

INTRODUCTION

The National Grid for Learning Progress Report Three

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INTRODUCTION

Chapter 1: Introduction

The National Grid for Learning Scotland (NGfL Scotland) was launched in August 1998 to ensure the educational benefits of Information and Communication Technology (ICT) were available to schools and the wider education community.

The Digital Scotland report, published in September 2000, gave an undertaking to provide annual reports of progress with the NGfL Scotland.

This current report is the third. It records the progress of the NGfL Scotland since the last progress report which was published online in December 2002 (www.scotland.gov.uk/library5/education/nglm-00.asp). It sets out the background to the NGfL Scotland and the contribution of the Scottish Executive and records the progress with the three key ICT areas with which the NGfL Scotland is concerned - infrastructure, training and content development.

A paper summary of this document will be published early in 2004 and sent to all education authorities and to SCIS (the Scottish Council of Independent Schools) for distribution to schools.

The summary report will also be available at

www.scotland.gov.uk/library5/education/nglrs3-00.asp

The full report is available at

www.scotland.gov.uk/library5/education/nglr3-00.asp

BACKGROUND

Chapter 2: Background

The foundations for the NGfL were laid out in a document published by the (then) Scottish Office Education and Industry Department (SOEID) in August 1998 entitled *Implementing the National Grid for Learning in Scotland* (www.scotland.gov.uk/library/documents-w/ngfl-00.htm). This report challenged schools and education authorities to achieve a ratio of pupils to modern computers of 15:1 in primary schools (later changed to 7.5:1) and 5:1 in secondary schools by 2002. A number of other targets were set out in this document (www.scotland.gov.uk/library/documents-w/ngfl-05.htm) and also in the Programme for Government document, *Working Together for Scotland* (www.scotland.gov.uk/library3/government/pfg-00.asp)

Since its inception the programme has improved computer to pupil ratios in schools, helped teachers buy their own computers and provided extensive training opportunities through the New Opportunities Funding (NOF) and other staff development opportunities. It has also supported the development of an extensive range of online services and learning materials for the education community.

The latest key development for the NGfL Scotland is the establishment of the Scottish Schools' Digital Network (the project formerly known as Spark), discussed in detail in *Chapter 6: Progress with Infrastructure*.

Further background can be found in last year's progress report (www.scotland.gov.uk/library5/education/nglm-00.asp).

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The first progress report published in August 2001 can also be found on the web

(www.scotland.gov.uk/library3/education/nglr-02.asp).

Chapter 3: Central Government Funding and Support

The Scottish Executive supports the NGfL in schools through the School Infrastructure programme of the National Priorities Action Fund. In 2002-03 and 2003-04, £20 million was distributed annually to local authorities (see Annex A). The money was shared out on the basis of school and pupil numbers. Local authorities use this to help sustain and support the ICT infrastructure that was created during the first three years of the NGfL programme.

The Scottish Executive also provided £6.4 million in 2002-03 and plans to spend £10.8 million in 2003-04 to support a range of central programmes, many of them carried out in partnership with Learning and Teaching Scotland. These actions to support ICT developments are described in the rest of this report.

Chapter 4: Learning and Teaching Scotland and the NGfL Scotland

Team

The NGfL Scotland team, appointed in 1999, and based within Learning and Teaching Scotland (LT Scotland), plays a vital role in the NGfL Scotland initiative. It provides key curriculum and technology advice and has a remit which relates closely to the NGfL Scotland goals and the National Priorities.

The team is managed by the LT Scotland Director of ICT and Learning and has been further strengthened in 2002/2003 by the addition of a number of content editors and development officers with responsibilities for particular projects such as Masterclass and Connecting Communities. This year the team has also been joined by a liaison officer charged with the task of strengthening links between NGfL and Becta (www.becta.org.uk).

The work of the NGfL Scotland team covers the three key areas of **infrastructure**, **staff development** and the provision of **educational content**. The team works with people involved in early years education and school education, as well as working with the community capacity building sector through a range of projects designed to support informal and lifelong learning.

The **infrastructure** role involves working to encourage partnership and collaboration to avoid duplication of effort and funding across education sectors. At present, a member of the NGfL Scotland team is seconded to provide specialist support to the rollout across Scotland of the Scottish Schools Digital Network (SSDN), (www.ssdn.org.uk).

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The NGfL Scotland team continues to provide advice and support on the latest available technologies and how they may be used to enhance the delivery and hosting of content within the evolving SSDN network environment.

The focus of the **Staff Development** role has changed from a concentration on the New Opportunities Fund (NOF) training for teachers and school librarians to Continuing Professional Development (CPD) and the development of communities of interest supported by online collaborative working environments. 2002/2003 has seen the successful creation of the Masterclass initiative and the Heads Together online community. A future development will be the development of a Masterclass initiative for early years practitioners.

Through its **Content** role, the NGfL Scotland initiative stimulates and supports the production and availability of high quality educational content and web services on a range of websites. However CD-ROM multimedia products are still created when that is the most appropriate medium. During 2002/2003 much work has been carried out on the Digital Content Procurement process, in order to develop efficient needs identification for content and to establish a framework of companies able to provide a range of products and services to meet the needs of learners and teachers.

The **Communities** role is to develop and extend the use of ICT to promote lifelong learning, social inclusion and the enhancement of the school and family learning process. NGfL Scotland is currently managing a two-year programme called Connecting Communities, which aims to train 2,500

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community practitioners by March 2004. The dissemination of information is vital to the Communities role.

The **Web Services** role involves managing the effective design, construction and delivery of a range of online resources for learners and practitioners (www.ltscotland.org.uk/ngflscotland/). At the same time the team ensures that the service complies with all relevant national initiatives and policies.

Integration of the LT Scotland, NGfL Scotland and the Scottish Virtual Teachers' Centre websites under the one URL (www.ltscotland.org.uk) is currently ongoing. All the LT Scotland website templates now adhere to accessibility guidelines for people with disabilities. The NGfL Scotland team is also developing additional interactive web services which more closely match the needs of its disparate user groups.

The NGfL **Information Service** role is important in order to disseminate information about the NGfL Scotland initiative and promote its use across all sectors of education and lifelong learning in Scotland. Communication of relevant information and findings of NGfL events and projects is through *Connected* magazine (www.ltscotland.org.uk/connected/). The magazine promotes practical applications of ICT for learning and teaching and has a growing reputation as a forum for controversy and lively discussion over the role of ICT. It is produced three times a year, with a circulation of 35,000 and is available as an e-zine on the NGfL website.

The NGfL Scotland e-mail bulletin

(www.ltscotland.org.uk/ngflscotland/emailbulletin/index.asp) is

distributed each week, providing free news and updates on developments in

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education and ICT to several thousand subscribers. It is copied to many more readers and is now a well-established means of disseminating information and encouraging participation. Four new monthly e-mail bulletins have also been established, focusing on Digital Inclusion

(www.ltscotland.org.uk/communities//email_bulletin.asp), Early Years

(www.ltscotland.org.uk/earlyyears/Emailbulletin.asp), National

Qualifications (www.ltscotland.org.uk/nq/emailbulletin.asp) and 5-14 news

(www.ltscotland.org.uk/5to14/emailbulletin.asp)

The NGfL Information Service responds to the NGfL enquiries helpline (0141 337 5117) and e-mail box (ngfl@LTScotland.org.uk). It has been well used, with more than 500 enquiries from September 2002 to August 2003, on a wide variety of questions. During 2003/2004 a system will be developed to log, track and catalogue the enquiries and use the information to develop a Frequently Asked Questions service on the NGfL Scotland website.

Additional information services include maintaining and updating the Scottish Schools Online public database, accessed via Parentzone (www.parentzonescotland.gov.uk/), and now containing school examination results.

NGfL Scotland staff frequently attend and speak at conferences and seminars on the progress and developments in ICT and learning and teaching. These events continue to provide a forum for information exchange and discussion about NGfL Scotland services.

Chapter 5: Monitoring Progress

5.1 ICT Annual Survey

We are currently reviewing the way in which we collect information in order to ensure maximum accuracy with minimum burden on schools and authorities.

As a result of this review no ICT survey took place in 2003.

5.2 ICT data from the School Census

The summary results of the September 2002 school census were published on 26 August 2003 and include information regarding ICT provision.

(www.scotland.gov.uk/stats/bulletins/00272-00.asp)

Information from the report and related observations for the period Sept 2001-Sept 2002 are listed below.

- There has been an increase across all publicly-funded schools (Primary, secondary and special needs schools) in the percentage of teachers and pupils with an email address allocated by the school or local authority¹.
- The greatest increase in email addresses has been in primary schools, where the percentage of pupils and teachers with an email address has increased from 16% to 52% and 38% to 63% respectively.
- There has been an increase in the percentage of publicly funded schools with school email addresses and access to the Internet – all

¹ Please note that in 2001 the percentage of primary pupils who had an email address was based on those with an individual email address whereas in 2002 the percentage was based on whether a primary pupil had access to an email address (including a class email address). Therefore, the figures are not directly comparable.

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secondary schools have Internet access and the number of primary and special schools with Internet access has risen from 84% and 68% to 97% and 83% respectively.

