Gwynedd Schools' Digital Strategy

Supporting learning through Technology



Summer 2021

Gwynedd Schools' Digital Strategy

Purpose

Supporting digital learning to ensure the best opportunity for Gwynedd pupils.

How will we know if we have succeeded?

- *No technical barriers that would impede our teachers' imagination as they plan lessons for our learners.*
- *Suitable devices available to support digital learning.*
- *The experiences of pupils, teachers, assistants and the whole school community are consistently good.*
- *Suitable training in the digital learning field available to all.*
- *Measurable increase in digital skills in Gwynedd.*
- *Schools delivering Digital Education Standards.*
- *Supporting the Welsh Language and our communities by preparing our learners for jobs in the digital sector.*
- *All schools making full use of the Hwb national learning platform.*
- *Consistency in digital learning experiences throughout Gwynedd.*
- *Value for money in the digital field for Gwynedd schools.*
- *Network supporting and enabling digital learning today and in the future.*
- *Sustainable funding model in place.*

What is driving the change?

As a result of amending the curriculum, digital competence is a statutory responsibility across all learning fields and it needs to be considered in all aspects when designing and introducing the curriculum.

The aim of the strategy is to give the best digital provision to support our learners and teachers to foster a range of skills to use technology confidently, creatively and critically.

Digital learning is not a vision for the future, this is the present and if we do not plan positive measures to present a digital provision of the highest standard and consistently throughout the education system, we will live with a provision that is only suitable for the past.

Support from the Welsh Government

Welsh Government has announced financial support to improve the use of digital technology for learning and education in schools. The first cycle of investment was announced on 19th July 2019, with £50 million to be shared between the 22 Local Authorities in 2019/20, and up to a further £55 million available during the next three years.

"This funding provides us with the opportunity to deliver a more sustainable EdTech model for schools, with local authorities working collaboratively to ensure consistency across Wales.

The money will also guarantee that schools are better equipped to embrace the changes brought about by the new Curriculum for Wales. It further demonstrates our commitment to digital learning, highlighting the importance technology plays within education.

This is about more than just buying new bits of kit. The programme will transform how our local authorities and schools approach digital delivery, ensuring our children are digitally provisioned well into the future."

Kirsty Williams, Education Minister

(19.07.2019)

DRAFT

Support from Gwynedd Council



"This strategy is a commitment of our ambition to use technology to improve education for learners in Gwynedd schools.

The strategy outlines our future vision escalating our ability to support all sections of the curriculum. We will use this strategy as a path to improve, not only the learners' experiences but also to support teachers, administrators, governors and parents. The technology and digital learning provision in our schools will raise the standard of every school to what is expected in the twenty-first century.

It is a pleasure to support the Education Department and the Information Technology Service to present this innovative strategy that will improve our learning and teaching provision throughout."

COUNCILLOR CEMLYN REES WILLIAMS - CABINET MEMBER FOR EDUCATION



"Technology now plays a prominent part in our daily lives. *Learners who are going through our existing education system are unfamiliar with the world before technology.*

Our purpose is to prepare the adults of the future, we cannot ignore the importance of technology, not only to support the provision to teach the curriculum, but also in terms of core skills expected of any prospective employee and employers.

I am proud to support this vision and confident that it will play a leading role to modernise and improve education for children, young people, and the economy here in Gwynedd."

COUNCILLOR IOAN THOMAS - CABINET MEMBER, FINANCE AND INFORMATION TECHNOLOGY

DRAFT

Curriculum for Wales

From September 2022 onwards, Gwynedd schools like every other school in Wales will implement the Curriculum for Wales. Literacy, numeracy and digital competence are mandatory skills across every area of learning and experience that need to be considered in all aspects of curriculum planning.

It is the responsibility of teachers, across all areas of the curriculum, to develop and ensure progress in these skills.

It is essential to enable our educators to possess the skills needed to give learning experiences that will stimulate our children and young people.

