

**E-learning and ICT:
Vision and strategy for
Swansea schools**

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Vision

Introduction

Some of the major opportunities for the future are based on what information and communication technologies will allow us to do. Some of this will be doing things faster. A better use is because it will make things more efficient. The best use is because it will improve our lives allowing us to do things we cannot do at present, but which will enrich the way we live and learn.

Access to content will also be readily available on many more platforms because of the convergence of technologies, so that the same content can be repurposed in different ways. It will suit different learning styles and preferences, and be available outdoors, at home, on television, as well as in school.

The use of information technology is going to grow exponentially, requiring even more skills as the complexity and use of electronic communication spreads. This is the world for which young people today will need experience. Some pundits would argue that, for the future, it is the learner with the most developed entrepreneurial skills in using new technologies that will be the one who will succeed most. We also need to use these technologies to help children and young people understand the 'global village', engage with new communities and form an appreciation of other cultures.

It is inevitable schools will have to change, with overcoming legacies a crucial action, and being bold in accepting new behaviours to learning.

The greatest challenge in establishing E-learning material for this infrastructure is to deliver specific local contexts in a system that knows no boundaries. Seamless connectivity of ideas and technology will mean that the education of the future will be more driven to learn using ICT. The constraint is not the technology, but what creative ideas we can evolve to exploit it. Content, projects and ideas to exploit the Swansea Education Broadband network are needed.

The role of the City and County of Swansea LEA

Swansea should aim to become a beacon authority in taking on the use of ICT to support learning in Wales. It should achieve a level of support in ICT and E-learning services that promotes it to the top quartile in performance of local authorities in England and Wales by 2008.

Swansea LEA's role is to be a driver within the City and County, taking on direct responsibility for managing the Broadband network and monitoring the quality of, and access to, ICT resources. It will support schools in developing programmes to promote E-learning.

The outcomes across all sectors will be to raise standards, make teacher workloads more efficient to administer, avoid a digital divide, increase employability, reduce ICT skill gaps and promote economic growth.

We want to stimulate the development and acceptance of new ways of learning. ICT is at the heart of the vision to transform delivery, raise standards, and enable all children and young people to gain the knowledge and skills they need to contribute effectively to the new economy.

There continue to be inequalities in levels of access to new technologies. We need to recognise that providing access to hardware is not sufficient to bridge the digital divide and attention must be given to the quality of the access and support provided, and the content and software available to users, too.

We need to accept that the student of the future will not only need the entrepreneurial skills already alluded to, but also skills in knowledge management – the collection and application of data. And, in addition to numeracy and literacy, visual and audio 'literacies' as they harness the potential Broadband can deliver, will also become essential skills.

Future changes

The sort of changes we might expect include:

1. learning that is project and not just subject-driven with pupils having a number of projects of varying degrees of length and complexity on the go at once
2. immersion learning focusing on an issue for a sustained period
3. access to online tutoring with Internet teachers – a new job for the future – with other experts and with information librarians, to gain some of the most valuable benefits of E-learning
4. individuals or small groups following a particular subject where a whole class would not be viable, or to allow for differentiation
5. teachers being better equipped to evaluate and support the progress of each individual
6. better and more frequent communication between students and their teachers and amongst students themselves, whether through email, chat-rooms, video conferencing or virtual learning environments
7. examinations taking place when the student is ready and not at a specific age
8. students being able to carry a portfolio of their output with them as they progress through the education system, and beyond, which will make it much easier for parents and teachers to assess, more precisely, learning over time.

School services strategy – executive summary

We will:

1. Ensure access to both ICT and E-learning becomes an entitlement for all children and young people
2. Construct an LEA 'owned' and designed structure
3. Facilitate a managed service to provide an integrated support system from WAN to leased PC in the classroom
4. Develop a Swansea Education Web facility with appropriate functions such as content management system and virtual and managed learning environments
5. Provide a combined administration and curriculum network system to schools
6. Have a connected Broadband system linking to every school, library, cultural centre, community centre and leisure centre in Swansea. We will also try and ensure networked Broadband connection and appropriate ICT facilities are designed and implanted into all future new or refurbished public or community buildings
7. Ensure school learning centres in secondary schools are supported as lead venues for family and out-of-school learning for pupils
8. Develop a Swansea ISP; provide each and every child and young person of school age with free access to the Internet and, when considered mature enough, a personal *@swansea.net* address within the safe confines of a VLE or similar
9. Ensure early years is a priority group by ensuring priority in connectivity, software development and access to equipment
10. Develop innovative but educationally-sound projects to enhance learning to become a leader in E-learning provision to schools