- There has been an increase of approximately 16,300 modern computers used for teaching and learning in publicly-funded schools: Primary 7,600; Secondary 8,300 and Special 400.
- Increases in modern computers have led to decreases in the pupil:modern computer ratio. See table below.

	Primary		Secondary		Special	
	2001	2002	2001	2002	2001	2002
Pupil:modern computer ratios	11	9	5	5	4	3
% of teachers with email addresses	38	63	80	94	25	46
% of pupils with email addresses	16	52	68	80	8	23
% of schools with email addresses	75	92	91	96	63	75
% of schools with access to the Internet	84	97	100	100	68	83

5.3 Research

5.3.1 The Impact of ICT Initiatives in Scottish Schools

Phase 2 of the research entitled *The Impact of ICT Initiatives in Scottish Schools* took place in 2000 – 2001. The results were summarised in the last progress report and a full copy of Phase 2 findings is available at www.scotland.gov.uk/library5/education/ins2-00.asp. This is one of a number of Insight publications which summarises relevant research (www.scotland.gov.uk/about/ED/IAC/00014478/page1283307525.aspx).

Phase 3 has been commissioned. It is expected that an interim report will be completed by mid 2004 with a final report available early in 2005.

5.3.2 Evaluation of the Heads Together Pilot Project

Heads Together is an online community offering Scottish headteachers opportunities to support and learn from each other and to engage in dialogue with policy advisers and decision-makers (see *Chapter 7*). In 2002 the Scottish Executive commissioned George Street Research to conduct an evaluation of the SEED-funded Heads Together pilot project.

The researchers were asked to assess the use of Heads Together; identify criteria for effective use and barriers to use; and identify the impact on users.

The main findings are listed below.

- A broad range of different channels of communication is utilised by headteachers and there is little antipathy to the use of ICT as one

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channel of communication. However, channels of communication are selected on the basis of specific requirements and headteachers cite instances where there is a preference for using other channels of communication.

- One barrier to the effective introduction of Heads Together is inconsistency in hardware and software packages provided, and in ICT training across local authorities.
- Access and usage of Heads Together is relatively limited. Only a minority of respondents is accessing the website on a daily basis or as regularly as a few times a week.
- There is an assumption from some headteachers that Heads Together duplicates other information sources rather than being unique as a source of advice, help and support.
- Facilitators need to adopt a very pro-active role in communicating the benefits of Heads Together to headteachers. A range of different channels of communication should be utilised.
- A number of key messages relating to the future promotion of Heads Together are identified for dissemination to head teachers, namely that Heads Together can be useful in the context of:
 - offering access to the views of headteachers across Scotland, not just restricted to one local authority;
 - a platform for sharing and exchanging information/ideas/problems/issues;

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- keeping headteachers up to date on topical issues and providing information in relation to legislative and educational changes;
 - making a unique contribution, not available elsewhere;
 - improving access to other headteachers across the whole of Scotland;
 - preventing feelings of isolation;
 - offering a strategic viewpoint;
 - providing information (that is not covered elsewhere) on topical issues impacting on headteachers;
 - offering speedy and immediate answers to questions;
 - providing support and advice not offered elsewhere;
 - offering opportunities to clarify issues of importance with other headteachers; and
 - having the capacity to download school policies and help to reduce workloads.
- Third party endorsement of Heads Together is seen to be independent, objective and credible. Promoters of Heads Together should utilise third parties wherever possible to help encourage use of Heads Together. These include local authorities, local champions and existing users of the website.

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- There are long term opportunities to open up Heads Together to other types of teacher and extend the number of closed communities.

The full evaluation

(www.scotland.gov.uk/library5/education/headsfinal.pdf)

and the summary evaluation

(www.scotland.gov.uk/library5/education/headsfinals.pdf) are also

available on the web.

Chapter 6: Progress with Infrastructure

6.1 Schools

The Scottish Executive commissioned a feasibility study into the provision of broadband communications to Scottish schools from

PricewaterhouseCoopers in May 2000. The study concluded that it was possible to create a broadband network providing connection speeds of at least 2Mbps to all Scottish schools. The report recommended that this be achieved within the context of a Scottish Schools Digital Network (SSDN).

The Scottish Executive, however, decided to pursue an aggregated procurement route through the Pathfinder Projects in the Highlands and Islands and in the South of Scotland. Technical and procurement lessons learned from these projects will inform Executive decisions in the future about roll-out of public sector broadband across the rest of the country.

SSDN will provide a range of intranet features delivered via the national broadband interconnect. The SSDN intranet will enable new ways for teachers, learners, parents and school managers to work and collaborate together, helping to enhance the school environment and introducing exciting new ways of teaching and learning. Procurement of the interconnect was completed in October 2003. Procurement of the national schools' intranet began in November 2003, with roll-out planned throughout 2005.

6.2 Further Education

The Scottish Further Education Funding Council (SFEFC) reviewed its strategy for ICT investment in July 2002. The Council recognised the major

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advances in infrastructure, content and staff development which had been achieved in the FE sector through the previous three years earmarked funding for ICT. However, the Council felt that the time was now right to devolve more of the responsibility for ICT investment to individual colleges, in order to ensure that development took account of the distinctive context and mission of each college. The Council therefore decided to reduce the amount of top-sliced funding for ICT to £5 million per annum for the next three years, and to focus its investment on a small number of key strategic areas where there was most to gain from central spending.

The Council identified its specific priorities for 2002/2003 as the following.

- Exploitation of the existing technical infrastructure through the provision of subsidised staff development opportunities.
- Support for online assessment through commissioning of a bank of exemplar assessments in a wide range of subjects, and collaborative work with the Scottish Qualification Authority (SQA) on guidelines for good practice in the use of online assessment.
- The promotion of e-business activities as a means of generating efficiency gains through ICT; (Four major collaborative projects on e-procurement have subsequently been launched as the first stage in this strand.)
- Updating college ICT strategies to take account of changes in the planning context since strategies were last produced in 2000.

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- Jointly with the Scottish Higher Education Funding Council, to set up a working group on e-learning in order to identify key strategic issues likely to arise over the next two or three years.
- Continued membership of the Joint Information Systems Committee (JISC), which provides IT networks and a range of support services to the FE sector.

Looking at the sector as a whole, there is evidence that ICT is being used increasingly to support learning and teaching; however, practice is still patchy and varies among subjects and colleges.

In the summer of 2002, the network connections linking all Scottish FE colleges (and all HE institutions) were re-procured. SFEFC had provided additional funding for this re-procurement aimed at ensuring that all colleges would have their connections upgraded to at least 8Mbps. In the event, it proved possible to procure significantly better connectivity so that the majority of colleges are now connected at either 34Mbps or 100Mbps, on contracts that run for at least three years. This provides ample scope for expanding the use of the internet without limitations on bandwidth or the speed of response.

6.3 The People's Network

The New Opportunities Fund has provided £11.5 million to establish the infrastructure and provide equipment for the People's Network in public libraries (www.peoplesnetwork.gov.uk). All 557 public libraries are now

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connected to the Internet, with over 85% of libraries offering broadband access at 2Mbps or higher.

Libraries are able to provide mouse and keyboard alternatives, screen magnification, speech recognition software, text to speech software and large screens to assist people with disabilities to use ICT.

People's Network PCs provide 8.5 million hours of free access to the Internet and ICT which are available to all members of the community. There is evidence that use is especially high in rural areas. In Highland, PCs are occupied over 80% of opening hours and in one of the most rural libraries, Port William in Dumfries and Galloway, PCs are often used 100% of the time available.

The Tavistock Institute has been commissioned to undertake the evaluation of the People's Network on a United Kingdom basis. The evaluation will focus on the impact of the programme on:

- developing library services;
- library users; and
- meeting broader policy and organisational objectives, including promoting social inclusion.

The Scottish Library and Information Council (SLIC) will be carrying out the evaluation of the training associated with this project in Scotland. This will

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involve six authorities chosen from a variety of backgrounds including urban, rural, island, and one with an exemplar NOF training plan.

The evaluation will look at 3 areas:

- management of training;
- the learning experience; and
- impact on the library service.

SLIC works with authorities to identify best practice and disseminates this information in a variety of ways. A number of Learning Centres based in public libraries have achieved Scottish University for Industry (SUfi) status.

6.4 Communities

The NGfL Scotland Communities team,

([www.ltscotland.org.uk/communities//ngfl_communities_background.as](http://www.ltscotland.org.uk/communities//ngfl_communities_background.asp)

p), is supporting the development of ICT use in the communities sector in a variety of ways. A lot of work has gone into setting up partnerships to develop the role of ICT in the community sector of education, supporting the use of ICT in all aspects of lifelong learning, inclusive education and non-formal learning.

The NGfL Communities Working Group continues to liaise with the key agencies and organisations to advance the promotion of ICT in communities.

The development of the SSDN provides a unique opportunity for the integration of community learning within the structure of the formal Scottish

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education sector and there is also the potential to utilise the community access which some individual Further Education and Higher Education establishments have already facilitated via their infrastructure.

