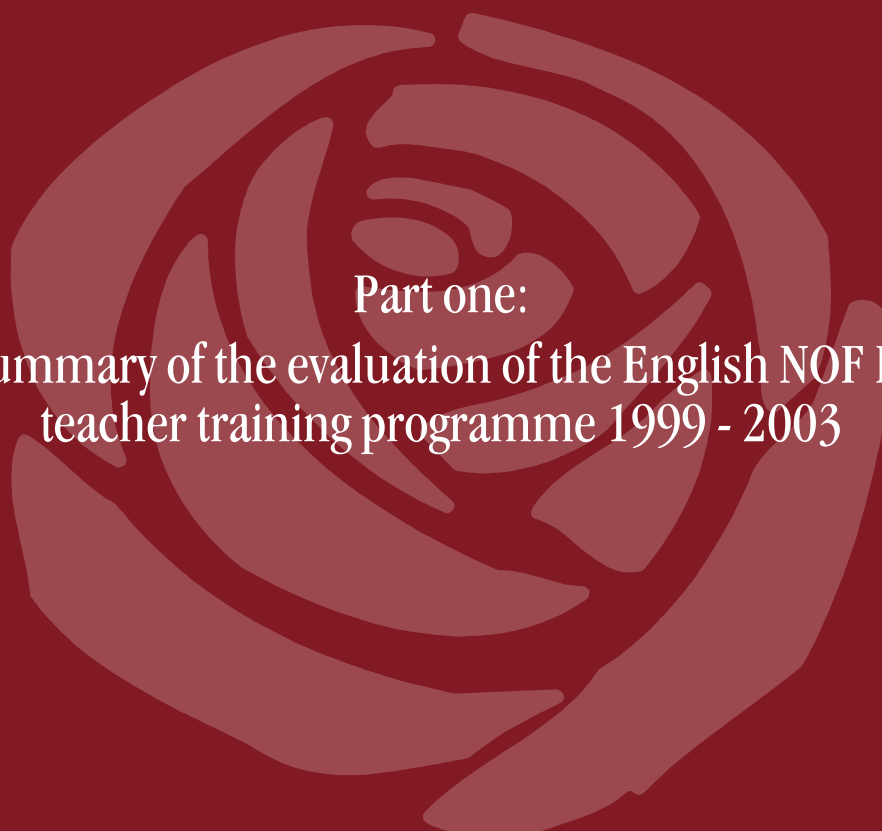# LEARNING TO USE ICT IN CLASSROOMS: TEACHERS' AND TRAINERS' PERSPECTIVES

Part one:

A summary of the evaluation of the English NOF ICT teacher training programme 1999 - 2003

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

PART ONE

Acknowledgements

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CONTENTS

Glossary of terms used in this publication:

ATP	Approved Training Provider
CPD	Continuing Professional Development
DfES	Department for Education and Skills (previously DfEE)
elearning Report	The terms 'elearning' and 'online learning' in this 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

This publication is one of three related documents under the title of "Learning to use ICT in classsrooms"
They are:
Part one: A summary of the evaluation of English NOF ICT teacher training programme 1999 - 2003
Part Two: Emergent trends from the evaluation of the NOF ICT programme for school trainers, ICT advisers and teacher educators.
Part Three: The full evaluation of the English NOF ICT teacher training programme (1999 - 2003)

Background to the report

The New Opportunities Fund's (NOF) programme on Information and Communications Technology (ICT) was intended to bring all full time classroom teachers up to the ICT standard of a newly qualified teacher.

The training programme was a bold step to use innovative teaching methods like elearning and to emphasis pedagogy rather than ICT skills. The aim - to provide training opportunities to all taechers who require them - was certainly ambitious. Few training programmes in any sector had ever been on a similar scale. The programme was underpinned by the investment of 1.9 billion in the National Grid for Learning (NGfL). The focus was ICT in the classroom and much of the training was expected to be online. £230 million was spent on this initiative in the UK (£180 million in England) by the New Opportunities Fund (NOF) the lottery distribution body responsible for education, health and environment initiatives. In England training for 395,000 teachers was undertaken by forty-seven English approved training providers (ATPs) at a cost of £450. The Teacher Training Agency was responsible for quality assurance.