In order to ensure that learners develop high competence levels in these skills, and have sufficient opportunities to develop, extend and apply them across all fields, the National Literacy and Numeracy Framework and the Digital Competence Framework are available as supporting guidance.

Digital Competence, Information and Communication Technology (ICT) and Computing should not be confused. Digital competence is one of three cross-curricular responsibilities, alongside literacy and numeracy. It focuses on digital skills which can be applied to a wide range of subjects and scenarios that can be transferred to the world of work.



Through this strategy we will support our teachers by ensuring there are no technical barriers that would limit their imagination as they plan lessons for our learners.

The need for digital skills for the North Wales economy.

Approximately 7000 people are employed across north Wales in higher-level digital skills jobs. It is estimated that 2,000 higher-level employees will need to be replaced by 2024.

There are approximately 62,000 businesses in north Wales. By 2030, it is estimated that an increase of 4% will be required in level 4 qualifications or higher to fill the available posts. With digital skills being cross subject in all sectors there is a need to ensure that the next generation of learners acquire high-quality digital skills and this is key to the region's success.

The counties of Gwynedd and Flintshire have the highest number of employees in the computer programming and consultation sector, with 1,750 employees. An increase of 300 and 250 since 2015.

The vision of the North Wales Growth Bid has noted the need to develop digital skills in north Wales and the programme will invest £240m in the region's economy in digital fields and STEM over the next decade. The aim of the investment is to trigger the economy by creating high-value jobs to support our communities, therefore, it is essentially important that we work with a view on this programme in order to understand the requirements of future skills.

The regional skills partnership has been commissioned to develop and deliver the following:

- Develop a clear delivery plan to improve the current and future digital skills of the north Wales workforce.
- Form a partnership between Bangor University, Glyndŵr University, Llandrillo Menai Group, Coleg Cambria, GwE (education consortia), local authorities and industry.
- Ensure that the workforce possesses the necessary skills provision and that it is in hand to keep up with the speed of digital and technological change.
- To increase the supply of digital skills across our economy.

DRAFT

- Ensure that the computing curriculum for pupils aged 5-16, includes coding and programming basics and is ambitious and complete.
- Ensure there is a comprehensive programme to improve teaching in the field to promote participation and good results in computing.
- Ensure that the existing and future workforce in north Wales is digitally competent and can benefit from digital opportunities.

Partneriaeth Sgiliau Rhanbarthol Gogledd Cymru
North Wales Regional Skills Partnership

Through this strategy we will support the vision and will be a key part of developing digital skills in Gwynedd.

Education Digital Standards

Digital Standards for the Education field were published by the Government in April 2019. The standards are a series of recommendations and guidelines about planning, management and using school information technology network.

The standards will assist schools to understand, manage and operate their digital environment. They show how schools should ensure that their digital environment is one that can satisfy the requirements of the school curriculum and give more attention to future digital skills.

It is proposed that these standards answer the purpose by operating best practices to satisfy digital requirements. However, it is accepted that schools operate with scarce resources and they have to plan to deliver the standards over time.

It is expected that a local authority will offer advice and guidance to schools on how to deliver these Standards.



All the infrastructure work being completed to satisfy the Standards, should be considered and planned carefully, procured in accordance with the national procurement regulations and implemented by professional organisations.

These are the main headings of the Digital Education Standards, and there are several criteria for each of these.

- Planning and Managing
- Connectivity (Broadband)
- Safety of Networks and Data
- Routers and Switches
- Cables
- WiFi Network
- Device management
- Telephony and VoIP

Through this strategy we will ensure that Gwynedd schools deliver the Digital Education Standards.

DRAFT

Viable Communities and the Welsh language

Recent statistics by Bangor University's Science Park, M-SParc, indicate that excellent jobs and careers are available in the digital sector, however, there is a significant lack of Welsh speakers and women within the sector.

