Connected Vision 2013

Our Vision

Argyll and Bute will be a 21st Century learning community whose learners are prepared to excel in a complex, interconnected, changing world.
To this end:

- We will ensure access to appropriate digital tools and resources to meet the needs of all learners.
- We will be adaptable and flexible in response to evolving and emerging technologies.
- We will develop understanding of global issues through the use of contemporary communication and collaboration tools.
- We will promote the understanding of safe, legal, and ethical use of digital information and technology.
- We will support our staff in developing the skills they need to help pupils learn in a digital society. (See Appendix for Key Skills)

What we are Learning for?

Argyll and Bute is a fragile area economically, due to the highly rural environment. Everyone who lives or works here cares about our economic future, and that future must have connected businesses and people at its heart.

The world has become "flatter" according to economic journalist Thomas Friedman, in that the internet has allowed businesses and people to take part in the world economy wherever they live. This is an opportunity for a rural environment like Argyll and Bute. Our businesses can sell anywhere and our people can work for businesses elsewhere while living here. This vision will require skilled and connected young people to come from our education system. We will need people who can go beyond basic use of word processors and spreadsheets. We need people who can design web experiences, who can programme and who can understand the nature of the new digital economy. If Argyll is to capitalise on these opportunities then we need a high skill level relative to the Scottish, or even world average. Our education sector must therefore work in tandem with all council colleagues, and expert members of our community to ensure that our expertise is shared and leveraged to produce confident and skilled young people.

The role of schools

Schools are clearly critical to growing this confidence and developing the skill levels required, but the computing and IT explosion which is happening has perhaps been too fast for all teachers to stay abreast of. We have a whole spectrum of skill and interest levels among our teachers from programmers and web enthusiasts, to those who only know enough to get-by.

Just as literacy and numeracy is the job of every teacher of young people, the high level of digital literacy that we need, must be contributed to by all teachers.
This doesn't mean that all teachers need to teach ICT skills directly, but that they should model openness to learning new skills and teach the place of computing and IT within any relevant topics. Everyone has something to contribute. This will require an understanding of the digital skills that might typically be needed by our young people at the various stages of their learning. It will also require an appreciation of the advanced skills which people are using when applying ICT and computing to building businesses. We need an ICT and computing skills framework to guide us in supporting young learners' entitlements.
(See Appendix for Key Skills).

Schools must teach and develop confident and safe computing in our young people. We must help learners to avoid inappropriate or harmful relationships online, while helping them to connect with people who can provide learning or other opportunities. We must teach young people to have care and regard for their own safety in a world with predatory behaviour, "phishing" attacks, spamming and scams.
They must learn about basic virus and malware protection as well as how to protect their privacy. We must also teach learners how to establish a positive online presence to market themselves and to help them build useful networks.
In short the connected vision requires that our young people know how to connect effectively, skillfully and safely.

Schools must be open in general about IT and computing. In a world where young people are spending significant time online, watching commercial and industrial uses of computers on TV, using and possibly making apps, connecting freely through smartphones as well as home PC's, tablets and game consoles, we must make links to all of this.

If we ignore it then we may seem increasingly irrelevant; we don't need to be experts in any of these fields, but where we have opportunities to engage young people in relevant technology, and to make the learning connections for them, then we will be providing the connection between what they know is "out there" and what we value in terms of skills. Programming games, making videos, animations or podcasts, using "turtles" or "be-bots", designing blogs websites or wikis together, using programmable "Lego", all say, "we are part of the IT world you will work in, not irrelevant to it"
A small proportion of our young people must be allowed to really fly with their digital skillsets. Many youngsters are gifted programmers, or gifted web-designers, or possible hardware or networking enthusiasts. Schools traditionally do not cater for these individuals well. This is perhaps where we can make more extensive use of online learning opportunities to support self-learning. A menu of possible teaching sites could be maintained to fill this gap. The ICT community is naturally inclined to learn in this way anyway and so the available range is extensive. This is an area where the experts in Argyll will be more often found in the ICT teams in the council or in local businesses. We need to tap into this expertise for these older, enthusiastic learners.

The role of our teachers

The days of top-down training initiatives are probably gone too, so as the skills and ideas develop among skilled or enthusiastic teachers, we must help them connect with other schools or teachers who are excited by them and want to learn more.