However, the programme had a difficult start. The intention that schools would update their ICT skills before the start of the programme was not realised. The idea that schools would receive their Government funded ICT equipment and broadband connections before they started their training was over-ambitious – teachers needed time to familiarise themselves with the equipment and the on-line learning environments were not sufficiently reliable when large numbers engaged. Trainers, particularly those skilled in online teaching had to be trained and it took time before there were enough of them to deliver the training programmes. In addition, most heads and senior managers were not trained in the management of ICT in schools at the start of the programme. Schools too frequently chose training providers who were good at marketing themselves rather than one that was most suitable for their own school. The concerns of the unions over the lack of supply cover had to be considered and as a result a programme that was a critical part of Government policy had to be treated as if it was optional training for the individual teacher.

In response to these concerns, which were also being articulated in the press, NOF and the TTA decided to strengthen the quality assurance process. Rather than keeping rigidly to the original plan, the ATPs were advised to make effective modifications as the programme progressed based on the schools' returns. For example, ATPs were encouraged to address the lack of basic ICT skills where this was proving to be a barrier to learning about the use of ICT in the classroom. The quantitative findings in this report suggest that this strategy of modification and adaptation to local conditions had been largely successful by the end of 2002. The teachers who completed their training, and the schools that supported them, have made significant efforts to raise their standards in ICT.

❛We weren't all networked when we started NOF, although we did have email access on some computers. The school was networked and equipped with broadband as the programme progressed. ❜

❛We just had to get on with the accreditation: 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. ❜

Summary of the evaluation findings

The MirandaNet team evaluated the project at the end of 2002 when over 290,000 teachers had completed their training. The numbers are substantial and the evaluation sampled the views of teachers, ATPs and policy makers who had contributed to this national achievement.

The quality assurance process provides information about some of the problems that occurred at the start of the programme. For example, concentration on publishing resources in time to met the deadlines sometimes left no time for thinking about delivery, long term support for teachers and quality assurance. Some ATPs did not set targets and deadlines clearly enough. One inherent weakness in some of the original quality assurance systems was that the ATP depended for feedback from the trainers who were being paid to provide the training.

Increasing regular contact with the schools increased staff costs. Yet teachers did not always use the services provided and even when trainers were fairly proactive teachers did not always contact them. The majority of teachers seemed to prefer to seek help from colleagues. A few ICT coordinators found this onerous.

Many teachers found comprehensive resource files threatening and some tried to work through them in a linear fashion, even when this was not required. Teachers did not always find web resources convenient. Some would have preferred investment in face-to-face training rather than online training and paper resources.

There were a variety of styles adopted by the ATPs but the majority fell into two categories: those who built sustainability into a flexible model 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, and those who provided more structured and prescriptive courses. The set tasks on a prescriptive course did not necessarily fit within normal teaching.

In terms of assessment, the most successful activities were criterion-based rather than prescriptive. School-based peer assessment seemed to work better than external standards set by the provider. 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 large majority of participants in this evaluation 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 proved to be intransigent and tended to blame the teachers when complaints were communicated. However, some ATPs have concluded that producing materials is where their strength lies, rather than running training courses. Trainers from a business environment were generally less popular with schools. The exceptions were those that offered consultants who could work with teachers and adapt their programme to the teachers' needs.

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 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 some were already competent in ICT. In a few cases promotion depended on passing the NOF accreditation.

As a result of good quality assurance, the 78 percentage completion figure is a good deal higher than many would have expected at the outset. It also compares favourably with other programmes that include a major distance learning element to them. However, The TTA has not released completion figures by ATPs because the variety of programme designs and delivery did mean that a single standard for completion could not be adopted. Attendance at training sessions was an important part of face-to-face training whereas completion of a series of training modules was a major requirement of on-line training. The most rigorous accreditation had the lowest pass rates, which was disappointing for those ATPs who had offered excellent courses. However, in these cases, most teachers had passed at least three to four modules of a five module course and will have benefitted from the programme,

In addition to the classroom teachers themselves, some 20,000 teaching assistants received training under the programme and some supply teachers were also funded by the schools. Some heads and senior managers also took advantage of the training and more ICT management courses are now being taken up at the National College for School Leadership. Several thousand teachers have been trained to support other teachers in the use of ICT. This increase in ICT educators is important, although there remains a lack of emoderators and efacilitators with experience of teaching in Virtual Learning Environments and managing online forums.