On average, the salary of jobs in the Science Park within the digital sector was £32,632, compared with £27,820 on average in Gwynedd.



However, only 35% of those who work at M-SParc have the Welsh Language, compared to 57% in Anglesey and 66% in Gwynedd. It appears that there are particularly good jobs in the sector, but a lack of Welsh speakers.

The statistics are just as frightening n the context of women in the sector.

This strategy underlines the fact that good jobs are available for our pupils that will in turn support the language and our communities. However, it is essential to stimulate Welsh-speaking pupils and girls to take an interest in this field and it is essential to undertake this to have the technical infrastructure together with teaching skills of the highest standard.

All aspects of the strategy are developed bilingually in accordance with Gwynedd's language policies to try and ensure that Gwynedd school pupils develop to be digitally competent in both languages.

Through this strategy we will support the Welsh Language and our communities by preparing our learners for jobs in the digital sector.

DRAFT

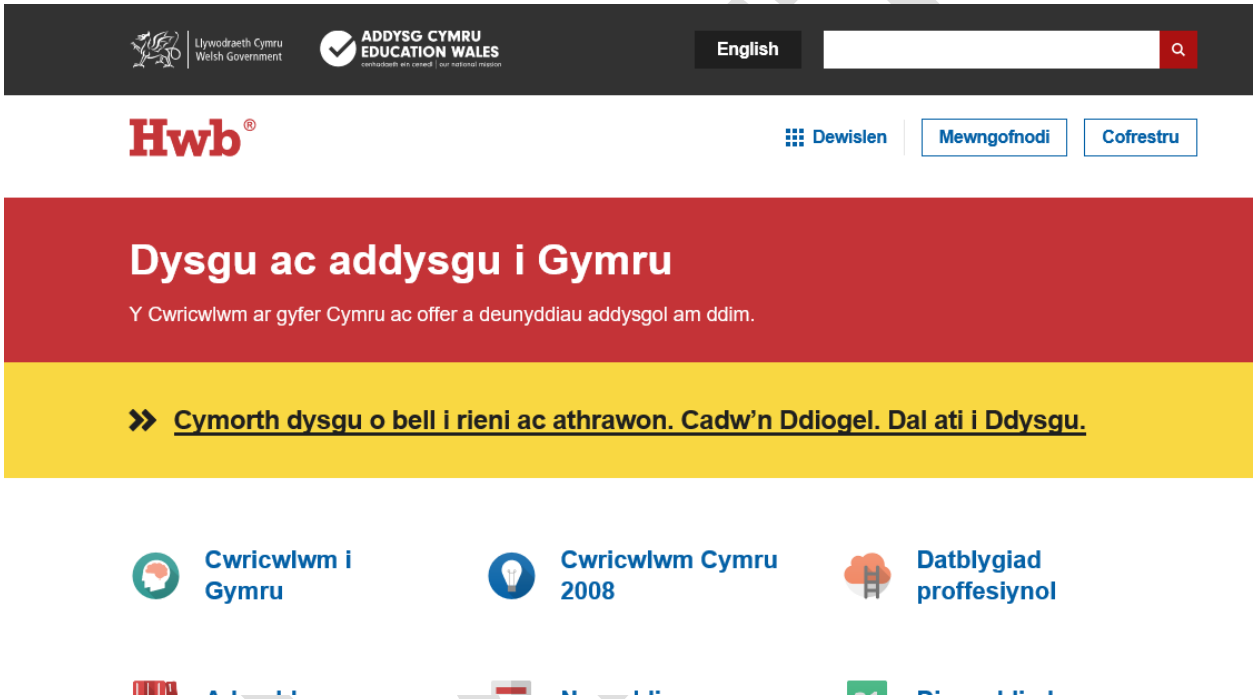
Hwb First

In the field of information technology there are several complex technical standards. However, for this strategy we will set one specific principle namely Hwb first and through this we will make full use of the Hwb national learning platform. Every other standard will enable this principle.