Our schools need to become simultaneously excited by what they learn, and unafraid of what they don't know. At school level this requires honesty about what is strong, and an equal openness and honesty about what new learning would be useful. Finally it will be essential for schools to network to learn from and with others. Individual teachers will need to apply the same honesty and openness to the skills and dispositions that they need to access or share. Remembering that a relative personal disinterest in ICT is no barrier to coaching young people in the opportunities that particular skills will open up.

Learning is increasingly becoming personalised. This is seen in the explosion of personal learning available on the internet. Sites from BBC "Byte Size" to You Tube offer tuition on just about anything you need to learn. There is almost no element of Maths or basic science that you couldn't learn from the Khan Academy for example. School courses are going online while even prestigious universities such as MIT and Stanford are putting whole courses online. In the UK, "FuturelLearn", led by the Open University is putting university education online for all. Bearing in mind that You Tube only launched in 2005, our school structures have not yet evolved to make sufficient use of this explosion of online learning. The summary of the trend in our use of Learning Technologies in schools could be summarised as:

"We are moving towards a more individualised learning approach, much of which can now be accessed online. Our provision of Learning Technology in schools must now reflect the need for individual access to a wide variety of learning sites".

Our pedagogy must evolve to maximise the benefits of this personalisation in accessing learning. It is not sufficient that we provide learners with a list of outcomes and a recommended list of online teaching, (although for some that will indeed be enough), we must think about how we structure learning. Underpinning a move towards more use of individual online learning must be a clearly shared framework of outcomes and skills to be overcome. This must be backed up by increased emphasis on supporting learners in managing their learning. Please note that nobody envisages classroom teaching being replaced by individuals working on personal devices, but a larger proportion of time can and should be devoted to this.

Self-Directed Group Learning: The use of groups, taking on learning challenges using shared devices has been shown to be very effective in learner-led learning by the seminal work of Sugata Mitra. Learning outcomes can be set for groups, and using co-operative learning methodologies, learners produce various outcomes or products of their learning, usually working within a limited timeframe. This can produce deeper learning as there is a social aspect to making meaning from what has been learned together.

Flipping the Classroom: Teachers assign more of the personal learning to online materials, while allotting more classroom time to differentiated responses to individual learners needs. "Flipped" here refers to homework or online-time providing the initial learning, and the classroom providing the stretching, remediation and group work. This can be done by recording videos of your teaching and providing some practice examples, or by identifying other online tuition covering the outcomes. Learners do this themselves and then come to the classroom ready to do some practice or a stretching activity.

The role of video meetings

In addition to the shift towards personalisation of learning, we have increasingly got to share the expertise of specialist teacher with other schools or learners who cannot easily access their knowledge. Argyll must have a well-developed system of video links between schools. It should be possible in our highly rural environment for a number of schools to access specialist teaching to enhance their curriculum or to provide cover for gaps in provision where teachers are absent or where there are recruitment problems. Video has always been slightly problematic in that different systems don't always "talk to each other". As we may have to access people from a variety of networks, it will be essential that we have flexibility and ease in connecting to as many commonly used networks as possible.

Safe learning online

All young people will now have some regular time online, and for many, this will be a large proportion of their time. In the same way that schools support young people in raising awareness around issues of alcohol, drugs, sexual health, road safety, etc. we have to support young people in becoming more safety aware and skilled in managing their online presence. Where school staff lack awareness or confidence themselves, we need to provide support and development for them. In summary, this will require that:

- There is an authority strategy for supporting schools in the delivery of appropriate awareness-raising and training.
- All schools have an online safety awareness contact
- Online safety has a firm place in the curriculum.

The evolving learning environment

School and home life is not completely separate. There are many advances, regardless of our views of them, which strongly influence learners and their expectations of our online provision.

Social networks have become widespread in their use, as have cloud-utilities like Google Docs and Drop Box. These tools and services online are part of the real learning environment for our young people, and it is a challenge for us in schools to reflect that in any real way. We should not ignore it however, as we are not simply teaching knowledge. Our curriculum is all about skills, and the skills young people need for a world that blends business, social networks and online storage, can only be effectively developed if we engage as much as is possible with the tools and services of the real world. To look at a few examples, the new online university courses blend online video teaching, with social interaction tools for students to support each other's learning. It is also interesting that more and more businesses are turning their backs on their old websites, and shifting their online presence to social networks like Facebook. Young people now increasingly don't use fully featured office suites to write with, instead they are signing up for online tools like Office 365 or Google Docs. The advantage of this is the ability to log in anywhere and still access and work on their files. Any young person starting a business or even networking to grow their business may well be exercising these new communication skills. This is a new literacy challenge for us in Argyll. As the online world evolves, we need to do all we can to prepare learners for it, and that means engaging with it.