In partnership with the Digital Inclusion Champions' teams

(www.ltscotland.org.uk/communities/digital_champions_contacts.asp),

the NGfL Scotland Communities team works continually to develop and improve the Communities website content to best serve the needs of community education practitioners across Scotland.

The NGfL Scotland Communities team is supporting the Scottish Executive Bellsmyre Digital Community initiative, which aims to connect around 2,000 homes in disadvantaged areas to the Internet and create a pilot 'digital community'. Building on pilot work, the NGfL Scotland will fund and deliver an ICT-based unit within the school Personal and Social Education (PSE) programme which will be cascaded by the pupils to their families, offering a unique opportunity to develop family learning and family support for pupil learning. The project will produce a training programme for pupils from two schools in the area. The purpose of this training is to help engage the pupils and their families with the Wired Communities initiative and allow them to exploit the opportunities offered.

Chapter 7: Progress with ICT Training

7.1 Schools - New Opportunities Fund (NOF) training

Over the last four years, the major source of funding for the ICT training of teachers and school librarians has come from the New Opportunities Fund (NOF), (www.nof.org.uk), a National Lottery distribution body established by the Government. Over the period, £23 million has been made available in Scotland. The programme's aim has been to bring all existing school teachers and school librarians up to a published standard of ICT expertise in terms of knowing when, when not and how to use ICT in learning and teaching. Under the rules of the scheme, all training must be embedded in classroom and school library practice.

The training programme is now entering its final phase. All those who wished to take part had to sign up by the end of June 2002 and by that date, 93% of Scottish teachers, in terms of full-time equivalent (FTE) had signed up. All training must be completed by December 2003.

By July 2003, approximately 70% of those who had signed up for training had completed their training. The figures were encouraging, particularly in the areas of primary and special education. SEED encouraged education authorities and schools to support the completion of the training by the maximum number of participants by the cut-off date of December 2003. At the time of writing formal completion statistics have yet to be compiled.

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A UK-wide quality assurance group has maintained an overview of the implementation of the training scheme. In Scotland, the ten approved training providers (ATP), underwent a nationally co-ordinated selection process, and the quality assurance of the ATPs has continued to be managed in by HM Inspectorate of Education. Contact between the approved training providers and key stakeholders has been maintained, for example, through the ongoing seminars organised by HMIE. HMIE produced a report on the initiative in June 2002 - *Into the Classroom of Tomorrow* (www.hmie.gov.uk/documents/publication/itct.htm). This report offers a clear summation of the major successes and issues concerning the programme.

7.2 Further education

As indicated in Chapter 6, the Funding Council decided to end the practice of distributing earmarked funding specifically for ICT-related staff development from July 2002. However, the Council has continued to distribute earmarked staff development funding of £2.75 million in Academic Year (AY) 2002/2003 for general purposes, as part of its strategy for quality improvement. This funding is intended to address the general training needs of staff, including teaching qualifications and management training as well as ICT-specific needs.

The Council has continued to support ICT staff development through the funding of a range of training opportunities, including subsidised pricing of relevant commercial courses, and the provision of free places at some FE

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sector training events provided by the Scottish Further Education Unit and the JISC Regional Support Centres. The key objective for this support has been to ensure that colleges are able to fully exploit the potential of the enhanced technical infrastructure which has been developed since 1999.

Prior to 2003 the Council had set sector-level targets for the number of staff holding the Teaching Qualification for Further Education. In July 2003 the Council decided to revise its policy, so that in future each college will be expected to ensure that all staff (not just teaching staff) are appropriately qualified and experienced. Achievement of this objective will be monitored through broader processes of quality assurance and improvement.

The Scottish Qualifications Authority has developed a Professional Development Award (PDA) in online learning, which identifies and develops the key skills required by FE staff wishing to exploit the potential of ICT in promoting effective learning. Further PDAs are being developed in a range of related ICT skills.

7.3 The People's Network

Training for public library staff has progressed with £2.7 million funding from the New Opportunities Fund. By March 2004 all public library staff will have achieved European Computer Driving Licence (ECDL) or an equivalent standard in ICT use. These staff can provide the public with assistance in using ICT and will encourage the public to develop their confidence. Local libraries, seen as a non-threatening environment by many adults who might

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be intimidated by traditional learning establishments, are ideally placed to fulfil these roles.

This view is supported by Professor Peter Brophy in his report on the initial impact of the People's Network, "***The People's Network: A turning point for public libraries***".

7.4 Communities

Training for people involved in delivering informal and community education has been developed through the *Connecting Communities* ICT training programme. Funded by the NGfL Scotland, the programme, which is intended to improve the use of ICT in community learning agencies, has been developed by LTS and is delivered by them in collaboration with a variety of appropriate partners.

A separate strand of the Communities channel within the NGfL Scotland website has been developed to support the programme (www.ltscotland.org.uk/connectingcommunities). This site has been used to expand online tutor support and will be further developed this year by the formation and support of an online tutor community and online resources related to the programme.

By summer 2003, 1,500 practitioners had participated in the training. An independent evaluation carried out by the Scottish Centre for the Development of the Community (SCDC) has measured the impact of the training on community learning to date

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(www.scdc.org.uk/concommunities.htm) and ongoing evaluation will ensure its relevance to community learning.

By March 2004, 2,500 practitioners will have taken part in the training. The final phase of the project will focus on ensuring that the programme has impacted on excluded groups and has resulted in the provision of online material and support for the use of ICT within community learning and development, which will extend beyond the life of the project.

The evaluation has identified the need for further training at a higher level for community practitioners and the Communities Working Group is presently engaged in identifying the possibilities.

7.5 SETT 2003

The Scottish Executive supports SETT (the Scottish Education and Teaching with Technology annual conference) through NGfL funding and other funding streams (www.LTScotland.org.uk/sett). SETT is organised by Learning and Teaching Scotland and Emap Education. Now in its third year, SETT has evolved into a major collaborative learning festival involving educators from across the country meeting to share, encourage and inspire good practice. Approximately 3,000 delegates attended SETT 2003, held on September 24th and 25th 2003.

The exhibition featured more than 100 educational ICT suppliers and presented the largest selection of educational ICT products and resources ever seen at an event in Scotland. Offering visitors the opportunity to

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evaluate the latest ICT products and to find the most relevant and cost-effective solutions for their teaching needs. At the heart of the exhibition, a number of schools and teachers demonstrated live how they use NGfL Scotland resources in teaching and learning. A new feature for 2003, SETT Goes to the Movies, explored the potential of digital video when pupils assumed the role of a film crew at the SETT film studio.

Attendance at SETT is free for delegates.

7.6 Early Years ICT Strategy

A review of ICT in early years education, carried out in 2001, led to the development of an ICT strategy for early years. The strategy (www.ltscotland.org.uk/earlyyears/ICTstrategy.asp) consists of the four components listed below.

- The document *Early Learning, Forward Thinking: The Policy Framework for ICT in Early Years* sets out the framework and background to the ICT Strategy. This document is intended for umbrella organisations, local authorities, childcare partnerships, heads and staff of early years settings. It was published in October 2003.
- A programme of training and support for the early years workforce. The programme will provide Masterclass training for key managerial level staff, intensive training for approximately 500 trainers and continued professional development opportunities for the approximately 17,000-strong workforce in early years. All establishments will receive staff

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development materials that will include core modules and additional information.

- A range of support and guidance materials for the early years workforce to be issued early in 2004.
- A process of monitoring and evaluation to appraise the impact of the Strategy to be undertaken throughout the initial three year project and on its completion.

7.7 The Masterclass initiative

The Scottish Executive-funded Masterclass Initiative,

(www.ltscotland.org.uk/ictineducation/staffdevelopment/masterclass.asp)

p) was launched at SETT in September 2002 and has attracted more than 600 participants from all local authorities and at all levels within the education community. NGfL Scotland has held 11 residential training programmes which also resulted in the creation of a large bank of resources. Masterclass members were involved in the delivery of a number of seminars at SETT 2003.

There was also a Masterclass seminar for Directors of Education and one for HMIE in March 2003.

The aims of the Masterclass programme are to:

- establish a shared vision of the potential and challenges of ICT in learning at all levels;

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- influence, guide and support pedagogical change using ICT across Scotland;
- provide inspiration and encourage effective leadership in the embedded use of ICT in learning, teaching and management;
- develop and share expectations of good management of ICT at all levels;
- contribute to the ongoing development of a toolkit to support the effective use of ICT at all levels;
- create a community that is able to implement and sustain the vision; and
- facilitate the dissemination of good practice in the use of ICT across Scotland.

Participants in the programme include teachers, managers and local authority officers from all local authorities in Scotland and lecturers in the Scottish teacher education institutions.

Each participant received a laptop computer which is available for use at home as well as within their school or office and attended the four-day residential training course. An online community of Masterclass participants has been established using **Think.com**. Training in the use of this facility was provided as part of the overall programme and participants are expected to be active in the Masterclass community both during and after the training.

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Throughout the residential programme, participants have collaborated to produce a set of high-quality resources for the Masterclass programme. However, all resources will be distributed to Masterclass participants on a series of CD-ROMS and many of these resources are also available to download through the Masterclass community on Think.com.

