking Heads experience. A few members of SMTs were participating in the Strategic Leadership of ICT Programme (SLICT pilot), which is the first national programme to address leadership of ICT within schools designed by headteachers for headteachers. Developed jointly by Becta and the National College for School Leadership (NCSL), the programme will build capacity for up to 10,000 places during the next 3 years.



Management of the Programme

Quality of the trainer

One of the major factors in learning was the quality of the trainer. Many of them were highly praised, like for example, here:

““ She knew what she was doing, she knew the staff and she successfully carried it out in other schools as well, she’s got the enthusiasm, she’s got the patience, she loves her stuff. Even if someone asked the same question every week she would just smile and say ‘right well, this is what you do’. She’s just great, so as I say, I think it’s her enthusiasm, She’s very approachable. You would never say ‘Oh I don’t want to ask her that’, you would never feel silly asking her a question. ””

However, success was not only the prerogative of individuals. Amongst the schools, which believed they had made progress the theme of the comments, was ‘collegiality’. There was a strong sense of pulling together and helping each other. There was also a sense of celebration for everyone who made progress, not just those teachers whose computer skills were well honed. One teacher tried to focus on the core of their collaborative achievement: ‘It’s getting the whole culture going : a supportive culture. It’s not about people working in isolation.’

Those schools enjoyed getting together with colleagues in other schools and sharing ideas. Staff mentoring was formally arranged in some schools, but in others it emerged naturally like this example:

““ People grouped themselves together if there was a specific thing that they wanted to look at. Also people who were able to do something also supported colleagues who wanted to know how to do a particular thing. ””

In some cases there were already staff groups with cross-curricular specialist interests like teaching and learning. These groups were influential in making ICT part of the schools’ philosophical approach and vision.

Needs identification

The effectiveness of NOF was frequently undermined by a mismatch between the aims of the programme and some teachers’ expectations and needs. The training was focused on the use of ICT for pedagogical purposes. However some schools assumed it was about basic computer skills. Other schools assumed that all school staff were to be offered training through the NOF programme. In this case highly skilled ICT personnel undertook the programme although it was not designed for them. In this minority of cases, trainees were instructed to attend all sessions by senior management regardless of their level of ICT development. This was caused by a misunderstanding in senior management about what level this training was aimed at. As a result some of the most able trainees often did not learn anything new and found this rather frustrating.

In addition, the expectation of the ATPs at the start was that the teachers would already have basic ICT knowledge because they had received ICT skills training, where needed, from Standards Fund money before undertaking NOF training. In practice this was not always the case. A climate for dissent and dissatisfaction with the programme was, therefore, set in many instances.

One head explained that at the start of NOF the variety of levels and skills in the profession were too much for any national programme to meet. For example, younger members of staff tended to think of

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themselves as part of the computer generation and had some capacity or residual knowledge from their daily lives and leisure pursuits. In particular, young supply teachers from other countries were mentioned as a source of support using email and surfing the net. These young teachers had been learning these skills because they were keeping in touch with their home country. Some older teachers were using email to talk to their own children who were travelling. Older teachers' levels of ICT knowledge and skills in each school were very varied: 'abilities ranged from almost computer-phobic up to fairly confident.' Good ICT use in the class seemed to be related to the subject specialism of the teacher in the secondary schools.

One ICT coordinator presented a thoughtful view about why the differences were so great. He maintained that individual skills varied dependent on home access, personal interest and whether their subject promoted ICT learning. Subjects that didn't lend themselves so easily to ICT did not provide related publications, software and website links. Where a subject specialisation in ICT was strong, this could provide an external influence on a school department. 'We need dedicated subject material. It's quite hard to start from scratch when you haven't got any expertise of your own.'