11. Create a culture of E-learning in schools
12. Develop a marketing and communication strategy to engage learners and promote E-learning in schools
13. Ensure we develop the curriculum to remain relevant to the needs of children and young people in the 21st century
14. Develop a set of quantifiable set of standards against which to measure E-learning products and activities
15. Develop a flagship Standards' Centre of Excellence for ICT training in Swansea to provide a shared facility for teachers and other council and voluntary staff engaged in providing learning
16. Provide a continuing professional development programme for teachers, librarians, youth and community workers based on need and level of expertise
17. Eradicate legacy issues, particularly in provision of equipment, by encouraging the provision of leasing schemes.

Key elements

The essential elements of our LEA strategy for E-learning for Swansea schools are:

- **Adherence:** taking national strategies, as well as Corporate and LEA initiatives into account
- **Communication:** an Intranet provision to provide information to stakeholders
- **Consultation:** all stakeholders, including children and young people, to develop a partnership approach to the development of E-learning
- **Content:** the creation, procurement and hosting of educational content and services
- **Curriculum development:** exploring the integration of new and imaginative subjects
- **Evaluation:** the demonstration of the learning gains being realised through a Swansea E-learning net
- **Inclusive:** accessible to all children and young people of school age
- **Infrastructure:** develop an integrated and appropriate high quality Broadband support framework across Swansea, linking schools with the Local Authority, libraries, communities, higher and further education, the workplace and the home and provide access both in and out of schools
- **Innovation:** to encourage calculated risks in the development of learning and its management and develop the potential of new technologies
- **Partnerships:** developing existing and creating new partnerships for learning. Develop links between business and education in relation to innovation, basic skills development and the enhancement of skills
- **Sustainability:** project-driven approaches that are scaleable and which can be replicated
- **Training:** establishing competence and confidence in the use of ICT for learning for all staff.

E-learning strategy for Swansea

1. Strategy 1: Managing it

1.1 To make sense of the large number of national and local ICT-related initiatives in Swansea we will create a programme management organisation. This will help draw together key roles, processes and management structures to deliver a programme which meets the desired outcomes.

1.2 The programme will provide:

- I. development of plans – 2003 to 2008
- II. securing the commitment of the Council
- III. management of the different elements of the programme
- IV. a structure that enables efficient and cost-effective delivery
- V. a Swansea-owned focus of the issues around technical and curriculum support and training
- VI. a structure that clarifies lines of responsibility in terms of delivery, and commits the LEA to being a monitor of quality assurance and a commissioner rather than being a major provider of services
- VII. simultaneous development of infrastructure, curriculum materials and teachers' skills
- VIII. recognition that primary schools and secondary schools have differing needs
- IX. adherence to the principles of Swansea City Council's E-government strategy.

1.3 Structure

1.3.1 The structure of delivery will consist of modules for technical, administrative and curriculum support with the following functions:

Module	Details
1 System design and Broadband network	Research and management into Broadband products and network. Being an ISP – web hosting; Internet access with filtering policies; email relay and virus checking of email; request for change and service requests. Commissioning consultancy and projects.
2 Admin and Curriculum Advice	Commissioning and monitoring of projects, content and training.
3 LEA Intranet	Providing advice, updates, policies, forums for school and lifelong learning staff.
4 Admin SIMS	Full support in all SIMS modules, both to schools and users within the LEA including all installations and upgrades; transfer to the Council of all data required as part of the information management processes.
5 Support help desk facility	Provision of a help desk facility, including receipt and processing of calls actioned by third parties. Other basic services – data protection advice etc.
6 Desktop and school network support	Full support for the schools' network infrastructure including servers, workstations, peripherals and all communications equipment, including backups, security, printing facilities, anti-virus software, operating system support; support for Microsoft Office products and maintenance of all equipment under an agreed age.
7 Software installation	Installation and configuration of curriculum software.
8 Hardware maintenance	A comprehensive hardware maintenance service for equipment, including parts and labour.
9 Procurement	Preparing specifications of hardware; purchase and lease contracts; ensuring compliance; disposal.
10 ICT support training	Training courses on any aspect of admin-based ICT; on-site training including twilight sessions.
11 Curriculum support training	Management of curriculum; on site training including twilight sessions.
12 School web design	Design and maintenance of school web sites.