The detailed qualitative results of the evaluation of the NOF programme near the end of the three years are also positive. The main reason for this is the considerable strengthening of the quality assurance process during 2000. ATPs were encouraged to modify their programmes from this point. The policy makers commented on the flexibility of the large majority of the ATPs and their willingness to modify the original programme regardless of the costs.

❛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. ❜

National statistical survey

In order to investigate teachers attitudes towards the NOF initiative, the quality of the training, the quality of the learning experience and the outcomes, one thousand questionnaires were sent to a full range of schools. The response of more than six hundred teachers was largely positive. Of the forty-two ATPs sampled in the survey, only one was receiving consistently negative results by the end of 2002. Five of the ATPs were doing exceptionally well with a primary cross curricula approach and so were all four subject specialist ATPs**.**

The majority of respondents felt they had made progress in learning about ICT and would be able to articulate further training needs. More than half the ATPs had helped teachers to understand the reasoning behind applying ICT to their subject area as well as helping with the practical application and being able to judge the appropriateness of a resource. About two thirds of the sample felt that the training was matched to their needs. Nearly all the teachers judged their trainers to be well informed about the relevant subject and able to offer sound advice and judgment on the use of ICT. A third of the sample received above average support from the trainer and half the sample thought the administration and communication from the ATP was effective. In summary, there appeared to be continuing problems in about one sixth of the sample, whereas the vast majority of schools appeared to have been satisfied with the service they received.

More than three hundred and fifty respondents took the opportunity to complete the free comment section of the questionnaire which focused on the issues uppermost in their minds. Three quarters of these responses made reference to **successful learning** in one way or another. Several participants said that training sessions had been enjoyable, progress had been made, and new ICT knowledge gained. About a quarter of the comments referred in some way to support from colleagues in the school as the NOF programme progressed and increasing collegiality. Several respondents considered that the ICT training had been essential for their own growth as well as the school's development.

The second largest number of comments concerned **effective ATPs**. Teachers praised personable trainers who were organised, effective, well informed and supportive. Basic training on the hardware, software and systems in the school was valued where this was also introduced as an option. A preference was sometimes indicated for face-to-face training although a few commented on the supportive use of the internet and email. In-house partnership with the trainers seemed to be particularly successful, and high quality resources were welcomed. Most of all the flexibility of the trainers and their willingness to adapt and modify the programme to meet

the teachers' needs as they emerged were recognised. Specialist SEN training and subject specialist training were the subject of particularly favourable comments. Because of the small number of trainees involved, feedback was not received on the specialist school library trainers but the TTA has advised that they have performed particularly well with 90%+ completion rates.

Successful elements in the school management of the NOF programme included the use of INSET days designated by the school and deployment of ASTs, supply teachers, assistants, parents and students with ICT experience. The purchase of peripheral equipment like laptops for teachers, digital video cameras and interactive whiteboards was particularly appreciated in the learning context.

Thoughtful comments made by individuals included a request for more classroom management resources as well as subject content; more flexibility, more varied teaching styles and more differentiated learning within the programmes; more ideas to help preparing for actual lessons

The few ATPs who had employed **practice based research methodology** appeared to have stimulated new ideas and fresh approaches for the classroom enthusiasm to continue.

Time was a major issue in the free comments. Requests included more time to explore new ideas, more meeting and sharing with colleagues from the school and beyond.