Only a few teachers answered the questions about teaching basic skills rather than pedagogy. Learning styles were not widely mentioned and did not seem to be a part of a professional teachers' vocabulary. However, one staff trainer saw the dangers of focusing on simpler skills like word processing from the point of view of advancing learning;

“ There was a lot of work done on word processing and desktop publishing which I thought was good, but we needed to expand that. We were using it for children's sort of practice skills, rather than teaching at that point, and not using it in curriculum subjects as a teaching aid. ”

Other teachers described all their training in terms of packages like Microsoft Office which reflects the changes that the ATPs had to make to attend to the basics;

“ I was having a hard time trying to help everybody. The modules that I was signed up for weren't a problem. I could do those. It was things like emailing, database and word processing, it was all very basic stuff. ”

However, when replying about the skills that were required, another teacher does mention the pedagogical slant of the ATP programmes:

“ Our programme was fairly skill-based because you did have to learn how to use an Excel worksheet and so on. But most of us were okay in that anyway. It was also more linked to the learning of kids which was important to us. ”

Three schools in the case studies did their own Needs Identification audits and they used these with considerable success to design training with ATPs in-house. This joint approach to accreditation was a success factor in the schools. Each of the fifteen schools interviewed had settled on a programme that allowed for differentiated learning and some tailoring of the content. In discussing his choice of ATP, one head teacher commented:

“ It sounded exactly what we wanted. The ATP trainer said he could tailor it to us, which is really what we were looking for, a tailored package as opposed to something that is just created to allegedly fit all, which I don't think, personally, works. Because all schools are different. ”

Timing of the ICT programme

Timing was a key factor in the success of NOF training, in terms of the priorities of the schools and their subsequent receptiveness to it. One of the senior managers explained the school vision of spreading ICT across the curriculum more effectively and promoting ICT as a teaching and learning aid in all subjects:

“ We wanted to be involved in learning new skills and then applying them. We had prioritised ICT in our schools development plan and so we did have time and resources available. ”

One of the schools in a remote rural area was famous for their website which attracted surfers from schools all over the world. The school used this website as their own focus of teaching and learning. Despite this success, the school was looking to move forward in developing the children’s learning. What the head has to say indicates how far this school had moved into transformational and independent learning mode. This extract indicates awareness that websites can promote an information transmission mode of learning even though the pupils themselves are engaged in the creation of the information:

“ We were looking to appoint a new ICT coordinator, we wanted to get away from just using websites. Ideally we wanted to integrate ICT into our teaching. Our concern was that the children would sit at computers and use them as a tool or an aid to learning, but we were not making our teaching more interactive. The pupils were well resourced, but we were under equipped if the teachers were to become more competent and confident. We wanted to use computers to teach better, and we weren’t sure how to do it. Introducing new technologies, like the interactive whiteboard, have helped us to make our teaching livelier, so we’re almost there now. We just need more of the hardware in place and we’ll be away, which is great. NOF came at just the right time for the needs we had. Now people have gone their own way, and are looking for resources depending on the age of the children they teach, and their past experiences in feeder schools. We have moved on. ”

Many other schools also felt under equipped when NOF started. Both the ATPs and schools stressed that, at the beginning of the NOF programme, many schools did not as yet have the technological capacity to allow their participants to successfully undertake the programme. This comment is representative of a number of senior managers. ‘We weren’t all networked when we started NOF and that was one of the problems, not with NOF but with the set up. We had to work on this fast.’

These problems added to the fact that some teacher participants still required basic skill training in order to bring them up to the level from which they could effectively enter the programme.

Access to appropriate technologies

Some ATPs commented on the problems encountered with ICT technology in schools, such as little or unreliable technology leading to little or unreliable access for teachers. Senior managers also talked about the issues of maintenance and obsolescence. The reliability of school equipment was a recurring theme. For the ATP this was a real problem when they worked in the schools. If the network crashed they were often unable to continue training at the start of the programme. Teachers who were committing time to computers for the first time were often disillusioned very quickly. As this staff trainer explained:

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“ We are on broadband now so it is better, but back then everything was just taking forever and they weren't quite understanding why it would take so long and getting frustrated. Then it would crash and it was just hopeless really... so the teachers who were new to computers had very bad experiences. ”

This is supported by comments from various schools. The following quote highlights the impact on teachers' attitudes towards learning:

“ Sometimes when we had training sessions in school the computers were so slow. Sometimes you couldn't get on the site. This fragmented a lot of the training. I did get the impression that sometimes people felt, well this is pathetic... here we are trying to learn how to use ICT and look we can't even get onto the website... ”

As one ATP suggested:

“ Providing all teachers with email and reliable internet access would make online learning easier to operate. Schools were often not equipped for online learning. ”

These comments highlight the fact that some schools did not effectively evaluate their readiness, in terms of the availability and reliability of their technology, before they started the NOF training programme.