Feedback from participants has been very positive. The programme has established close links with all local authorities and the teacher education institutions. SEED will continue to support the development of Masterclass in 2003/2004. In January 2004 an evaluation of the programme was awarded to George Street Research.

Future developments will include consolidating the community by using current participants as developers and presenters, providing focussed training programmes, extending the Masterclass community, meeting local needs through a flexible funding model, extending the programme to develop ICT leadership in headteachers and supporting teacher education institutes to develop the vision of the future teacher.

7.8 Heads Together

Heads Together

([www.ltscotland.org.uk/ictineducation/staffdevelopment/headstogether](http://www.ltscotland.org.uk/ictineducation/staffdevelopment/headstogether.asp)

asp) is a project being piloted in collaboration with Ultralab research facility at Anglia Polytechnic University. The project provides Scottish headteachers

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with an opportunity to meet in a secure online environment where they can share best practice and debate with policy makers.

The project aims to:

- support the development of management skills of existing Scottish headteachers;
- support Scottish headteachers in their day-to-day role by providing them with a mechanism for mutual support, potential solutions to problems and the sharing and creation of new ideas;
- reduce the isolation of headteachers in small or remote schools;
- raise the ICT skills of participating headteachers; and
- make participating headteachers aware of the potential role of ICT for management and administration, learning and teaching.

During the first phase of the project, in 2002/2003, 750 headteachers received the training and currently 450 have made some form of online contribution to Heads Together. One hundred and fifty members of Heads Together participated in SETT 2003.

The full rollout to all Scottish headteachers will take place by March 2004.

Chapter 8: Progress with Content

8.1 Schools

The NGfL Scotland programme continues to stimulate and support the production and availability of high quality digital content for education. This year the role has involved provision of advice and assistance, and collaboration with a wide range of providers from public and private sector organisations to promote the development of digital content for the NGfL Scotland websites.

The Learning Objects Repository for Scottish Schools (LORSS) project saw the set-up and small-scale trialling of a repository system with Masterclass participants. The project developed a generic standards-compliant toolkit for simple multiple choice questions.

Learning and Teaching Scotland, along with the Centre for Educational Technology Interoperability Standards (a JISC-funded project) co-authored the first draft of the UK Common Metadata Framework (UKCMF) as a practical means to ensuring interoperability between the various education sectors in the UK with interests in learning resource metadata. The framework has received widespread support and it is hoped will be adopted by the major operators in due course.

The NGfL Scotland websites have all been re-designed since the last progress report, a practice that will now become a regular occurrence to ensure the sites remain up-to-date in terms of style as well as substance. The

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re-design work is intended to give easier access to popular resources and save time for the users as they search for relevant materials.

The NGfL Scotland team is also preparing for web services which are more interactive and more closely match the needs of its disparate user group.

All LTS websites are now developed to adhere to the Web Content Accessibility Guidelines Double-A standard (www.w3.org/TR/WCAG10/) of the World Wide Web Consortium's (W3C) www.w3.org/ Web Accessibility Initiative (WAI). This means that the websites are accessible to a wide range of users, including people using assistive technologies such as screen readers, Braille devices, scanning devices, and people using alternative web browsers such as WebTV, Telephone Kiosks, Personal Digital Assistants, text-only browsers. The WAI Double-A standard against which the websites are developed, exceeds the guidelines recommended by the *Guidelines for UK Government websites - Illustrated handbook for Web management teams* published by the Office of the e-Envoy. The latter recommends that government websites meet 'A' standard as a minimum. An accessible website also helps meet NGfL Scotland's obligations under the Disability Discrimination Act Part III.

Following the consultation exercises carried out last year, LTS in partnership with a SEED procurement team established the Digital Content Procurement process with a view to creating a framework of several companies which could be called upon to produce a range of digital services. The framework agreement will procure a range of popular and innovative products which will meet the needs and aspirations of learners and educators.

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In August 2002, companies were invited through public advert to submit expressions of interest. 164 Pre-Qualification Questionnaires were received. The Content Procurement Board approved 63 companies which were invited to tender with a final total of 42 tenders received. Five companies were approved for the Consultancy stream. Eleven were approved for consideration for the Content Management stream, and a company has now been selected.

Thirty-three companies were approved for the Digital Content Stream. Working groups within LT Scotland are drawing up project and product specifications so that five or six mini-procurement exercises can take place over the period to 31 April 2005.

The Scottish Virtual Teachers Centre (www.svtc.org.uk) has provided a valuable service to teachers over the past four years and NGfL Scotland has been active in preparing for its final phase. This involved the identification of resources and weblinks which have value and continue to attract usage, and planning the assimilation of this digital content into the overall NGfL web service, with appropriate measures to re-direct users from old web addresses to the new locations.

This forms part of the work to bring together, organise and present a variety of online resources under the banner of the NGfL Scotland/LT Scotland integrated web service. Work to integrate the LT Scotland, NGfL Scotland and the Scottish Virtual Teachers' Centre websites under a single URL

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(www.LTScotland.org.uk/) is continuing. All the previous URLs will still work but will default to the LTScotland.org.uk/ URL.

Full details of content development since the last progress report are contained within the overall list set out in Annex E.

In 2003 the Scottish Executive Education Department published updated advice for local authorities about aspects of Internet safety. Members of the NGfL Scotland team worked closely with SEED to research and write this advice, to ensure that it presented appropriate and relevant information. Local authorities were invited to contribute data about the availability of their local advice to staff, and this data was added to the website. The site, called DoubleClick Thinking (**www.ltscotland.org.uk/doubleclickthinking/**), is frequently updated.

The Becta Liaison Project within NGfL Scotland aims to maximise the mutual UK-wide benefits of existing and new developments in ICT in education. It aims to develop LT Scotland's work with Becta (The British Educational, Communication and Technology Agency) and to facilitate the accessibility of Becta-produced materials/web sites within the Scottish education community. Work is progressing well to adapt the content of the Becta ICT Advice site to meet Scottish needs. Three guides to using web-based resources in the primary schools were also adapted to fit the 5-14 curriculum and were distributed to schools via The Curriculum File, a regular publication distributed to all Scottish schools. A further guide is in preparation. The adapted guides are now available on-line in the 5-14 channel of the NGfLScotland website. Other material, highlighting Becta's research website and the ICT and Becta

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Digital Video awards schemes, was distributed to the wider Scottish education audience through the same means. Work is in progress in a number of other areas to bring the benefits of Becta's work to the Scottish education community. Becta's role within Scotland was publicised in an issue of *Connected* magazine which was distributed with a CDROM highlighting Becta's ICT Advice site.

8.2 SCHOLAR

The SCHOLAR Project continues to develop, with the Future Learning and Teaching funded evaluation having been carried out and due to report early in 2004 (www.flatprojects.org.uk/scholar.asp). Further research into the use of SCHOLAR is also planned.

8.3 PASS-IT

The aim of the PASS-IT project (www.pass-it.org.uk) is to create, pilot and evaluate a number of different approaches to ICT-based assessment in schools and colleges throughout Scotland. A twenty-seven month project, PASS-IT is divided into two separate but related phases, building on previous research and development undertaken by some of the partners involved in the project.

In phase one, a range of ICT-based assessments were developed for National Assessment Banks (NABs) in Mathematics and Chemistry (Higher and Advanced Higher) and in HNC Computing. Schools and colleges were invited to pilot the assessments. This phase ended in October 2003.

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An evaluation of phase one has contributed to the planning of phase two. In particular, the second phase will allow greater flexibility in the timing of the pilots to be more in step with the teaching of the curriculum, and will provide greater motivation for students involved in the pilots to undertake practice assessments. It will also consider how far intelligent assessment can contribute to the overall objectives of the project.

Phase two commenced in November 2003 and will be completed in October 2004. As well as producing additional ICT-based assessments, including in areas such as Music and French, it will deliver:

- staff development and dissemination activities for teachers and lecturers;
- a research report;
- published quality assurance guidance for centres on ICT-based assessment; and
- recommendations for a strategy to allow the continued development and implementation of the ICT-based assessment in schools and colleges, as appropriate.

8.4 Further Education

By the end of 2002, almost all colleges had deployed a Virtual Learning Environment (VLE), in which online content can be created, organised and delivered. In order to 'pump prime' the use of VLEs, the Scottish Further Education Funding Council (SFEFC) invested £2 million over the period 2001/2003 in commissioning online content as part of a collaborative procurement with the Learning and Skills Council in England. The products of the first round of procurement were made available to colleges in 2002. These cover a wide range of subjects and levels, and have now been incorporated into college VLEs. Further materials will become available before the end of 2003.

The SFEFC also identified online assessment as a key strategic priority. The incorporation of assessment functions within VLEs will allow greater flexibility in providing feedback to students and offers the potential of efficiency gains in some aspects of assessment. In order to ensure that online assessment is consistent with good practice in the maintenance of academic standards, the Council has collaborated with the Scottish Qualifications Authority in developing guidelines for colleges on the design and operation of assessment processes. These guidelines were officially launched in June 2003. The Council has also provided funding to the Colleges Open Learning Group (COLEG) for the creation of a large bank of assessment instruments suitable for mounting on VLEs; these assessments will be freely available throughout the FE sector by the end of 2003 and will provide exemplars in a wide range of subjects.