Negative feedback was traced in the responses of about one fifth of the respondents, although these responses often also reflected positive comments as well. The issues that were complained about were: inadequate needs identification; lack of time for study; the rush to completion; value for money; content irrelevant to the classroom; and technical failures. A few ICT coordinators expressed concern about being excluded from the training and several teachers mentioned the strain this programme put on the ICT coordinator. Some schools had negotiated a better deal with the ATP. A few schools had changed the ATP as a result of their complaints and were satisfied with new arrangements. One school had terminated training with its chosen ATP and staff undertook training amongst themselves.

❛ The training is fine as far as it goes but 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. ❜

❝ In my 11 years as a head 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. ❞

The perspectives of successful schools

The evaluation concentrated on schools which claimed that the NOF training had increased the ability of the staff to use ICT in the classroom, to identify the factors that had made a difference. Schools who reported on learning progress in the questionnaire were backed up by expert knowledge from the TTA and government agencies and represented a full range of primary and secondary maintained schools including special schools and rural and urban institutions which were interviewed by telephone or visited. Both in-school and out-of-school training is represented in this sample as well as face-to-face and online training. Only two of the schools had a high level of ICT capacity before the NOF training began. In the rest teachers' skills were not uniform and, in some cases, embraced the extremes of expert and naive user. In fact, one school used the NOF initiative to improve ICT standards which had been found wanting in their OFSTED report. Nevertheless, although most of the schools sampled had average standards in ICT, they did seem to be outstanding in their management vision and style of inclusivity. In addition, senior staff managed the programme, so that it was feasible for teachers to complete most of it in school time. Another cause of success in this sample may have been that in most schools the staff was relatively stable. When staff did come and go, the school had a recovery plan.

Since these schools were very different, great care has been exercised in arriving at generalisations about trends. Indeed, sometimes one school's recommendation was another school's major challenge. For example, some schools wanted only face-to-face training, whilst others wanted a mixed model of face-to-face training, paper based and online training so that they could proceed at their own pace. Mixed modes also made an extensive programme more affordable.

Elements of success that occurred started with the choice of the trainer. Reasons for the choice included location and familiarity. If they took place, needs audits in this successful sample seemed to be framed to help staff realise that they knew more than they thought, not less. Simple audit systems were recommended.

Nearly two hundred teachers made helpful recommendations about ways forward in ICT continuing professional development (CPD) in the questionnaires. However, there are inconsistencies as one teacher's recommendation was sometimes contradicted by another's professional opinion. This phenomenon indicates the variety of teachers' learning styles and the need for differentiated ICT programmes.

All schools had a choice of at least six ATPs, although they were sometimes directed to a particular choice by a local education authority. The nature of the teachers' suggestions was also

dependent on the type of training model that they had experienced. Often what was requested by a teacher was already available in the programme of one or more of the other ATPs. In these cases the school may have not spent enough time going through the options available to them, or the respondents had not, themselves, been consulted in the selection process.

In the main, it appears that there was not enough differentiation within each of the programmes. The ATPs may have found that the funding did not allow for this level of granularity at the planning stage. The other reason might be that ATPs were expecting participants to have basic skills already which was often not the case. Advanced computer users were also not expected to join the NOF programme, although many did.

Two main conclusions about the questions of trainer choice are that a 'one size for all' ICT programme does not seem to work across the country, and that, in terms of modifications, the local knowledge of trainers is invaluable.

About half the selected schools had added the NOF programme into their **ICT development plan**, which tended to indicate that serious consideration had been given to the role of ICT in the school. Another factor that seemed to be responsible for a step change in computer use was the purchase of laptops for teachers. Interactive whiteboards and digital cameras were also associated with changing practice.

Some of the trainers were offering **basic skills training** which had been endorsed by NOF and the TTA when it was clear that teachers required this groundwork. Evidence of this kind of training was far more marked than evidence for the pedagogical theme of ICT in the classroom. The vocabulary of pedagogy hardly appeared in the interviews. On the other hand, there was praise for trainers who linked the training to practical tasks in the classroom and ideas that teachers could try out. Shared feedback on the results was also valued.