1.3.2 The LEA will define what its core provision to schools will be. Effectively, these are the services which it will directly manage. These will probably be modules 1, 2, and 3. At a full level, it would manage all of the modules. If it does not directly manage all the modules the LEA will find a supplier to fulfil this function.

1.4 Project-driven

1.4.1 We will undertake a project-driven approach to implementing development of infrastructure and content to ensure functionality is delivered to time and within budget.

1.4.2 The programme portfolio of this approach will include in the first tranche of development:

- a) establishing the first phase of the Broadband Local Education Authority-wide Area Network
- b) ICT for teaching and learning (schools)
- c) data and Information exchange.

1.4.3 A similar project to b) but on lifelong learning will be delivered simultaneously.

1.4.4 Each of the above may have sub-projects as part of the portfolio.

1.4.5 A programme executive (programme board consisting of LEA service managers) will be set up with a project board for each project or families of projects in the programme.

1.4.6 A project board will consist of representatives of: the project executive, users and suppliers. The process will be managed by the ICT for learning co-ordinator, with project managers for individual projects.

1.5 Monitoring and evaluation

1.5.1 We will monitor and evaluate the E-learning strategy via:

- (i) the programme board
- (ii) feedback from individuals and schools
- (iii) ongoing monitoring by Swansea School Improvement Service of the implementation of an E-learning programme
- (iv) reports made to Cabinet and Council as part of the overall programme of reports on school improvement
- (v) reports to and advice from the City & County of Swansea E-learning Steering Group
- (vi) reports to and advice from the City & County of Swansea E-learning Users Group (to be formed)
- (vii) reports to and advice from young people in Swansea (to be constituted).

E-learning strategy for Swansea

2. Strategy 2: Developing a culture of E-learning

2.1 We cannot assume that teachers or pupils will embrace technology. We need to recognise the different cultures of learning between and within schools, too. Additionally, we need to allow for different learning styles, and provide for personalised learning.

2.2 Management of the issues

2.2.1 Current developments in information and communication technology are changing the nature and location of education provision, formal and informal. This means the curriculum, the management structures, the people who are employed to teach and support learning, the role of parents, carers and wider community are all stakeholders affected by these changes, and have to look at what new skills they need in order to become part of the process.

2.2.2 Consequently, we will adapt good practice that has proved to be successful in other contexts and LEAs to facilitate take up, but especially good practice within our own constituency. We will research areas with which we are unfamiliar and commission research projects to collect data and scope development of this part of the strategy.

2.2.3 We will define what E-learning can do for Swansea schools; integrate E-learning with other training and learning (blended learning); develop a marketing strategy to promote and develop an E-learning culture, and analyse feedback and measure outcomes.

2.2.4 As part of a marketing strategy we will undertake a series of high-profile events and soft-touch events promoting awareness of the new technologies, their value to learning, and the benefits users will get from being engaged. Promoting the benefits to governing bodies, headteachers and learners is crucial to attain backing for the strategy.

2.3 Social inclusion

2.3.1 We will also focus on groups under-represented in mainstream education – for example, excluded children; children from asylum families; travellers' children. Where appropriate, we will follow the lessons learned from social inclusion in general, which suggests that those who already engage in learning are most likely to take up E-learning; that to engage new users is best done by their peers engaged in the process already – the use of champions in effect, and that small scale pilots which have the capacity to be replicated provide the best solution. The strategy will follow these principles in selecting projects for development.

2.3.2 For example, we will look to provide a VLE for looked-after children and children of asylum seekers so their personal memories and learning are retained for retrieval in changing circumstances and from remote access points.

2.4 Secondary school learning centres

2.4.1 The Authority will focus activity in secondary school learning centres on family learning and out-of-hours use by children, and promote adult E-learning through other institutions. We will need to provide out-of-school hours access to computers to pupils whose families do not have facilities, by focusing on provision within school learning centres, youth centres, and exploring, with the Regeneration Directorate, the use of public libraries through the People's Network.