However, the ATPs did offer the opinion that the situation is very different now. More sophisticated technology is available. Also the picture regarding teacher access was vastly different. One teacher indicated as much herself':

“ Now there is a computer and laptop in every classroom, as well as the older computers, and all these new computers... in the Heads' rooms, digital cameras... and more resources. And subscribing to online providers as well. ”

“ Providing the teachers with laptops not only gave them more ownership of the programme, but also allowed them to familiarize themselves with the technology, often in their own time in out-of-school hours. ”

Several schools had interactive whiteboards and seemed enthusiastic about their use as a teaching tool. One teacher suggested that this was because an interactive whiteboard fitted the 'teaching culture' better than the 'exclusionary' nature of a computer screen. The contribution of laptops to the teachers' skills base was also frequently mentioned. The opportunity to continue work at home as a result of laptop ownership was another major plus in several comments.

Access was certainly an important aspect of the learning process. Teachers like this one could see that the presence of computers was crucial in making ICT more acceptable.

“ The hardware's in the school and even the people who are reluctant to start using it are seeing other people using it, and they feel less afraid to say, 'How do you do it?' ”

Some of the curriculum software supplied by the ATPs was praised and widely used afterwards. This was most noticeable in subject specialisms. The teachers preferred learning something relevant to their class. They were generally looking for age specific resources.

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Team observations suggested that more than half of the training content was about basic skills - how to send an email and how to use presentation software - rather than how to use ICT to enhance learning. This was because many of the ATPs had asked permission of the TTA to teach basic skills when the lack was discovered. The TTA and NOF were happy to give this permission.

One frequently acknowledged resource was the pupils themselves:

““ The kids are more competent these days. So you don't have to feel that you're completely stupid, and even if you are it doesn't matter because the kids know how to use it. ””

Blended Learning

The school findings substantiated the ATPs' views about the power of face-to-face training. The proportion of face-to-face training in the delivery model and whether it was in-house were often key factors in the school's initial choice of ATP. Face-to-face, if it was not in-house, was often seen as being less effective. Some leaders explained that staff were adamant about refusing online training. The preference was for face-to-face workshops. The following quote raises these issues in a manner that was echoed widely in the interviews:

““ As an ICT coordinator it seemed fairly clear to me that there were two or three distinct models. We were much happier to have all the training within our school, so that the training was tailor-made and the training was delivered by the IT specialist within the school, so that other staff got all the advantages of being trained on our equipment. . . I think quite a few schools probably went down that route in the end. ””

One area where some teachers wanted more face-to-face support was in the assessment process. Producing a portfolio seemed to create particular concern. For example the following teacher indicates some anxiety about this mode of accreditation.

““ I think I would have welcomed more face-to-face on the portfolio side. Somebody saying this is a sample of portfolio work done by previous people and what questions do you want to ask would have been helpful. Because I think we were all struggling on what the portfolio should look like in the end. ””

In a programme where there was a huge variety of school contexts, in trainee competence levels and professional requirements, face-to-face training allowed more adaptation to individual needs. Important aspects of the face-to-face model were the opportunity to develop a sense of collegiality with the staff. One teacher explained this well.

““ I like to go on the Internet and I'm quite competent. I know a lot of the teachers in this school are confident using the Internet. But I think it still doesn't beat having somebody there saying to you, 'I know what's happened to you' or 'I've got this great idea'. This is what we found with the training. We found that we enjoyed the camaraderie and the teamwork that went on and everybody was quite happy to give you ideas and we actually pulled up quite a lot of resources which was ideal. I mean the NOF programme actually did offer a CD-ROM which had lots of printable activities and that sort of thing. ””

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Although face-to-face was their preferred learning mode, some teachers suggested that they were becoming more relaxed in their attitude towards online learning. For example, a more sophisticated teacher comments:

“...I don't think that online learning is appropriate for people that are learning ICT at the beginning. Now, I could learn online, fairly comfortably, but I still prefer the face-to-face.”

Comments from the schools also echoed the ATPs concerning the problems experienced in trying to accommodate face-to-face training into the schools' available time. Similarly, in support of the ATPs, some teachers regarded online training as being more time-flexible.