What is Hwb?

Hwb is the digital platform for learning and teaching in Wales. Hwb enables its users to benefit from a range of digital equipment and bilingual resources that are centrally funded. This is the Welsh Government's strategic digital channel to support the work of providing the curriculum in Wales. Hwb provides access to:

- Curriculum for Wales 2022
- Curriculum for Wales 2008
- professional learning information
- thousands of bilingual resources
- information on on-line safety



Access is available to learning and teaching resources for all.

In addition, Hwb users (platform account users) have free access to:

- a variety of methods centrally funded to assist education practitioners to create and share their resources and their own assignments
- professional networking environment
- Google for Education
- Microsoft Office 365

Some schools in Gwynedd have been paying for some of the resources that are available free of charge via Hwb.

All learners and teachers in maintained schools in Wales have a Hwb account. All maintained school have access to log in details.

Through this strategy we will make full use of the Hwb national learning platform

A strategy for whom?

The strategy is for all schools, pupils, staff and members of the Gwynedd schools community. We will ensure consistency in the range of digital learning experiences across the county.

	Number	No. of Pupils
Primary	83	9,286
All-through	2	1108 (P-529 S-579)
Secondary	12	6571
Special	2	216
		No. of Pupils
Foundation Phase		4665
Key Stage 2		5150
Key Stage 3		4048
Key Stage 4		2407
Post-16		695
Special		216
Total		**17,181**

	Number
Teachers	1062

We will support approximately 17,180 pupils and 1100 staff in 99 education establishments. [1]

Through this strategy we will ensure consistency in digital learning experiences across Gwynedd.

Equality and Well-being

As a Council we are committed to the principles within the Well-being of Future Generations Act (2015) in order to improve the economic, social, environmental and cultural well-being of Gwynedd's communities.

Our vision as a Council is to support all the people of Gwynedd to thrive and live full lives in their community, in a county which is one of the best counties to live in.

The Council has adopted well-being objectives that complement the national well-being goals and ensure that Gwynedd residents:

- Enjoy a happy, healthy and safe life
- Have access to quality homes within their communities
- Earn enough wages to support themselves and their families
- Receive a first class education that will allow them to do what they want to do
- To live with dignity and independence for as long as possible
- Being able to live in a naturally Welsh speaking Society
- Enjoy the beauty of the County's natural environment.

This strategy will allow us to respond to and meet the needs of the children today, while strengthening their future well-being.

The proposed proposal will ensure a fair opportunity for all Gwynedd children to acquire excellent digital skills, essential skills for the future.

---

1 numbers based on 2019/20 data

DRAFT

What will be the experiences of our users?

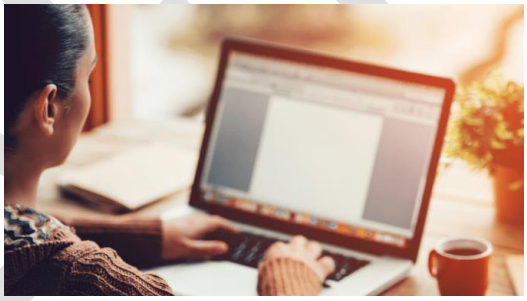
The experiences of pupils, teachers, assistants and the whole school community will be consistent across the sectors.

Teachers' Experiences

All teachers in Gwynedd will have;

- a portable personal device to allow quick access to the cloud via the school's wifi network or any other wifi network
- the ability to prepare and work from home
- access to school systems and pupils' information systems at the school and at their home
- access to suitable professional training and development that are fit for purpose
- Hwb account that will allow access to a wide range of learning resources
- access to a fast photocopier
- official e-mail
- access to Gwynedd Council's self-service account





Experience of Teaching Assistants

There are different tiers within this cohort of the workforce, however, generally all assistants will have;