2.5 Web communication

2.5.1 Generally, we will develop a Swansea learning and information web facility for stakeholders in our schools with appropriate facilities such as a content management system, virtual and managed learning environments and with communal interfaces so that users are presented with a consistent set of environments by which to access and save content, whether they do so from school, home or public access points.

2.5.2 This can be given added value by developing a Swansea ISP; provide each and every child or young person with free access to the Internet and, when mature enough, a personal @swansea.net address within the confines of a VLE to ensure safe and appropriate communication and web use.

2.6 Centre of excellence

2.6.1 We will be engaged with the development of a flagship Centre of Excellence for ICT training in Swansea, with provision for all engaged in developing learning in our schools.

E-learning strategy for Swansea

3. Strategy 3: Improving learning

3.1 The strategy will focus on:

- need – what our focus audiences want
- provision – map the supply side to need
- stimulation – get the market going
- best practice – dissemination.

3.2 Audiences

3.2.1 Our focus audiences are children and young people. The E-learning strategy is there to benefit all children and young people of school age in Swansea. All have an entitlement, but, in particular it has to ensure it meets the needs of:

- asylum seekers' children
- children and young people in 'out-of-school hours' context
- children with special educational needs
- early years
- ethnic minorities
- looked-after children
- pupils excluded from school
- pupils from socially disadvantaged and excluded groups
- travellers
- Welsh-medium teaching.

3.2.2 As an overriding activity, the LEA will consult, audit, monitor and evaluate outcomes in order to ensure that learners have their learning entitlement fulfilled.

3.3 Standards

- 3.3.1 Working to achieve excellent standards and quality assurance will be done, too.
- 3.3.2 We will develop a robust model of self-evaluation and challenge to schools to improve performance based around strategic management, ICT within the school curriculum and ICT to support school leadership and management. Some headteachers could be put through the National College for School Leadership's ICT programme, for example.
- 3.3.3 We need a year-on-year in-depth analysis over, probably, five years of selected individual pupils and teachers, youth workers, parents and librarians as they progress through a defined series of learning and training experiences and measure progression against measurable outcomes. This activity would be carried out by an appropriate higher education institute or education consultancy.
- 3.3.4 We will implement a rolling programme of specific visits in our schools around E-learning and ICT issues.
- 3.3.5 There will be greater collaboration between schools to ensure dissemination of good practice. The best-identified standard can become a benchmark for 80% of other schools to achieve within three years. This will create a series of leapfrog developments where challenge and achievement will become part of the system.
- 3.3.6 The development, evaluation and implementation of a range of models of providing ICT support to schools will be undertaken, therefore.
- 3.3.7 The fact that robust ICT support has a beneficial effect on learning should not be ignored in this analysis though. The responsibility for the management of ICT support in schools – especially in primary schools – is often falling on teachers, particularly the ICT co-ordinator. We will try to move to a position of providing classroom assistance in the form of specific technical personnel leaving the teacher to focus on curriculum co-ordination. Support will be more proactive.

3.3.8 Swansea will become a leading authority in taking on the educational use of ICT to support learning in Wales. It will achieve a level in supporting an ICT and E-learning service that promotes it to the top quartile in performance of local authorities in England and Wales by 2008.

E-learning strategy for Swansea

4. Strategy 4: Training

- 4.1 Distinguishing between advice and training needs implementing so as to evaluate the performance management of, and measure quality assurance in, each provision. Both curriculum training for teachers, and training in Admin IT support for all school staff, probably belongs in one service area.
- 4.1.1 A training and development programme for all school and technical staff will be developed which focuses on in-depth, ongoing and sustained models of development. For example, we will continue to use the TILT programme for primary school teachers until 2006, and focus developments around sustainable programmes.
- 4.1.2 LEA support will include training for school technicians and for staff maintaining whole authority networks. Consistent training for these school technicians is required. Standardisation of operating methods could allow for better interoperability between schools and the core staff managing the authority-wide network, so that all maintenance staff in the system work to the same principles and allows for management of equipment between schools at a local level.
- 4.1.3 There is need for more flexible, specialist and tailored training taking place in venues other than teacher centres and by trainers, other than LEA staff, specialising in ICT training. This is to accommodate software training not provided currently, and to allow for flexible approaches to meet changing requirements where staff are at different skill and confidence levels. Establishing new venues can provide training nearer the school, too.