Costs and organisation

One of the classroom teachers made it clear how much the head's good financial management made a difference to the efficiency of the training. A similar story to the one that follows was told in many of the successful schools:

“Now one of the things the new head has done, is organised sufficient funding. We have the NGFL money, the Government initiatives, and now every teacher has a laptop. That has made a significant difference, in terms of our skill base because the teacher has to be comfortable with the technology before they can teach it... So the laptops have made a significant difference in the skill level of the teachers, their familiarity and their capabilities to cope with what happens. Now that is starting to be reflected in what's happening in the classroom.”

Only about a quarter of the sample were well equipped to start with. The rest of the schools invested considerable sums in ICT over the period of the programme largely because demand increased. Staff felt empowered by this attitude and recognised the priority that had been accorded to computer development. This is the comment of a classroom teacher who is aware of the work that has to be put into effective and consistent bidding for resources:

“I think they've always been very keen on ICT in this school. You can tell. Any money that's been going, any bid, anything, we've always gone for it. It's never been a matter of, oh well, we're not really interested, not bothered. It's always, look, we need these things. Let's go for them, let's get them. Get people in to talk about them. I've always felt that ICT is a very important part of this school.”

Some teachers suggested that the impact of the investment was particularly effective when there was a clear learning policy behind it. This head teacher is articulate about the learning policy for the staff:

“We were very positive about the programme. We put a lot of money into ICT over recent years and the overriding principle I think is one where we want people to be able to travel at their own speed. We want to be able to support teachers who are weak in ICT and give opportunities to teachers who are strong in it. Therefore to demand one level of competence would be unrealistic, but to demand progress in competence right across the board is something that we're looking for.”

Many schools in the sample realised how expensive the face-to-face training was if support cover was also required. But if self-study was chosen, then the expense actually fell on the teachers themselves who were studying outside working hours. The real costs seemed to be the emotional and physical difficulties. To avoid overburdening their staff many schools used the staff training days and staff meetings wherever possible as well as some support cover opportunities. The example that follows illustrates the careful thought that the senior management team had put into making the programme

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feasible. This manager is carefully balancing the priorities so that the teachers are aware that sensible decisions about commitment have been made. Indeed in this case literacy has been relegated to second place during the training period:

“ Really, it was the way we structured it, that helped. The fact that you have an option, in terms of three teacher days, which you have to use for staff development or personal development. We usually would have some sort of INSET on various other topics. If staff need INSET or in-service training, then we decided that we would use that for NOF because by doing it in that way, you had all the teachers, you weren't asking them to give anything. In that way, the school was giving an opportunity. We could have actually done with a literacy day on one of those days, but that wasn't the priority, the priority was to get this done. The staff were clear that we had met them halfway, which was just a really good way of organising it. ”

Another school realized that they could not make a unilateral decision for self study and hand on the costs to the staff. This deputy head explains how a whole staff decision was made about the real costs of teachers' learning when the idea of self study was presented:

“ After the presentation on the merits of self study, somebody piped up, 'Well, where's the time coming from? When are we going to do the self-study?' So, we then had to make the decision that we would disaggregate training days over the entire period of the NOF. We disaggregated four days in all over the entire programme, two days one year, two days another year. ”

The deputy explained that this was quite an expensive decision for the school. However, costs did inevitably fall on enthusiastic staff. This thoughtful reply from a classroom teacher highlights the dilemmas when time is not set aside for professional study. The teacher below tries several alternative plans to get enough online access, but each of these attempts presents significant drawbacks :

“ Finding the time to do the programme was the problem. If I did it at home my phone bill went up. If I tried to do it at school I was lucky to win the use of the one staff computer that nine of us share. I'd be hogging it the whole time and I didn't think that was fair. If I did it in the networked computer room the pupils use, the computers were so slow, I was bored to tears. So I was logging on when I had a spare lesson. It wasn't quality time and I don't know how the managers could get round that problem. Although now with broadband it would be easier but... back then it was an issue of time. People just didn't have the time to sit down and go through it all, and no one was willing to cover other people so they could have time off the timetable. I mean that's another answer, but that disrupts lessons as well. ”

In conclusion, in terms of costs, many teachers failed to understand the expenses involved in producing training resources. Moreover, to many of them the CD-ROMs and the books were no substitute for a person to train them. Sophisticated computer users also complained that some resources did not make use of the multimedia and multimodal facilities of the computer and, therefore, failed to convey to teachers the essentials of this new mode of communication. Too much of the online and CD-ROM resources were only digitized linear print and would have been just as effective on paper. The linear message conveyed by these materials missed an opportunity to change teachers' perception about learning with computers. The ATPs that used linear material argued that it was easier for trainees to print off the relevant sections. However, some teachers argued that it should have been possible to provide a version that used the potential of electronic media as well as a printer-friendly version.