8.5 The People's Network

New Opportunities Fund – Public Libraries

The Scottish Library and Information Council has been working with public libraries to ensure that library catalogues are available via the World Wide Web. This will widen access to library resources and give library users the opportunity to search the catalogue from home, work or at any Internet access point. All library catalogues will be web enabled by early 2004.

Funding from the New Opportunities Fund enabled the Scottish Library and Information Council to negotiate Scotland-wide subscriptions for a number of online information services for a two year period. These services are available from every public library through the People's Network. The services are listed below.

ProQuest: Know UK

KnowUK contains over 100 up-to-date reference titles including biographies, encyclopaedias, travel guides, events, government information, history and local information.

Newsbank

Libraries have online access to five newspapers, namely the Herald, the Scotsman, the Guardian, the Independent and the Daily Record. The Sunday editions are also available.

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Kompass UK

This business search engine contains 150,000 industrial and commercial companies in the UK, providing an in-depth database of company and product information. This resource provides businesses with up-to-date company information and individuals with a research tool when job hunting.

Scottish Statistical Accounts online subscription service

The two Statistical Accounts of Scotland, covering the 1790s and the 1830s, are among the best contemporary reports of life during the agricultural and industrial revolutions in Europe.

New Opportunities Fund: Digitisation Fund

Six million pounds from the New Opportunities Fund has been awarded for digitisation projects in Scotland

(www.enrichscotland.net/countries/scotland). The site brings a rich tapestry of learning materials and resources from galleries, libraries, museums and universities directly into homes and communities across the country. Resources for Learning in Scotland and Am Baile are the two major NOF digitisation projects in Scotland, and these are described in further detail below.

The National Library of Scotland, working with 95 partners including East Lothian Council, South Ayrshire Council, Dundee City Council, Scottish Borders Council, and the Scottish Poetry Library, was awarded £4 million for

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the project Resources for Learning in Scotland (www.rls.org.uk). The project covers a wide range of subjects including agriculture, archives, fine art, maritime history, oral history, science and technology, archaeology, costume and textiles, industry, medicine, social and family history, architecture, literature, music, photography and transport.

Highland Council, in partnership with West Highland Animation and Taigh Chearsabhagh Trust, was awarded £900,000 from NOF for the Am Baile project (www.ambaile.org.uk). Am Baile gives easy access to materials that are central to Gaelic and Highland culture and heritage. A site has been developed to enable users to acquire the knowledge to participate in the activities of the Gaelic community worldwide.

The Scottish Library and Information Council (SLIC) has established a group to facilitate the co-operation and sharing of information between recipients of awards from the NOF Digitisation Fund. The group has also established technical standards and developed collaboration.

The Scottish Cultural Portal

In “Creating our Future: Minding our Past” the Scottish Executive indicated that it would establish a cultural portal to provide access to electronic and printed information about Scottish culture and act as a focus for cultural development.

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The Scottish Library and Information Council have been developing the cultural portal on behalf on the Scottish Executive. The portal will:

- provide a one-stop shop for information on Scottish cultural matters;
- be capable of access by a global audience;
- support the development of the cultural strategy by mapping activity in organisations;
- build on existing information networks;
- provide quick guides to specific areas of activity;
- develop mechanisms to provide advice and assistance to organisations on developing electronic content;
- develop detailed cultural subject mappings e.g. Arts, Literature etc; and
- provide a robust searching mechanism.

There is currently no mechanism in place to bring the quality information on Scottish culture together. This was changed with the launch of ***www.Scotlandsculture.org*** in its pilot form, in November 2003 by the MSP for Tourism and Culture Frank Macaveety at the publication of the National Cultural Strategy Annual report.

8.6 Communities

The Communities channel (***www.ltscotland.org.uk/communities/***) provides information, advice and support for those promoting the use of ICT in communities.

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Developments for 2003/2004 will include adding downloads and interactive online resources for practitioners. These have been commissioned from consultants, individual practitioners and a variety of organisations. Content developed at a local authority level will also be available. Further development of the Communities channel will be carried out in partnership with the Scottish Digital Champions from the Scottish Executive Digital Inclusion Unit.

The dissemination of relevant information has been improved by the introduction of a monthly e-mail bulletin sent to 900 practitioners. Copies of the bulletin are available online

(www.ltscotland.org.uk/communities/current_email_bulletin.asp).

Schoolsoutglasgow (***www.schoolsoutglasgow.net***) is a SEED funded project, developed by Glasgow City Council Education Services Department and NGfL Scotland. The project aims to investigate how ICT can be used to support pupils whose learning has been interrupted.

Illness, family issues, behaviour and school phobia are only some of the ways in which a learner's education can be disrupted. Schoolsoutglasgow aims to build on the work of previous projects and on research which shows that involvement in an online learning community can result in significant gains in the educational performance of disadvantaged or at risk children.

Working within the context of the Scottish education system,

Schoolsoutglasgow has promoted interest in learning by providing tutor support, pupil empowerment and web access. Content used in the project has included existing and newly developed resources, web and CD materials,

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online courses and avatar communities to provide a new model for learning for interrupted learners in Scotland. The children involved in the project work from home with tutor support. The project has aimed to provide personal, social, academic and vocational development through engagement with learning on the web. The original timescale of the project, from October 2002 until June 2003, was extended until December 2003 to allow the full potential of the support of curriculum delivery and support to be developed.

Resources developed to date are listed below.

- A 3D chat room to help enhance communication, collaboration and socialisation. Here the children use an avatar – a graphical icon that represents a real person in a cyberspace system. Users can customise their avatar's appearance and can change its facial expression as discussions unfold. There is also the ability for users to share picture files. A text-to-speech facility allows users to hear the conversation (www.schoolsoutglasgow.net/3dchat.asp).
- A customised learning environment (www.schoolsoutglasgow.net/leaponline.asp).
- The Eerf project where pupils role-play to produce a range of written work over a four-week period. The project uses a mixture of offline and online learning. Email is used to submit pupil tasks and send back completed work. Pupil tasks include a descriptive and imaginative writing task and a discursive essay. The project is divided into two stages, a face-to-face workshop with pupils, and an email role-play phase. Over the course of the project, pupils take on the role of

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resistance fighters on the fictional planet Eerf

(www.schoolsoutglasgow.net/eerfproject.asp).

- Tutor and pupil support material. The Health and Beauty department at Cardonald College in Glasgow was asked to write tutor and pupil support for existing online modules developed by the National Learning Network (NLN) www.nln.ac.uk/. In particular, the college was asked to provide online and offline expert support for the module Personal Health and Beauty. This consisted of online expert help, face-to-face seminars and workshops and preparatory material for tutors and students. Further modules in the areas of sport and leisure and media have been commissioned. The project is supported by national organisations and local agencies, including the Scottish Museums Council, EDICT, NTL, RM, Glasgow Science Centre, Mitel and PLATO. The content and licences used throughout the project, along with an operational blueprint and independent evaluation for the pilot by the University of Edinburgh, will be made publicly available.

8.7 Scottish Cultural Resources Access Network (SCRAN)

New Developments

Over the last year, with funding from the NOF, SCRAN has been working in partnership with the National Library of Scotland and others to develop the Resources for Learning (RLS) in Scotland site. There are educational websites, resource packs and 102,000 new records on the RLS site, all of

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which are seamlessly searchable through SCRAN and provide a valuable repository of materials to support lifelong learning. These resources provide an excellent source of material for community practitioners. SCRAN has undertaken training in the use of the sites with these groups.

SCRAN is pleased to have been selected as one of the preferred suppliers for content and consultancy for the NGfL.

The SEED-funded resources that were developed by seconded teachers in 2002 are now available to use. The resources cover a variety of subjects including English Language, Biology and Geography.

A new tool has been added to the SCRAN site. SCRAN Albums allows users to put together, customise and share their own collections. This is proving to be a very popular tool and substantial use has been made of this new feature.

SCRAN Starters, a new section for 7-11 year olds has been added to the site. Over the next year, several topics will be added to the site, allowing younger users to use SCRAN independently.

SCRAN support for Masterclass

SCRAN has supported Masterclass (see also *Chapter 7*) since its launch at SETT 2002. A presentation at SETT and workshops at the residential training course have been delivered and SCRAN resources have been loaded on to the participants' laptops. Both the training and resources have been very well received.

Further information on SCRAN and RLS can be found at www.scran.ac.uk and www.rls.org.uk.

Chapter 9: Progress with the Use of ICT in Learning and Teaching

(provided by Her Majesty's Inspectorate of Education (HMIE))

9.1 Primary schools

Until summer 2003, HMIE inspected ICT as part of a carousel of subjects alongside English and mathematics in primary inspections. In the new inspection model, ICT is no longer inspected as a discrete subject but rather as a permeating skill across the curriculum. Issues emerging from the previous inspection focus are as follows.

Access to hardware and software for learning and teaching

Some schools had set up well-organised computer suites. In the best practice, teachers made good use of small group demonstrations in the classroom before pupils moved to activities in the computer suite. Also in the best practice, pupils from P1 to P7 had regular access to computers and were given good opportunities to use them for a range of purposes in their class work. These opportunities included word processing using graphics, work with databases and spreadsheets, using digital cameras to record details of visits and using CDROMs to carry out research.