E-learning strategy for Swansea

5. Strategy 5: E-services

5.1 The LEA's role will be to facilitate the development of, and access to, content. The authority will 'own' the infrastructure and delivery, but it will be cognisant of need expressed by users.

5.2 Intranet

5.2.1 Communication informing schools and parents/guardians regularly of development is required: a communication strategy will also encompass a more proactive dissemination of forthcoming ideas and policies to allow time for reflection and feedback, and our focus will be on delivering all communication in electronic format.

5.2.2 Swansea will develop an Intranet/Web facility with the Authority's brand in order so to do. This will also enable E-learning via a designated gateway to provide a public face for the Authority and a principal access point to information. This gateway will be a means of promotion in giving access to policy documents and 'to the minute' updates to staff and pupils/students on issues. It will also provide toolkits and web forums with access for designated users.

5.2.3 In this specific local context, we will have provision to help schools build their own sites and publish locally-produced resources on the Intranet/World Wide Web.

5.3 NGfL Cymru

5.3.1 It will be our strategy to work closely with the NGfL Cymru to develop content, assess and avoid areas of duplication, and thereby focus on creating curriculum content that is specific to Swansea, that reflects our priority groups, and which reflects our strengths and specialisms in terms of school support. We will encourage schools to explore the web for valuable curriculum-related sites and obtain access to research through the NGfL's facility.

5.3.2 To protect schools, all ICT learning centres and individual pupils from the dangers of online connection, an Authority Acceptable Use Policy for using the Wide Area Network and guidelines for Internet use which provides advice to headteachers, teachers, governors, parents/guardians, librarians and community workers will be written, circulated and promoted.

5.4 Products

5.4.1 So, including the management systems in Strategy 6, the products that will ensue from this strategy will include:

- an integrated administrative and curriculum network system with robust, appropriate security controls over personal data
- virtual learning environments with pupils and teachers having individual email accounts and access to their portfolio from any computer device
- video conferencing
- a Swansea education Intranet website
- content developed with converging and mobile technologies in mind
- an acceptable use policy.

E-learning strategy for Swansea

6. Strategy 6: Management systems

6.1 The areas which this part of the strategy deals with are:

- admin and curriculum networks
- school information management
- electronic pupil-based administration/management information systems
- electronic assessment data
- office and administration skills and competencies
- data security.

6.2 Admin and curriculum networks

6.2.1 Historically, separate networks have developed in schools for curriculum and administration use.

6.2.2 The Education Department will continue with its policy of reviewing and upgrading systems and technical support to embrace a holistic service that meets the needs of schools and service units and ICT school learning centres, and will undertake a structure to provide an integrated administration and curriculum network.

6.2.3 The potential for integration on a network would mean that teachers could access both the administration and curriculum systems and data from the same computer. The LEA, with schools' full permission and knowledge, could capture data on pupil attendance remotely from school systems with the use of security controls, and Authority staff could also exchange data with Social Services for LAC and children on the 'at risk' register.

6.2.4 There are understandable concerns about the security of the data on the administration systems: a robust system must be put in place to ensure no unauthorised access is allowed.

6.2.5 The current system retains the education Broadband network separately from Swansea's corporate network. The advantage of keeping the education network separate is that it can link with other external service providers without impinging on the security of the corporate network. The current thinking is that this will remain and that the corporate network and the education-wide area network will interface to allow transfer of data within the City and County of Swansea Authority.

6.3 ISP

6.3.1 A common ISP would allow a more comprehensive approach to the development of the Intranet and email facilities, and the LEA will undertake this role.

6.4 WAN

6.4.1 All education establishments including schools, libraries and administrative offices will be linked in an education-wide area network. This strategy embraces both the Authority's corporate strategy and the developments for linking all schools to the National Grid for Learning Cymru.

6.5 Software

6.5.1 The strategy includes recognition to support the principal types of software in use in schools, but particularly the implementation of Microsoft Exchange and Microsoft Office for administrative purposes. The implementation of Microsoft software will enable schools to operate an entirely Windows-based management information system.

6.5.2 The implementation and development of SIMS software in schools will be supported as the standard system for school administrative data.