Impact of the NOF ICT training

Greater use of ICT in the classroom

Successful schools were sharing knowledge between subject areas and across the age ranges. A few teachers, like this one, were also commenting on the quality of the children's learning:

““ You go into the class and there's absolute silence, the children are working, they're focused, they're working at they're own level and getting feedback on how well they've done. ””

Some teachers were developing strategies about how to make computers integral to the learning process, how to group the children and other practical classroom management strategies. Some of the activities that came out of NOF included using the computer far more to create worksheets and tables to use with the children in the classroom. Again, senior managers were discovering the use of computers to support teachers' work particularly reducing workloads by automatic registration and marking support.

Interactive whiteboards were a particular success story in the way that they fitted the inclusive nature of whole class teaching. The excitement surrounding these whiteboards was evident in almost all of the schools visited, with a few schools investing heavily in them. They were also mentioned in the quantitative survey. One head teacher explained how he saw them as the way forward, a way of integrating ICT into whole school teaching:

““ By September this year we will have an interactive whiteboard in all eight classrooms. We've only one at the moment, but we are committed to putting them in all the other classrooms because staff are so enthusiastic about their use. They do see whiteboards, as I certainly do, as the way forward in using ICT to teach and assist learning. We were never sure how to do this before with a computer screen, but now with whole class teaching we're very enthusiastic about that. We're having a terrific push on the staff training because this is quite a commitment for teachers. We're just ensuring we've got sufficient finances and that will happen by September. ””

A teacher extolled the merits of whole class teaching with an interactive whiteboard:

““ I think the use of the whiteboard has helped an awful lot, because you can get all the class in. You can show them things. You can go through the lesson with them. Even the little ones, even the four and five year olds, all sit down and are captivated. It's like a television. ””

However, from this last comment, it is not always clear whether the whiteboard is being used only for presentation to the whole class. In the quotation above there is the sense that the children are passive learners rather than actively using ICT themselves. Pedagogical issues of this kind did not seem to be discussed very often. Conclusions have to be drawn that the worthy intention of raising pedagogical awareness has not been fully met in this programme.

Greater confidence in the use of ICT

In the schools where NOF had been effective, confidence using ICT was generally improved as might be expected. However, there were also indications that confidence is not a constant factor. It drops when new ICT initiatives are introduced, and then builds up again. For example, one teacher refers to a dip in confidence when the school changed from Acorns to PC and after that there was another dip when they introduced the computer suite. After each of these technological changes, confidence revived as

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teachers mastered the equipment. Accepting that this was part of the process of learning seemed to be an important aspect of confident ICT learning.

Teachers were also encouraged to take a pride in achieving an ICT task, however simple it might appear to more advanced users. In these effective schools, support staff, assistants and supply teachers were also encouraged to celebrate and share their achievements.

This ICT coordinator sums up the kind of attitude that was prevalent within successful schools :

“ I think people got more enthusiastic as they found they could do things themselves and as they became more confident they were prepared to try more things; they were more inventive about using ICT more in the classroom. Which is what it was all about. ”

These effective schools were also confident about ‘not knowing’, believing that they would be able to master what they needed to know. They did not feel overwhelmed. One classroom teacher summed up this view well:

“ I think we’ll always be behind, always trying to get to the next stage, but we’ve made tremendous progress over the last year and a bit. ”

Emergence of new pedagogies

Many of the schools in this sample were ready for the initiative, which fitted in with what they wanted to do in terms of student learning. The teacher below has this clearly at the centre of the rationale for taking this on:

“ I think our concern was always that we were doing the right thing, that we were increasing the children’s abilities and that our schemes and our teaching was perfectly progressive, and that the assessment procedures were in place. NOF was useful because we really just wanted to inject a bit of extra oomph into our ICT plans really, and update everything. ”

Generally, the quality of the children’s learning was not widely discussed indicating that the pedagogical intentions of NOF had either not impacted on teachers, or that they did not have the vocabulary to discuss this aspect of their ICT training. One reason for this could be the lack of basic skills in the sense that mastering technology is, at first, so consuming that finer details about pedagogy are not central.