Good relationships with the trainer often had to be worked at in the early days and early misunderstandings were commented on by about a quarter of the schools surveyed. A distinct difference in attitudes and in stability of staff between rural and urban schools was noted. In this sample, urban schools appeared to have more external challenges to contend with which affected their ability to respond enthusiastically to this particular ICT initiative. Positive attitudes within the school also seemed to be more muted in some urban environments where disadvantage, indiscipline and staff retention were obstacles to achievement. A sense of success seemed to focus on the collegiate nature of the learning and praise for the generosity of ICT skilled individuals.

Blended learning is a relatively new pedagogical term which refers to the joint use of face-to-face and online teaching. Mostly the schools favoured face-to-face methods of training and found the training they received suited their style of learning. Variety and

❛ 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. ❜

❛ 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. ❜

differentiation was the key. Online subject specialist training, especially in Science, was praised for quality and results. Several confident teachers complained that the training resources on the web and on CD-ROMs were too linear and lacked the interactive and multimedia elements that students enjoy. A quarter of the schools felt that blended learning with some online elements might work better now that teachers are more comfortable with the Internet and the infrastructure in the school is improved.

Accreditation was not a compulsory aspect of the NOF programme, although many ATPs developed such systems. Successful schools praised the opportunities provided by the ATPs for self-auditing, alternative routes to suit different learning styles and the chance to tailor the programme to suit circumstances. Unfortunately, few of the teachers were keen to participate in accreditation, especially the production of portfolios, although one school had had success with a joint portfolio of shared experience that all the staff referred to for exemplars of good ICT practice. This reluctance was a particular challenge to those ATPs who were judging completion of the training by the preparation of a portfolio that covered the tasks set.

Positive attitudes, good leadership and strong community building, as well as a tendency toward enthusiasm and good humour, seemed to be paramount in overcoming the ICT programme's challenges. Risk taking appeared to be encouraged where relationships were good. The commitment of the head was a strong factor in the success of these schools. More than half the heads did the training themselves, which was admired by the staff. In one quarter of the schools, assistants, supply staff, technical staff and administrators were all included, which created a collegiate atmosphere.

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.

Because each school in the sample presented an individual case, **the common themes** that emerged must be viewed circumspectly. Indeed, the differences are sometimes as important as the similarities. Few of the schools were showcase studies in ICT at the start of the programme, although they were by the end of the process. What emerges clearly, however, is the ingenuity, enthusiasm and good financial management shown by the managers and their staff in engaging with this ICT programme. These may have been the factors that ensured that the ATPs were comfortable in supporting these schools and felt encouraged to give their best. Evidence in this sample highlights sharing, flexibility and collaborative work. In particular, cordial and positive relationships between ATPs and teachers that were sustained, although problems had to be solved. However, these showcase schools only

represented about one fifth of the national population, which is only slightly higher than the average percentage for schools that are coping well with change and ICT in other surveys. It would appear that the Government aim that all teachers should use ICT intuitively in their subject areas will be an important focus of post-NOF programmes for four fifths of the schools. Pedagogy in subject areas will also benefit, it would appear, from more practical examples and from professional debate across phases and subject areas.

The perspectives of the ATPs

The evaluation team also investigated the opinions of the ATPs who had been running the NOF programmes. Over half of the ATPs responded to the questionnaire and one quarter were interviewed in depth. Their replies fell under the headings: **school culture and leadership, the management of the trainers, the impact of blended learning and accreditation, monitoring and tracking.**

The large majority of the ATP trainers were teachers or ex-teachers. They were overwhelmingly of the view that a **positive learning culture and effective leadership** were crucial in supporting the use of ICT in the classroom. The policy makers and the quality assurance team made the same observation about the successful ATPs.

The ATPs agreed that the school senior management team should have a clear vision for the use of ICT; identify a key teacher for liaison between the trainer and the school; link the programme coherently with other government initiatives; make time available for teachers to train through creative planning and financing and wait for the equipment to function reliably before starting the training. However, although most trainers knew about the factors that were essential to successful training, they were not usually able to control the contexts in which they worked. The majority did take the opportunity to inform senior management through a training day about the planning details that would help them to get the best from the programme. There was some evidence that the trainers and the schools did develop a more positive relationship as the programme progressed.