6.5.3 Curriculum systems will be managed in a Windows environment, too, with support for the principal, appropriate software for classroom use.

6.6 Data management

6.6.1 We will work in line with initiatives promoted by the National Assembly for Wales' Individual Learner Data Programme, which is also working towards developing the use of computers for school management and administration, improving management information systems and promoting development of high levels of skill in their use. Central to this is a long-term development of a national central database to link the data produced by the Pupil Level Annual School Census (PLASC) with annual Key Stage Assessment and public examination results. The database will serve as the primary source of pupil data for research, provide a service to the LEA (and through them to schools and colleges) for matching pupil records, and support Welsh Assembly Government policy initiatives.

6.6.2 The introduction of a common system for the transfer of pupil and performance data between schools when pupils relocate will be undertaken via a secure electronic system hosted by DfES in Swansea.

E-learning strategy for Swansea

7. Strategy 7: Broadband

7.1 Design control

7.1.1 For Swansea to have an integrated network of learning it needs an integrated support network, although this could also mean a number of suppliers.

7.1.2 The principle in running the Authority's system should be ownership of the WAN and that the major technical services offered can be managed downline.

7.1.3 We will have a discrete LEA E-'body' having overall service management control and delivering a single initial point of contact service to schools. This will also be the design authority on the Broadband infrastructure with a remit to put change control mechanisms into place.

7.2 Broadband service

7.2.1 This overall service will provide:

- a discrete education Broadband network
- access to the WWW within schools and through remote access
- agreed standards and configuration for hardware and software
- as much remote delivery of support as possible
- product development
- research into effective and innovative use of ICT for teaching and learning
- rolling programme of hardware replacement
- secure access for the transfer of internal, confidential data
- twenty-four hours response time.

- 7.2.2 Its success, however, is based on the premise of an agreed set of core hardware and software provision.
- 7.2.3 The ICT infrastructure for connectivity should be developed throughout Swansea so that all LEA schools and lifelong learning organisations are able to work and communicate electronically with each other.
- 7.2.4 To protect schools, ICT learning centres and individual pupils from the dangers of online connection, particularly undesirable data such as pornography, a design that incorporates 'proxy' servers and monitoring facilities will be introduced.
- 7.2.5 Subject to the contract with BT, the Broadband structure will be completed to all schools and school learning centres by the end of March 2004.
- 7.2.6 The current network is a cable system. It was felt, and rightly, that the speed with which the system had to be developed made wireless a risky option. But, we will keep up to speed with wireless technology to be in a position to migrate, if desirable, when the current BT leasing contract expires in five years' time.
- 7.2.7 To secure a service that is in a position to migrate tools without interruption to service, we will periodically review the potential to migrate to portable technologies within schools, too.

E-learning strategy for Swansea

8. Strategy 8: Research and innovation

- 8.1 Current research into the impact of ICT on teaching and learning provides a mixed response as to its effectiveness. We have to define our own criteria for success, measure impact of Broadband provision whilst being cognisant of other research, and build on the work that has been undertaken locally in curriculum development over the years. The LEA will also plan ICT development around wider issues. For example, it is thought that schools with good leadership are nearly twice as likely to have good ICT resources as those with poor or unsatisfactory leadership.
- 8.1.2 Evidence suggests that ICT can be key to reducing teacher workload and although there is a debate about the issues, there appears to be a direct link between effective use of ICT and standards being achieved by schools that use it effectively.
- 8.1.3 Research has also demonstrated that access to personal ICT equipment for teachers has had a major impact on successful teaching. Ensuring the provision of computers for teachers and other major players such as librarians and community workers should be costed and assessed for implementation.
- 8.1.4 ICT is at the heart of the Authority's vision to transform delivery, raise standards, and enable all young people and all adults to gain the knowledge and skills they need to contribute effectively to the new economy.
- 8.1.5 Since our vision defines that the pupil of the future will need more entrepreneurial skills, as well as skills in knowledge management, communication and presentation, we want recognition of the requirement to stimulate the development and acceptance of new ways of learning to meet the above needs. Introducing new but appropriate teaching styles and facilities to children and young people in Swansea at every opportunity, in order to exploit the interconnectivity of advice and expertise in the City and County, in Wales and the world will be attempted.