ICT programmes

In nearly a third of schools inspected the programme for ICT was good or very good. However, in the majority of schools inspected, important weaknesses in the programmes restricted pupils' progress. Too often programmes did not permit the appropriate development of pupils' skills in controlling and

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modelling, collecting and analysing and in communicating and collaborating.

Some schools had adopted commercial schemes that used a structured system of work cards to give pupils support in developing their ICT skills. The skills developed by these schemes were not always integrated effectively into pupils' work in other areas of the curriculum.

Use of ICT in learning and teaching

In most schools the teaching of ICT was good or very good. Classroom assistants were deployed in some schools to provide good support to pupils. In the majority of schools pupils were making good or very good progress in the work set for them. However, overall too few primary schools ensured that pupils had sufficiently regular opportunities to use computers in their class work. Too often pupils who were first to finish other tasks that did not involve the use of ICT were then set to work on unrelated tasks on the computer. Pupils in only a few schools met expected levels of attainment as set out in 5-14 national guidelines for ICT. Almost all schools inspected had not yet developed effective assessment procedures to evaluate the quality of pupils' use of ICT.

ICT in support of learning and teaching

There were signs of developing good practice in the use of ICT to support learning and teaching. In the best practice, schools were using ICT-based systems very effectively to track and monitor pupils' progress. Many schools were now using computer-based reporting formats in their reports to parents.

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A few schools were making good use of dedicated software to develop individualised educational programmes.

9.2 Secondary schools

HMIE does not inspect cross-curricular ICT as a separate subject area in secondary schools, but does inspect business education, computing and technical education as subjects. Just over a quarter of the reports on schools inspected as part of the general inspection programme included a main point for action to improve the use of ICT. Most commonly, the recommendations referred to the need to improve learning and teaching and ensure that pupils' ICT skills were developed systematically across the school.

Access to hardware and software for learning and teaching

Access to computers and related ICT equipment was good in the majority of secondary schools. In many schools, suites of computers had been established in business education, computing and technical education. These suites were often supplemented by further whole-school ICT resources in the library or learning resource centre. Computer suites typically provided access to a maximum of 20 computers. This limitation restricted the use of these suites for subjects such as English in which class groups frequently exceeded 20.

ICT programmes

Most schools provided S1/S2 pupils with a basic course in ICT skills. Such courses most commonly featured word processing, information handling including the use of spreadsheets, use of the Internet and email. At later

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stages, the planned development of ICT skills was restricted almost entirely to business education, computing and technical education departments. These programmes were effective in developing appropriate skills.

Use of ICT in learning and teaching

Many schools gave S3/S4 pupils effective opportunities to use ICT to develop skills in business education, graphic communication, art and music. These opportunities were continued in S5 and S6, and in some science departments included the use of virtual laboratories and the SCHOLAR programme. There was a clear correlation between those departments in which assessment requirements for national qualifications required pupils to have frequent exposure to ICT hardware and those with the most frequent use of ICT. In subjects such as mathematics and English, it was rare for pupils to make regular use of ICT in their work. Pupils' progress in developing ICT skills was too slow overall in some schools.

ICT in support of learning and teaching

A third of secondary schools inspected were now using ICT effectively in their administration, communication and guidance systems. These schools made regular use of email and used ICT well to track and record pupils' progress.

9.3 Further Education

HMIE conducts reviews of further education colleges as part of a service level agreement with the Scottish Further Education Funding Council. Individual subject reviews include *computing and ICT*, and *office administration*,

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technology and systems. The provision by colleges of ICT equipment and applications, and the use of ICT in teaching and learning form part of the review of all subjects. Almost 15% of main points for action in subject reviews made reference to the need for improvements in access to and use of ICT in teaching and learning. The cross-college review includes *the use of resources and services to support the learner*. Main points for action in about a third of the reports of college reviews related to the use of ICT.

Access to hardware and software for learning and teaching

All FE colleges were in the process of upgrading and increasing ICT equipment for teaching and learning. In a number of colleges, the ratios of computers to staff and students had met, or were close to national norms. A number of colleges had invested heavily in the past year in open access and flexible learning facilities to support student learning. A few colleges had begun to implement pilot schemes of access to distributed computing facilities to complement the centralised open access areas. Digital projectors and electronic whiteboards were increasingly available.

All colleges had extensive resources for student access to the Internet and a number of colleges provided students with college-based email accounts. Almost all colleges provided students with network-based storage facilities.

ICT programmes

A large number of colleges promoted the development of ICT skills in both staff and students through such programmes as European Computer Driving

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Licence, Integrated Business Technology, BBC Webwise and a number of short applications-based programmes, delivered flexibly.

Use of ICT in learning and teaching

Almost all students used word processing and spreadsheets effectively as part of their normal college activity.

Almost all colleges had acquired a virtual learning environment but only a few had mounted a significant body of learning materials in this environment.

Students in most colleges had access to learning materials in shared network folders. More than a few students had access to appropriate Internet-based learning materials for their programme of studies. In some colleges, librarians were proactive in cataloguing useful web sites so as to enhance student opportunities to access appropriate materials. College intranets were beginning to assume great importance in the role of hosting online learning materials. A few colleges had purchased a large volume of commercial online materials and uptake of programmes based on these materials was increasing.

Colleges serving a scattered population were proactive in the use of ICT to support remote learners. Facilities included online learning materials and tutor support through email, egroups and videoconferencing.

ICT in support of learning and teaching

The Scottish Further Education Funding Council sponsored the launch of a number of ICT projects during the year. The projects included diagnostic software for core skills, an online guidance system, tools for management of flexible learning centres and online support for college intranets. All were at an early stage of implementation.

9.4 Communities

The self-evaluation framework *How good is our community learning and development?* has provided the framework for HMIE inspections of community learning and development since September 2002. Inspections do not address ICT or its use as a specific point of focus, but integrally as part of evaluating *learning opportunities, learning experience* and *resources*. In 2002/2003, about a third of inspection reports included a main point for action related to ICT. These points were concerned with increasing the provision of ICT learning opportunities in communities and with enhancing the use of ICT by staff.

Access to hardware and software for learning and teaching

The availability of ICT-based learning facilities in libraries, learning centres and other community venues was expanding significantly in those local authority areas inspected. These generally well-equipped facilities provided new and innovative opportunities for adults to access learning. The development of new facilities was often the result of collaboration between

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local authorities, colleges and local enterprise companies. Social Inclusion Partnerships had been important sources of funding and brokers of some important initiatives in disadvantaged areas.

ICT programmes

Community learning workers often used ICT provision and programmes to attract back to learning adults who were otherwise reluctant to return. All community learning partnerships offered ICT programmes at introductory level through courses such as '*computers for the terrified*'. Most partnerships ensured that opportunities were available for learners to progress to accredited programmes such as ECDL.

Use of ICT in learning and teaching

The use of ICT was widespread and increasing in both adult learning and work with young people. In some cases, there was very effective development and use of local web sites to support community involvement and engagement. There were good examples of youth workers supporting young people to develop such local web sites providing information and links to other sites on youth issues such as health, homelessness, leisure, jobs and further education. There was also widespread use of ICT-based learning, such as the *Connecting Communities* programme, to build the capacity of community and voluntary organisations.

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In some areas, ICT provided a medium for family learning with children and young people supporting the learning of their parents and carers. Such initiatives built the self-confidence of adults returning to education, and enabled them to return to work or further education or to support their children's learning.

ICT in support of learning and teaching

Community learning partnerships were in the early stages of developing the use of ICT for planning and recording purposes. Some adult literacy and numeracy partnerships were exploring the development of ICT-based tracking systems to facilitate progression for learners between providers and to monitor the outputs and outcomes of their literacy and numeracy action plans.

CONCLUSIONS

Chapter 10: Conclusions

This report has documented the significant impact which the NGfL project continues to have on Scottish Education. Developments have been taken forward on three main fronts: infrastructure, content and professional development. In all three areas there has been significant investment and progress since the last report, for example:

Infrastructure

- The network connections linking all Scottish FE colleges have been re-procured and the majority of colleges have been upgraded to 34Mbps or 100Mbps.
- All secondary schools and more than three quarters of primary and special schools now have Internet access.
- The percentage of pupils with email addresses has increased from 16% to 52% in primary and 68% to 80% in secondary schools.
- Secondary schools achieved their published target of 5 pupils to 1 computer while this was exceeded in special schools where there were 3 pupils per computer.
- The Scottish Schools Digital Network (SSDN) interconnect was completed in October 2003 and procurement of the SSDN intranet began.

CONCLUSIONS

Content

- LT Scotland has further refined the process of identifying where the curricular need for digital content lies.
- There has been significant investment in the production and licensing of online resources including the licensing of SCRAN for all Scottish schools.
- Through public procurement, a framework of companies has been established able to provide digital content in support of learning.