- access to a device to allow quick access to the cloud via the school's wifi network or any other wifi network
- access to suitable professional training and development that are fit for purpose
- Hwb account that will allow access to a wide range of learning resources
- official e-mail
- access to Gwynedd Council's self-service account

Pupils' Experience

Pupils' experience of technology is changing and developing, in terms of what they require as hardware and software evolving as what they learn gets more complex. However, some factors will remain constant. Every pupil will receive;

- experience of using different technology, such as Windows, Google Chromebook and Apple (iPad and/or Mac) devices
- access to a device to allow quick access to the cloud via the school's wifi network
- the ability to study and learn from home
- a Hwb account that will allow access to a wide range of learning resources

DRAFT

- e-mail account to allow them to communicate within a limited circle and beyond, in accordance with the guidelines of individual schools
- remote access to learning resources





Governors' Experiences

The experience of Gwynedd Governors will be consistent across the sectors. All Governors will have;

- access to key documentation on the cloud
- Hwb account that will allow access to training and key documentation
- the right to bring their own device to Governing Body meetings

Experience of School Administrators

The experience of administrative officers will be consistent across the sectors. Every administrative officer will have access to;

- a device to allow quick access to pupils' information management systems
- effective e-procurement systems to order resources for the school
- on-line payment systems that are consistent and effective
- filing and storage systems on the cloud
- school finance management systems

Through this strategy we will ensure that the experiences of pupils, teachers, assistants and the whole school community are consistently good.

DRAFT

Training

To ensure the success of this strategy we will provide a programme of training to develop all digital skills and stakeholders.

In cooperation with GwE, we will agree on a suitable training programme that will target the needs of staff across the sectors. We will identify good practice and where appropriate we will ensure a suitable platform to be shared with our schools.

We will make full use of technology to train in the field using Hwb, multi-media materials, live learning, or any other appropriate medium.

The training will be available to all.

Through this strategy we will ensure suitable training in the digital learning field.

DRAFT

Procurement

We will purchase every device through an agreed national system and through this we will secure the most competitive prices.



We will consult with schools on the choice of standard devices and ensure that these will improve the quality of experiences for our pupils and school staff.

We will experiment and pilot any new technology prior to presenting it to all. We will ensure value for money through negotiation and purchasing as one.

If a school is anxious to purchase additional devices to what is offered to all, they will be expected to order via an agreed central procedure to ensure consistency and value for money.

Through this strategy we will ensure the best value for money for Gwynedd schools.

Devices

Through this strategy we will secure standard devices to facilitate a simple and speedy system to support them. We will offer a range of devices to a pupil over his/her educational career and this will ensure a suitable range of experiences.

Teachers

Every teacher will receive a device to enable him/her to work from school and from home via the Hwb platform. This will facilitate security arrangements and ensure a consistent standard across the county. We will ensure that the device we give will be fit for purpose.

Foundation Phase Pupils

Foundation phase pupils will have access to a device in the classroom at a ratio of one device to four children. This corresponds with the foundation phase principles.

The device will be one that secures full access to Hwb and to multi-media learning software.



DRAFT

Key Stage 2 Pupils



Key stage 2 pupils will have access to a device in the classroom at a ratio of one device to one child.

The device will have a keypad and will secure access to Hwb and to multi-media learning software.



Key Stage 3 & 4 Pupils

Key Stage 3 & 4 pupils will get a device at the start of their period in secondary education (year 7) and will retain the device until the end of their secondary education.

Pupils will be able to take the device home every day and this would be seen as part of the learning resources they are expected to bring with them to school.

It will be possible to charge the devices at school, if required, by using charging towers.

The device will have a keypad and will secure access to Hwb and to multi-media learning software.

Post-16 Pupils

This strategy targets support for statutory age pupils.

No equipment will be provided to year 12/13 pupils as a matter of order, however, full provision will be in place for them to bring their own equipment to school.

Where required it will be possible for a learner to retain their device at the end of year 11 to be used in the continuation of their education.