8.1.6 To be at the cutting edge of E-learning we need to fully exploit Broadband possibilities, principally through the commissioning of projects.

8.2 Projects

8.2.1 As well as providing the three key products for Broadband: rich media content, video conferencing and virtual learning environments, examples of potential projects with which we can engage will or could include:

- pupils video conferencing with a NASA space station in partnership with the National Space Centre
- creating a realistic virtual Swansea 3d interface as a chat forum for young people
- creating local content for remote access through mobile devices such as using Swansea Heritagenet content in the field
- working with the Swansea University Coalfields NOF project, which is mostly high-bandwidth streaming media content, to develop learning pathways for young people
- a major initiative by Leisure Services around Welsh culture, language and literature in digitising the Welsh collections from Swansea Library.

8.2.2 Managed risk taking and innovation will be promoted, and pilot projects will be undertaken on the basis that they can be replicated, scaled up and used in other contexts across the City and County.

8.3 Out-of-hours learning

8.3.1 It is also becoming increasingly recognised that children learn a great deal out of the classroom. How they can be helped to exploit this time for their own learning agendas and how to plan for its incorporation into school-based learning is a key issue for the LEA to address. Additionally, using ICT to facilitate peer-to peer and family learning has great potential in out-of-hours contexts. These will be two key features in provision that a service to children and young people will tackle.

E-learning strategy for Swansea

9. Strategy 9: Working together

9.1 As is apparent from the previous strategies, working in partnership will be crucial to making all this work because the digital world goes beyond the school gate. The relationship between the teacher, the system, the device, the content and the learner to create an e-confident school is what will have to be co-ordinated in order to achieve success.

Consultation

9.2.1 It is important that this E-learning strategy is 'owned' by the whole school service. A schools E-learning users group will ensure stakeholders are represented in decisions on the allocations of resources for, and the prioritisation of, E-learning developments.

9.2.2 A similar group representing the views of children and young people will be set up to ensure the customers' views are reflected in provision. In fact, both audiences could be run in a joint forum.

9.2.3 The existing ICT for Learning Strategy Group will continue. Its function will be to monitor the achievement of outputs and targets and evaluate the contribution of the strategy to the provision of learning to the school sector in Swansea. It will also act as a management board to monitor work undertaken by joint and external agencies. In addition, it will help to effect procurement where its remit will be to agree annual work programmes, and advise on funding opportunities for ICT developments.

9.3 Partners

9.3.1 Partnership working will include other Authority departments; schools, colleges, universities, cultural institutions and museums, libraries, community centres and learning centres.

9.3.2 We will be engaged in local resource production involving advisers, teachers, libraries, the Education Library & Resource Service, museums and other interested parties; for example, newspapers, local businesses and societies, other local authorities, the Welsh Assembly and NGfL Cymru.

9.3.3 The E-learning strategy will continue to be developed with:

- City and County of Swansea Learning Partnership
- the successor to the Swansea Bay On-line Learning Partnership
- CCET
- SIPD
- current service providers.

9.3.4 On a final note, this is a strategy for children and young people, principally, but not exclusively, in a school environment. The Broadband network serves all learners in Swansea, and recognition has to be given that their access and needs are assured, too. A separate lifelong learning strategy will be written and we will ensure that the network is accessible to all learners in the City and County.

9.4 Role of partners

9.4.1 Partnerships will contribute to the success of the initiative, and the aims and objectives of the ICT and E-learning strategy by:

- establishing an agreed mechanism for steering the strategy
- committing all organisational participants to the objectives of the strategy
- providing forums for discussion of the strategy
- ensuring that participant organisations' objectives and actions are in line with the strategy
- enabling the strategy to meet the objectives of local and regional plans, priorities and measures as outlined elsewhere in this document
- ensuring the sustainability of the strategy through continued match-funding
- ensuring that the strategy plan delivers high quality innovative solutions for the exploitation of E-learning for children and young people
- ensuring that the strategy delivers solutions that are economically viable and sustainable.

E-learning strategy for Swansea

10. Strategy 10: Paying for it

10.1 There exists a significant discrepancy in schools' ICT resourcing levels. Managing the differing expectations that result from different baseline resourcing levels will be crucial to the successful implementation of this strategy.