Professional Development

- The ICT training programme for Teachers and Librarians, funded by the NOF, ended in December 2003. All teachers, school and public librarians were offered training.
- The Masterclass Programme launched September 2002 aimed to assist local authorities build the local potential to develop the use of school ICT in Learning and Teaching. Phase 1 finished March 2003 and Phase 2 is underway.
- The Scottish Education Funding Council has continued to support staff development in ICT through earmarked staff development funding and through the funding of a range of training opportunities.
- Development of public library staff is on track to ensure that all staff will achieve the level of European Computer Driving Licence (ECDL) or equivalent by March 2004.

CONCLUSIONS

- Connecting Communities ICT training programme is on track to have delivered staff development to 2500 community learning practitioners by March 2004.
- The Early Years ICT strategy was launched in November 2003. It aims to deliver intensive ICT training for approximately 500 trainers and continuous professional development opportunities for approximately 17,000 early years workers.

Effects of Developments

The delivery of staff development and the growth of network infrastructure and access to ICT have allowed attention to be turned to the true goal of NGfL, the embedding of ICT into everyday use in Teaching and Learning.

There are some indications that a start has been made in this process. The People's Network reports evidence of high use in libraries, especially in rural areas. College intranets are assuming great importance for the delivery of online learning materials. HMIE report that, in primary schools the teaching of ICT is good or very good and in secondary schools many schools give pupils between S3 and S6, effective opportunities to develop ICT skills in certain subjects.

CONCLUSIONS

Looking ahead

Nationally a great deal of work remains to be done in providing the core infrastructure. The period ahead promises the development of the SSDN Unit to be located within LT Scotland and the emergence of a range of innovative online educational services due to be delivered through the SSDN.

Evidence from HMIE reveals that there is still much to be done in schools to: disseminate the most effective practice in the use of ICT; assist the good planning of ICT; and ensure that there are sufficient opportunities to use computers in class work. The further national development of Masterclass and the new “Leadership for Learning” programme, aimed at Headteachers, will assist in those and other processes, creating powerful drivers for the future embedding of ICT.

But probably the most powerful influences on classroom practice are curriculum and assessment. It is not surprising then that, in their discussion of ICT in secondary schools contained in this report, HMIE state;

There was a clear correlation between those departments in which assessment requirements for national qualifications required pupils to have frequent exposure to ICT hardware and those with the most frequent use of ICT.

CONCLUSIONS

The forthcoming reviews of the curriculum and the assessment system afford a unique opportunity to take stock of the progress made so far with ICT and to establish an unambiguous vision for its future role.

ANNEX A

Annex A: NATIONAL PRIORITIES ACTION FUND**NATIONAL PRIORITIES ACTION FUND:
School Infrastructure**

	2002-03	2003-04
Scotland	£20,000,000	£20,000,000
Aberdeen City	£610,300	£610,300
Aberdeenshire	£1,130,287	£1,130,287
Angus	£483,184	£483,184
Argyll & Bute	£540,628	£540,628
Clackmannanshire	£180,905	£180,905
Dumfries & Galloway	£790,500	£790,500
Dundee City	£467,400	£467,400
East Ayrshire	£463,294	£463,294
East Dunbartonshire	£440,722	£440,722
East Lothian	£326,345	£326,345
East Renfrewshire	£338,293	£338,293
Edinburgh, City of	£1,110,879	£1,110,879
Eilean Siar	£264,788	£264,788
Falkirk	£485,508	£485,509
Fife	£1,339,513	£1,339,513
Glasgow City	£1,857,979	£1,857,979
Highland	£1,279,989	£1,279,989
Inverclyde	£329,183	£329,183
Midlothian	£331,509	£331,508
Moray	£383,853	£383,853
North Ayrshire	£524,691	£524,691
North Lanarkshire	£1,289,682	£1,289,682
Orkney Islands	£143,716	£143,716
Perth & Kinross	£575,864	£575,864
Renfrewshire	£617,480	£617,480
Scottish Borders	£511,108	£511,108
Shetland Islands	£212,328	£212,328
South Ayrshire	£437,149	£437,149
South Lanarkshire	£1,180,848	£1,180,848
Stirling	£363,159	£363,159
West Dunbartonshire	£368,097	£368,097
West Lothian	£620,819	£620,819

ANNEX B

Annex B: ICT Publications Issued to Scottish Schools and Authorities

TITLE	Description	DATE	WEB ADDRESS
Connected Magazine		Three times a year	www.ltscotland.org.uk/connected/
Email Bulletin		Weekly	www.ltscotland.org.uk/ngflscotland/emailbulletin/index.asp
The National Grid for Learning Summary Report	Summary of progress with the National Grid for Learning in Scotland	2002	www.scotland.gov.uk/library5/education/ngls-00.asp
Digital Inclusion E-mail Bulletin	News bulletin to subscribers interested in digital inclusion		www.ltscotland.org.uk/communities/email_bulletin.asp
Early Years E-mail Bulletin	News bulletin to subscribers interested in ICT in Early years education	Monthly (Since June 2003)	www.ltscotland.org.uk/earlyyears/emailbulletin.asp

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NQ E-mail Bulletin	News bulletin to subscribers interested in updates on the National Qualifications website	Monthly	www.ltscotland.org.uk/nq/emailbulletin.asp
5-14 E-mail Bulletin	News bulletin to subscribers interested in ICT in the 5-14 curriculum.	Monthly	www.ltscotland.org.uk/5to14/emailbulletin.asp

ANNEX C

Annex C: ICT Conferences and Seminars

EVENT	LOCATION	DATE
Subject Associations and Networks Seminar Conference	Stirling Management Centre	June 2002
Game On - The Conference	Royal Scottish Museum, Edinburgh	November 2002
Masterclass seminar for Directors of Education	Stirling Management Centre	March 2003
Masterclass seminar for HMIE representatives	Stirling Management Centre	March 2003
ITSU Live!	St Bernard's Education Centre, Edinburgh	May 2003
SETT Conference	SECC Glasgow	September 2002

ANNEX D

Annex E: Web Services, Content and Other NGfL Activities

(since the publication of the last Progress Report)

Type of resource:	Online Resource
Product/Project:	NGfL Website Maintenance and Development
<p>Description: Support, development and maintenance of the NGfL Scotland website, including news and events, e-mail bulletin, NGfL Focus, Search and Links. Work will continue to create a unified look and functionality across all the sites. The site will also become more interactive over the course of the next year with a greater emphasis on user feedback and online collaborative working. The ultimate aim is that the website is fully personalised to meet the wide range of needs across the Scottish education community.</p>	

Type of resource:	Online Resource
Product/Project:	Communities Channel
<p>Description: The Communities section of the NGfL Scotland web service continues to provide support to those promoting the use of ICT in the community. Working in partnership with the Digital Inclusion Champions team, the content of the Communities channel aims to serve the needs of community learning and development practitioners throughout Scotland.</p>	

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Type of resource:	Online Resource
Product/Project:	5-14 Online
<p>Description: This project continues to support, maintain and develop the 5-14 area of the website. Phase 3 of this project further developed this resource to provide educators with a wide range of 5-14 curriculum specific resources. New features include searchable resources and evaluated website databases.</p>	

Type of resource:	Online Resource
Product/Project:	5-14. Exemplification of pupil performance. Gathering and Interpreting Evidence: Social Subjects: 5-14
<p>Description: A project which developed a micro-site within the 5-14 website containing moderated examples of pupil's work with accompanying teacher commentaries and judgements in levels of attainment. The material is intended to encourage the development of consistent approaches to assessment within schools and clusters of schools. The material may also be helpful in planning effective programmes of study as well as providing a useful resource when selecting appropriate methodologies within social subjects. The material was launched in May 2003 with 170 delegates and speakers from SEED, HMIE and LT Scotland.</p>	

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Type of resource:	Online Resource
Product/Project:	Creativity in Education
<p>Description: This project links into the current Creativity in Education project funded by SEED and builds on the work done with the IDES Network and the Tapestry partnership. An online resource, hosted on the NGfL Scotland website, has been created, to be used by both primary and secondary school teachers (www.ltscotland.org.uk/creativity/)</p>	

Type of resource:	Online Resource
Product/Project:	Building on OFDL Project and its Enhancement
<p>Description: This project produced eight web-enabled learning products based on content developed in the OFDL project. These were Communication at Int2 and H, IT at Int2 and H, Numeracy at Int2 and H and Problem Solving at Int2 and H. The eight products have been reviewed and revised in the last year and all are now in final form. Throughout this revision period the materials have remained available to schools and colleges and informal feedback from users is very positive. Phase 2 of OFDL will develop interactive and text online teaching and learning materials for all the five Core Skills at Access 3 and Intermediate 1, plus Working with Others at Int 2 and Higher. These materials should be available by Summer 2004.</p>	

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Type of resource:	Online Resource
Product/Project:	Early Years Online
<p>Description: This project continues to support, maintain and develop the Early Years area of the NGfL Scotland website. The aim of this resource is to support ongoing professional development for all those involved in the care and education of children aged nought to eight years old. The resource is designed to be the cornerstone of all LT Scotland’s Early Years resources. It is dedicated to improving practice and supporting innovation, by providing the information and advice which enables early years staff and primary teachers to keep up to date with current research and thinking and to be informed about new initiatives and policy decisions.</p>	