Only two schools were articulate about using the training as a means of encouraging staff to think differently about teaching and learning; none of the schools explicitly mentioned using ICT as a means of raising standards in traditional curriculum subjects. Also, none raised the opportunity of using ICT as a resource to promote new fields of learning like citizenship, creativity and thinking skills.

In terms of learning, a few teachers had appreciated the chance to learn independently. One head teacher’s comments indicated appreciation of what transformational learning is about:

“ What worked best in our NOF training was when you had to fathom it out for yourself from the guide, make the software work, play with it, having people stand in front of you is often not very time-efficient. What is said by them in a day could easily be put into a few sheets of paper and you could absorb it at your leisure, unless there’s a genuine discussion; there usually isn’t. What’s online is useful, but we had to deliver it as a lesson. ”

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Very few teachers agreed that ICT was helping them to teach in a different way. This reply is typical of the qualified responses that were received:

“ I don't think teaching is being delivered in a different way, but I think we perhaps tweaked it a bit. For instance, this afternoon I'm doing RE. We're studying worship and Judaism and I'm going to teach the children this afternoon about the synagogue. I've got a lovely CD-ROM with lots of super pictures, so groups will have a look at using that interactively. Probably before NOF I would never consider doing that, but now we've bought the stuff and it's an integral part of the lesson. It's just another tool of the trade, isn't it? ”

Some found that ICT had been a catalyst to help students to be more independent learners, particularly in investigations on the Internet. Some of the schools had begun to use the Internet as a means of exploring other countries and regions. This aspect of ICT use raised the greatest enthusiasm amongst the classroom teachers and appears to be a motivating factor in the use of ICT. These three concluding comments indicate the interest that has been engendered between the teachers and the students.

One school had set up email links with a school in New Zealand:

“ The school is down south somewhere. The New Zealand teacher did an exchange over here with a UK teacher. She was a great supply teacher. I got to know her then. Now Year Three have started to use Internet links with her kids. They absolutely love it; seeing digital images of their friends that they've been corresponding with and pictures of their school. Looking at the differences and similarities between the two school experiences is just wonderful. ”

Another infant teacher played the part of an alien online. Her enjoyment in the pupils' pleasure is palpable:

“ They opened their email, and I mean, the looks...messages from an alien? Of course it was me pretending to answer them, but they're not old enough yet to work this out. They can still be enchanted. And I wrote that I'd just landed and here I was. I could see this big church, and I could see...what could I see? The children said, 'Oh you must be by our church so you must be able to see...' So then they explained the layout of the village from the point of view of the alien. It was brilliant. You can't do that for children, can you, without this technology. Helping them to see their world from another perspective. This has all happened since these technologies have been available, and the NOF training, and the teachers' awareness of how you can use ICT and when to use ICT. I mean we really, really are finding uses we had never dreamt off. ”

Another junior school was emailing Canada:

“ If someone had said to me twelve months ago, you'll be emailing a school in Canada, your children will be emailing Canadian children, I'd have said, 'Oh yeah'. But we are. The reality is that we are doing that, and for my children the joy of getting emails from Canada is indescribable. And last week getting a follow-up letter with things in the envelope. It just makes learning relevant to their lives, and that came through NOF. That was a direct link with NOF. Just the opportunity to be able to do that. I think for us, NOF was a really worthwhile thing. ”

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Good humour, stickability and enthusiasm ran through the positive case study reports.

The words of a primary head below exuded all these qualities. In her large school teachers and support staff were encouraged to be effective learners supported by a collegiate team. All contributions were valued. This extract captures the best of infectious learning:

“ Rose, the infant classroom assistant, she’s retiring this year . . . well she was just literally almost scared to death to touch the keyboard. So we had to laugh the other day because I think it was Paula, the reception teacher . . . she was going to be busy in the playground at lunchtime, and yet she also needed to set the ICT suite up at the same time . . . she was frantic . . . and Rose said calmly, ‘I’ll go and set it all up for you.’ We all stared in surprise because at the beginning of the NOF training she was scared to press a button. And now she’ll go and set the computer suite up. Amazing, isn’t it? ”