10.1.1 ICT is creating a significant on-going demand on school budgets, so clarity is required on the additional funding which will be provided and the extent to which schools must allocate funding for ICT from their own budgets.

10.1.2 Also, a variety of procurement and support strategies have been used by schools and this leaves a legacy in developing a structured network to provide a cost-effective and integrated system. Examining current expenditure to reflect best value principles and refocusing spend on clearly-defined objectives will be needed.

10.1.3 To secure agreement on the priorities and processes for dissemination of funding, and to establish joint procurement systems, pooling funding from schools, GEST, other grants and LEA core funding to achieve maximum impact will be undertaken.

10.2 Leasing potential

10.2.1 Moving to bulk leasing for maintenance of stations is a facility we will offer schools. We are contemplating a leasing strategy since, in line with down-the-line maintenance of the Broadband system which can provide a high-quality but potentially lower-cost maintenance service, it will allow schools to plan and project expenditure, and provide their pupils with a robust and cost-effective structure.

10.3 External funding

10.3.1 By working in partnership with major players like BT, with the National Space Centre and with public bodies like the National Waterfront Museum, we want to become a leading authority in securing major innovative programmes for our pupils by harnessing the expertise of institutions with which the LEA has built connections.

10.3.2 So, we will make concerted efforts to draw down alternative funding streams. We will engage with major organisations to exploit our ideas and form partnerships ready to take advantage of grant funding and match funding through working in co-operation with bodies like CCET.

10.3.3 We will also exploit community education funds to provide facilities in non-school settings for children and young people of school age.

Glossary of principal terms

Bandwidth

The actual or potential maximum speed of data transfer. The Swansea bandwidth is very powerful. All secondary schools have 100mb; all primary at least 10mb. All connections are symmetric, that is, the speed of sending information out is the same as incoming data. A **Mb** (megabit) is one million bits of information per second.

Blended learning

A blend in the use of E-learning alongside traditional face-to-face learning.

Broadband

A general term used to describe high-speed Internet connectivity. Connection speed is measured in megabits per second (Mbps).

Convergence

Term applied to the way in which computing, telecommunications and television are moving towards a common technological basis through the use of digital systems. The same content, therefore, can be accessed through different devices.

Data

Representation of information in a manner that it may be communicated, interpreted or processed by human or automated means. In computing, information that may be processed by a computer.

Desktop computer

A personal computer designed to fit a typical workspace. A desktop computer consists of monitor, processor, mouse and keyboard.

E-learning

Learning that has an electronic component in its delivery. For instance online learning or learning where email or video conferencing is used.

Firewall

Means of protecting a networked computer system to prevent unauthorised access.

ICT

Information and Communications Technology. In this context, developing the skills to exploit modern communications equipment, as well as computer hardware and software.

Internet

Also known as the 'Net', it is a series of inter-communicating computer networks which host and provide access to the world wide web, and transfer, email, news and other services. Think of it as a distribution system.

Internet service provider (ISP)

Provides users with services such as an email address and software, access to the World Wide Web, and often space on web servers for home pages etc.

Local Area Network (LAN)

Communications system linking computers within a restricted geographical area such as a building or school. This allows computers to share information from a central source.

Managed learning environments (MLE)

MLEs comprise of a whole range of information systems including information processes, management systems and VLEs. Think of it as a virtual school.

Network

Electronic communications system linking computers, computer systems and peripherals such as file servers and printers.

Peripheral

Hardware device which can be plugged into the computer to perform some additional function such as a disk drive or a printer.

School learning centres

Welsh Assembly initiative to provide computers in secondary schools for community education use.

Server

A computer that provides services to other computers on a network.

Switch

A network device that selects a pathway for data through a network before sending it on to its next destination.

VLE (Virtual Learning Environment)

VLEs integrate online learning, with delivery methods and student tracking. Additionally, VLEs bring together student assessment and promote access to relevant learning resources. Think of it as a virtual classroom.

WAN (Wide Area Network)

A network over a large geographical area rather than being confined to a single building. A WAN may be a privately owned large-scale network that connects offices located in separate buildings or even different cities.

Wireless network

Use of radio signals to communicate between workstations and file server.

World Wide Web (WWW)

Also known as the WWW, or the Web, it is an information service on the Internet of linked hypertext documents accessed using a web browser such as Microsoft Internet Explorer. Think of it as content.