Type of resource:	Online Resource
Product/Project:	NQ Online
<p>Description: This project continues to support, maintain and develop the NQ Online area of the NGfL Scotland website. A major redesign of the website is underway to deliver integrated LT Scotland and NGfL Scotland web services for education in Scotland. This redesign is tied in very closely with the implementation of the Content Management System which facilitates a less centralised and more dynamic approach to content development.</p>	

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Type of resource:	Online Resource
Product/Project:	Gaelic Online
<p>Description: This project will create, support and develop the Gaelic area of the NGfL Scotland website. The overall aims of this online resource are to support ongoing professional development for all involved in the education of children being taught using the medium of Gaelic and to provide a range of online resources to support learning and teaching. This project is managed jointly by LT Scotland and Storrann.</p>	

Type of resource:	Online Resource
Product/Project:	Climate Change
<p>Description: This website highlights the causes and effects of Global Climate Change. www.ltscotland.org.uk/climatechange/index.asp</p>	

Type of resource:	Online Resource
Product/Project:	Digital Imaging in Learning and Teaching
<p>Description: Stills Gallery Education, Edinburgh, worked in partnership with Learning and Teaching Scotland to develop the project. Three digital artists undertook residencies in Bruntsfield Primary School and James Gillespies' High School for 15 days between February and June 2002. A new NGfL website showcases the images, videos, animations and artworks created, as well as presenting additional documentation in three case studies.</p> <p><i>(www.ltscotland.org.uk/digitalimaging/)</i></p>	

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Type of resource:	Online Resource
Product/Project:	Grid Club/Learners Channel
<p>Description: This collaborative project, initially funded by NGfL Scotland last year, with Channel 4, Oracle and Intuitive Media, will be developed and extended. The project has proved to be successful, with partners working well together to deliver a first-rate educational resource. Scottish mediators have been employed to ensure compliance with Scottish curriculum guidelines and to further populate the online resource with Scottish content.</p> <p><i>(www.gridclub.com)</i></p>	

Type of resource:	Online Resource
Product/Project:	Software Evaluation Service
<p>Description: Following on from the first phase of the Software Evaluations Service, this project has built on the existing evaluations and case studies by returning to 100 teacher evaluators and inviting them to add worksheets and lesson plans to support the software they were evaluating. This information is disseminated through the NGfL Scotland website and a series of seminars across the country.</p>	

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Type of resource:	Online Resource
Product/Project:	Supporting National Educational Networks
<p>Description: This project aims to explore and develop effective strategies for supporting educational networks. Phase One of this project enabled LT Scotland to advise the Scottish Executive on future strategies that should be utilised to support and encourage effective communication with educational networks and explore ways of helping them contribute ideas, CPD and resources nationally.</p>	

Type of resource:	Online Resource
Product/Project:	Scottish Screen
<p>Description: This project aims to support schools in the development of moving image education to enhance teaching and learning. It involves working on a consultative basis with Scottish Screen, exploring the potential for moving image education in the 5-14 curriculum.</p>	

Type of resource:	Online Resource
Product/Project:	Healthy Kids
<p>Description: A website to support the Healthy Kids CD-ROM has been developed and is particularly popular.</p>	

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Type of resource:	Online Activity
Product/Project:	Ticket to Space - Interactive Science Project
<p>Description: Ticket to Space is a six-week classroom resource which supports the teaching of the science strand Earth and Space at levels C-D in Environmental Studies – Society, Science and Technology 5-14 National Guidelines. Developed in partnership with the Glasgow Science Centre, Ticket to Space provides online and offline activities for each week of the event. A full online event took place over a period of eight weeks during October and December 2002, starting a new module each week. Pupils employed Pioneer to access a variety of interactive space and science activities, workshops and forums. After the successful event the previous year it was re-run in September 2003. Prior to its relaunch, the site was updated in light of feedback obtained from schools and other users.</p>	

Type of resource:	CD-ROM and Teachers Notes
Product/Project:	Serf's Quest
<p>Description: This project produced an interactive CD for pupils in late primary and addresses several aspects of the 5-14 curriculum, including History, Geography, Number and Language. A copy of each CD has been distributed to all primary schools and Gaelic medium schools in Scotland.</p>	

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Type of resource:	CD-ROM and Website
Product/Project:	Assess the Herald
<p>Description: This project produced a browser-based CD-ROM and website aimed at Intermediate 2 and Higher Media Studies students which illustrates and explains the production processes and values involved in producing The Herald newspaper (www.assesstheherald.co.uk).</p>	

Type of resource:	CD-ROMs and Teachers Notes
Product/Project:	Gaelic Versions of Existing CD-ROMs
<p>Description: The educational CD-ROMs Lifeskills Time & Money and Lifeskills Smart Spender have been translated into Gaelic and distributed to schools. Healthy Kids will be distributed in Autumn 2003.</p>	

Type of resource:	Online Development
Product/Project:	NGfL Scotland Content Editors
<p>Description: Expansion of the team of web content editors, who are central to the maintenance, development and extension of the integrated LT Scotland/NGfL Scotland online service. While each content editor has responsibility for a particular area or section of the site, the team contributes to the development of the service as a whole.</p>	

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Type of resource:	Online Development
Product/Project:	Maximising the impact of Becta's work in Scotland
<p>Description: This project aims to maximise the mutual UK-wide benefits of existing and new developments and build on the LT Scotland Memo of Understanding with Becta. It will develop LT Scotland's work with Becta and facilitate the accessibility of Becta-produced materials/web sites within the Scottish education community.</p>	

Type of resource:	Information/dissemination service
Product/Project:	SETT 2003
<p>Description: The Scottish Education and Teaching with Technology Conference is the annual national event which encourages the effective use of ICT in education and shares good practice around Scotland. The event, which took place on 24/25 September 2003 at the SECC, Glasgow, combined 110 seminars and four keynote presentations with Scotland's largest exhibition of ICT for education. SETT gives every delegate a free professional development opportunity, allowing them to attend one keynote and two seminars per day from the programme.</p>	

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Type of resource:	Information/dissemination service
Product/Project:	<i>Connected</i> magazine
<p>Description: <i>Connected</i> magazine provides news, information and guest articles about the implementation of the National Grid for Learning in Scotland. Its target audience is the whole learning and teaching community, with a special focus on ICT in schools. An online version of each issue is made available on the NGfL Scotland website.</p>	

Type of resource:	Online Resources
Product/Project:	Monitoring and Supporting Young People's Progress
<p>Description: This project disseminated existing good practice for monitoring and supporting young people's progress at all stages from early years to secondary via a website. The case studies on the website have been reviewed this year resulting in some case studies being withdrawn where the exemplification is not 100% consistent with advice related to the Assessment is for Learning programme (www.ltscotland.org.uk/assess/index.asp) and some new case studies added.</p>	

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Type of resource:	ICT Support
Product/Project:	Video Conference Bridge
<p>Description: The project offers a full multi-party videoconferencing facility to the Scottish education community. This facility, which was established in June 2001, enables schools, early learning centres, libraries, colleges and authorities to take part in videoconferencing sessions. Without the videoconferencing bridge, such sessions would either not be possible or would be prohibitively expensive. Innovative uses of the videoconferencing hub are encouraged, enabling LT Scotland to assess the various and effective uses of videoconferencing within education.</p>	

Type of resource:	Conference
Product/Project:	Game On
<p>Description: The Game On conference was held in November 2002, more than 200 delegates attended and participated in a variety of sessions and workshops.</p>	

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Type of resource:	Awards
Product/Project:	ICT Enhancement Awards
<p>Description: The ICT Enhancement Awards, formerly called the ICT Innovation Awards, aim to enable the further development of small-scale innovative projects that have used ICT locally to facilitate learning. The Awards target practitioners, recognise their achievement and support them to take successful work to a higher level. They therefore fulfil a distinct function, not covered by other funding streams, building on successful and effective initiatives.</p>	

Type of resource:	Training Materials
Product/Project:	Connecting Communities
<p>Description: A pilot for training community-based learning practitioners took place in late 2000/early 2001, including consultation with community-based practitioners regarding what the possible content of pilot training might include. This was followed by the production of training packs used in the pilot training which was delivered to 60 practitioners over three different sessions. The first phase of the roll-out of the training commenced in December 2001 and 60 practitioners received face-to-face training from LTScotland. A further 500 practitioners were trained using the cascade method devised for the project. The third phase of this project will train 113 practitioners, who will then cascade the training to 1,130 community learning practitioners.</p>	

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Type of resource:	Learning Gateway
Product/Project:	Schoolsoutglasgow.net
<p>Description: This project offers support to a maximum of 30 children and young people with a supportive community that promotes lifelong learning and acts as a gateway to opportunities in continuing education. Each participating pupil is provided with with a desktop computer system, printer and web camera. Features include one-to-one video conferencing and online telephony. Communication is carried through a customised version of the leapOnline learning environment. Schoolsoutglasgow.net is connected through the Glasgow Schools Network (GSN) via a Virtual Private Network (VPN). It allows access to interactive material and support. Teachers and volunteer buddies will support the online learners. The original timescale of the project (October 2002 until June 2003), was extended until December 2003 to allow the full potential in the support of curriculum delivery and support to be developed.</p>	