References

Text References

<i>DfEE (1998).</i>	Teaching: high status, high standards. Requirements for courses of Initial Teachers Training. Annex B: Initial Teacher Training National Curriculum for the use of Information and Communications Technology in the subject Teaching, DfEE.
<i>Leask, M. (2002).</i>	New Opportunities Fund : Training for teachers and school librarians in the use of ICT. Progress Review and Lessons Learned through the Central Quality Assurance Process in England. London.
<i>OFSTED (2001).</i>	ICT in Schools: The impact of government initiatives: an interim report 2001_HMI 432.
<i>OFSTED (2002).</i>	"ICT in School : Effect of Government Initiatives Progress Report."
<i>Pachler, N. (1999).</i>	Theories of Learning and ICT. Learning to Teach Using ICT in the Secondary School. M. a. N. P. Leask. London, Routledge.

Webography

<http://www.new-media-learning.com/NOFsupport/NOFsupport.htm>

GTC 'Teachers Professional Learning Framework' hyperlink
<http://www.gtce.org.uk/gtceinfo/plf.asp>

Relevant NOF documents

The following documents specified the training to be delivered and were jointly produced by the Teacher Training Agency, Department for Education and Employment, Department of Education for Northern Ireland, Scottish Office Education and Industry Department, Welsh Office Education Department. The documents are undated but most were produced mid 1998.

Reference used in this report	Document title
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Specification for the training of teachers

NOF 1998a	Specification for the Approval of Training Providers - New Opportunities Fund
NOF 1998b	Lottery-Funded ICT Training Programme for Serving Teachers
NOF 1998c	Teachers' Annex A1 New Opportunities Fund The use of ICT in Subject Teaching Lottery-Funded Training: Expected Outcomes for Teachers in England, Northern Ireland and Wales
NOF 1998d	Teachers' Annex A2 (Scotland): The Scottish Office education and Industry Department Consultation September 1998 SOEID guidance on the use of ICT within courses of Initial Teacher Education. This document also forms the basis for guidance to trainers on the expected outcomes of the NOF-Funded Training Initiative (Scotland)
NOF 1998e	Teachers Annex B: ICT training for Serving Teachers: coverage by Bidder of Subject and Regions

Specification for the training of school librarians

NOF 1998f	Specification for the Approval of Training Providers - Lottery-Funded ICT Training Programme for School Librarians
NOF 1998g	School Librarians' Annex A: New Opportunities Fund The use of ICT in Subject Teaching Lottery-Funded Training: Expected Outcomes for School Librarians
NOF 1998h	School Librarians' Annex B: ICT training for School Librarians: coverage by Bidder of Subject and Regions.

Additional documents

NOF 1998i	Is your school getting its Lottery Funding? A leaflet sent to all schools. (updated January 2000 and July 2001) ICT Training for teachers and school librarians: Information for Schools, England, Part I, Part II (This document was circulated to schools in the form of a red ring-bound folder.)
NOF March 1999	

Glossary

ATP	Approved Training Provider
CPD	Continuing Professional Development
DfES	Department for Education and Skills (previously DfEE)
elearning	The terms 'elearning' and 'online learning' in this Report refer to learning which has some form of electronic component.
ICT	Information and Communication Technologies
INSET	In-service training, now being replaced by the term CPD
LEA	Local Education Authority
NGfL	National Grid for Learning
NOF	New Opportunities Fund
OFSTED	Office for Standards in Education
QA	Quality Assurance
TTA	Teacher Training Agency
RBC	Regional Broadband Consortia

Pie Charts indicating the spread of teachers' responses

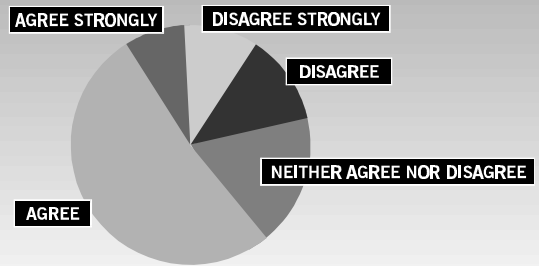


Figure 1. I am aware of the progress I have made and any further training that I may require

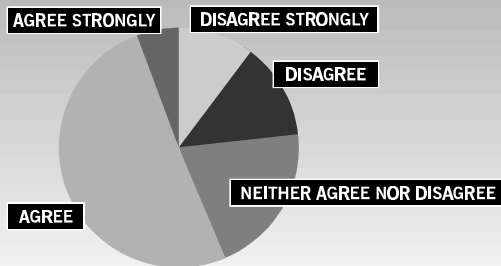


Figure 2. The training I have received or I am currently receiving has taken account of what I already know and is matched to my identified needs.