Personal devices.

There is a trend towards more people viewing their computers as personal devices. Devices that are not designed to support business networks or multiple users typify the huge growth of the tablet-computer. Increasingly these devices, along with smaller and more stylish notebooks and smartphones are changing the perception of computing, and making it personal.

This has huge challenges for us, but arguably, in terms of our aim of developing unusually high levels of ICT confidence in Argyll, it offers opportunities. Increasingly our vision for the connected Argyll learner is that every student can access the internet and its information whenever it supports their learning needs. This translates roughly to "every learner needs ready access to an internet browser during much of their learning".
For many young people that will mean a browser on a networked school machine, while for many others that will mean their own personal device. We are unlikely to ever be able to afford a single computer per child in schools, much less support and manage such devices. (At the time of writing, nearly 10,000 devices required to achieve this).

If we can offer an internet connection in school to those young people who are allowed to use their own devices, we might make this one browser per learner aspiration possible. The benefits might be:

- Building skills in learners
- Ease of access to information
- Cost savings in books and printing as more papers are delivered in PDF or standard formats to learners.
- More individual and personalised learning approaches possible for teachers.

Supporting this approach would require that we address the inequalities that exist among our families as best we can. Some learners will never be able to afford quality personal devices and Argyll and Bute will always have a desire to provide suitable access for them in schools. Many learners will be able to afford a small amount to get access to a suitable learning machine, and for them we could facilitate a purchasing scheme in partnership with an external provider to help parents get suitable hardware on an affordable basis.
We will have to address the infrastructural challenges inherent in this aspiration too. We are fortunate that our ICT team has planned and provided a flexible wireless infrastructure that makes such aspirations possible, but managing so many devices, access will still be a challenge.
Two identified aims would be:

- To set up a single log-in for simplicity. This should ideally provide some degree of tracing learners for everyones' security.
- To set up or allow virtual storage spaces to help students work around the storage limitations of their varied devices as they accumulate materials and files from their work.

In summary, we aspire to have children confidently able to use their own devices to access information and create products in the digital world. As a result of this, in turn we aspire to have teachers nurturing increasingly independent and confident learners.

Our digital skills framework (Appendix)

These are the Key Skills to be progressed from Level 1 to 4. (These skills support the thinking skills within Blooms Taxonomy and the Revised Digital Taxonomy produced by Andrew Churches) These skills will be subject to review to future proof our thinking. Early Level skills will follow after consultation with Practitioners.

Be informed - get, manage, record and store information

Bookmarking: This is where the pupils mark for later use, web sites, resources and files. Pupils then organise these. Using Del.ico,us and other similar tools beyond simple bookmarking.

Searching:At its simplest, pupils are just entering a key word or phrase into the basic entry pane of the search engine progressing to a greater depth of understanding to be able to create, modify and refine searches to suit their search needs.

Recording: Write and upload media to a blog or other online source.

Categorising: Organise and classify files, web sites and materials using folders. Using Del.ico,us and other similar tools beyond simple bookmarking. This can be organising, structuring and attributing online data.

Uploading: Uploading materials to websites and cloud storage.

Editing: Using tools to make changes online/offline.

Be creative (make, design, build & create)

Programming: Pupils create their own applications, or develop games or multimedia applications within structured environments.

Filming, Photographing & Podcasting: Students capture, create, mix and remix content to produce unique products.

Composing: Creating music using software

Presenting: Producing presentations using on and off line materials.

Publishing: Publishing in text, media or digital formats.

Designing: Responding to a design brief.

Be connected (collaborate, network, connect, share)

Blogging: Used for discussion, collaboration, evaluation, reflection. Constructive criticism and reflective practice are often facilitated by the use of blogs and video blogs. Pupils commenting and replying to postings have to evaluate the material in context and reply to this.

Wiki-ing: Collaboration is an increasing feature of education. In a world increasingly focused on communication, collaboration, leading to collective intelligence is a key aspect.

Collaborating: Effective collaboration involves evaluating the strengths and abilities of the participants and evaluating the contribution they make.

Networking: Networking is a feature of collaboration, contacting and communicating with relevant persons via a network of associates. Pupils use a variety of tools including wikis, blogs, networking sites.

Be technical

Running/Operating: Operating and manipulating hardware and applications.

Troubleshooting: Responding to alerts/warnings. Using Help options.