ATPs' reception was hampered by schools' attitudes towards the lack of support cover which contrasted with other government initiatives like numeracy and literacy. In addition, some teachers were difficult to engage as they were resentful about the training which they saw as an imposition on their out-of-school time. Some ATPs who introduced accreditation in order to raise standards found this was a process which many teachers resented because of the circumstances in which they were training. However, many teachers also appeared to be reluctant to pursue accreditation in any circumstances.

❛ 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 in to teachers' normal planning processes. ❜

❛ 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. ❜

In the classification, **management of the trainers**, ATPs views were grouped under two main themes: **needs identification** and **the recruitment and management of the trainers.**

Evidence indicates that many schools entered all their teachers for the training, rather than the middle range of ICT ability. 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. ATPs often abandoned the **TTA Needs Identification** CD-ROM for a simplified or more integrated approach. Unskilled teachers found it hard to load the Needs Identification CD-ROM or answer the detailed and wide ranging ICT questions.

The recruitment and management of the trainers were affected by the ATPs' mode of delivery, size, previous relationship with the school and geographical location. Careful choice of trainer and effective quality assurance systems were considered to be the most important factors in success. Four characteristics figured in the selection of trainers: credibility with teachers, recent and relevant classroom experience, the ability to empathise with teachers and good teaching skills. The level of ICT knowledge of the trainer was the least important factor. Many trainers applied for the experience of training other teachers rather than for the money, but work loads and time pressures affected negatively many of the in-school trainers. Success was often dependent on support from colleagues, a situation where the effective role of some supply teachers, assistants and ancillaries was acknowledged. The ability of trainers to develop team spirit and collegiality amongst the staff was a tangible success factor. In terms of access, the greatest problem for trainers with a packed training schedule was the failure of the technology, which was often under the control of the school or the local education authority rather than the ATP.

An element of **blended learning** was provided by most ATPs. But very few relied exclusively, or almost exclusively on online learning. There was no strong evidence to indicate any positive impact of blended learning, although the few ATPs who were involved in online work suggested by the end of the programme that, in their experience, online mentoring can work where teachers are already confident and competent with ICT and have adequate broadband access. It was acknowledged that the policy makers had been ambitious in expecting that NOF training would be delivered online because the schools had not acquired the technical capacity or the appropriate learning culture to respond in time. Most ATPs thought that effective step changes, including impact on children's learning, could not be achieved in three years. One of the reasons was that the number of efacilitators who were trained in this mode of working was still low. As a result, face-to-face was the favoured mode of training and in the end most trainers shifted closer to more face-to-face delivery.

Much online work was quickly modified and programmes redesigned. In addition, some of the websites were not well designed and not reliable at the start, but did improve over the period of the programme. Towards the end of some individual programmes, blended learning approaches were showing signs of success. Allowances should be made for the emergent nature of these programmes. In the final stages significant changes in teachers' awareness of blended learning and greater willingness to participate were frequently mentioned. This was backed up by the observations of some of the more sophisticated teacher users in the schools survey. Factors like the cost effectiveness and the flexibility of online learning began to be important as teachers became more skilled and confident. The implication was that this aspect of teacher education will be strengthened in the future. Whether the teaching force would be as aware as they are now about blended learning techniques without the influence of this NOF programme is difficult to determine. Nevertheless, evidence suggests that the NOF programme had broadened the scope of acceptable modes for teacher education.

Accreditation, monitoring and tracking were widely employed by the ATPs, although accreditation and tracking were not requirements of the NOF programme. It seemed that these strategies were more successful when the whole staff of a school was involved.   Success required good communication between the trainers and the school and clarity about the completion criteria. In these circumstances simple monitoring systems worked well. Pedagogy was best served when accreditation was related to classroom activity, but few trainers mentioned practice based evaluation methods. Where they did work, innovation was continuing beyond the life of the programme. Accreditation deadlines were important, but a good model seemed to be one that provided flexible deadlines linked to the schools development plan.

❛ 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. ❜

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