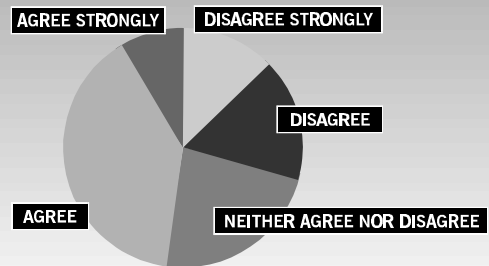


Figure 3. The training helps me to understand when and how I should employ ICT to teach my subject.

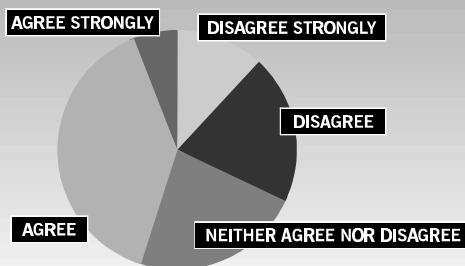


Figure 4. The training has enabled me to apply ICT teaching and to be more critical of when ICT is an appropriate teaching resource.

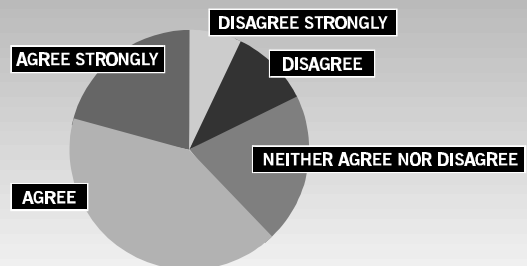


Figure 5. The model of training is one which matches my preferred style of learning.

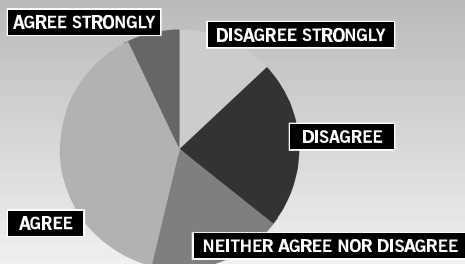


Figure 6. The training materials are well matched to my needs and relevant to the subject or phase in which I teach.

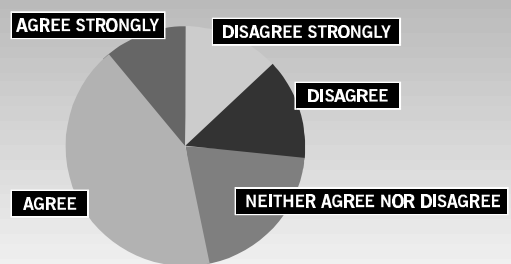


Figure 7. The trainers or mentors with whom I have been working are well informed about the subject or phase in which I teach and are able to offer sound advice and

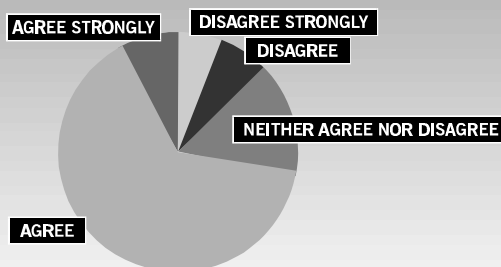


Figure 8. I have received support from the provider throughout my training.

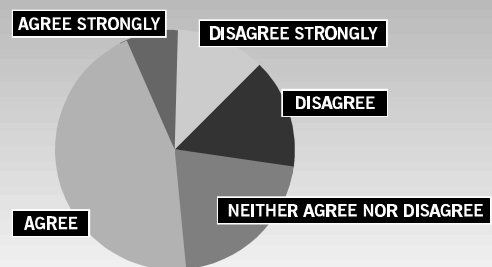


Figure 9. The administration of my training and communication with the training provider has been effective.

Appendix one: Chart for those who want to photocopy effectively or print in black & white.



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ISBN 0 854 73696 4