Through this strategy we will ensure that suitable devices are available to support digital learning.

DRAFT

Technology

New technology

We will collaborate with our schools, local and national companies, together with organisations to develop and improve infrastructure and the technology to support learning and teaching at the schools. Annually, we will undertake a review of the strategy with a clear focus to improving quality experiences for children and school staff, but also perhaps recognising that an earlier review will be required if there is a change in circumstances where urgent change needs to be incorporated. We will investigate and experiment to develop new solutions to ensure that Gwynedd school pupils receive the best possible experiences.

Where there is an opportunity to improve experiences for our pupils we will invest in innovative developments. One example of this is the way technology within the wifi network points enable our learners to experiment with Internet of Things technology. In addition, it will be possible for the Council in future to use this technology to manage buildings more effectively which may bring financial savings to the schools.

We will consistently review new developments within the field.

Through this strategy we will ensure that our provision remains current and fit for purpose.

DRAFT

E-mails

Every pupil will make use of the Hwb e-mail address thats provided by Hwb. This e-mail will replace existing e-mails in our schools.

Every member of staff will receive a new e-mail address that will end @ysgoliongwynedd.cymru. This e-mail will replace existing e-mails in our schools.

This is the e-mail our users will use when they log into Hwb.

By presenting consistent standardised e-mails to Gwynedd schools it will be possible for pupils to retain one account throughout their educational career.

It will be possible for all to get access to their e-mails via Hwb, and it will be possible to set up convenient access to these e-mails on teaching staff mobile phones, if desired.

It will not be necessary to retain a specific server for the e-mail system at every school.

An appropriate filtering system will be available to reduce the number of spam e-mails staff receive.

Cloud Technology

Where it is not possible to use Hwb as a platform to some digital resources, we will consider other cloud options as the first solution every time. We will undertake a full review of current provisions and only when there is no alternative option will we consider options where they need to continue with local provision.

Corporate Systems

Where possible we will integrate the Council's digital corporate platform (iGwynedd) with Hwb. This will ensure access to corporate information and products.

It will be possible for staff to gain suitable access to the Council's self-service systems for salary slips, absences, appointment, timetable and administration.

Network



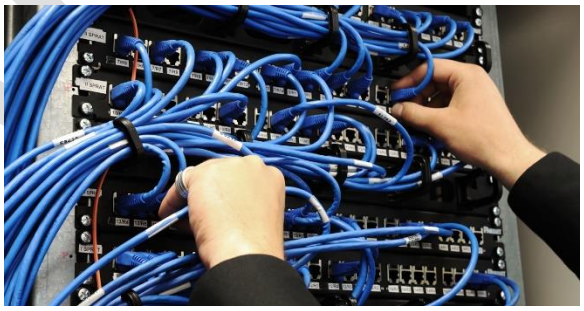
Network and broadband fibre connection is provided to every school in Gwynedd. In accordance with the Government's expectations, there will be a minimum speed for every pupil and teacher. It will be possible to speed up the connection, if required, in the future. The network is based on public services network Wales (PSBA) and is a consistent and dependable access.

All network equipment will be upgraded ensuring that wifi contact is stronger with fewer areas without connection. The equipment will be standardised.

The network will be secure and will make full use of technology such as firewalls to reduce the risk of cyber attacks or viruses.

The network will be planned to allow further developments in the future such as;

- Telephony - triggers the need to get additional telephone lines for schools and present a dependable and cost-effective service
- Internet of Things
- Visitors' Wifi - secure connectivity for visitors to the school, reaching corporate safety standards and GDPR
- Digital community use of schools outside normal school hours.



The design of the network will be consistent with the design of the corporate network. This will enable devices from the school to work in libraries or other Council buildings.

There will be a commitment to undertake continuous improvements to the network. For example, we will facilitate access for visitors to the network and establish a system of advising our users on safe methods of working.

Through this strategy we will ensure that our network supports and enables digital learning today and in the future.

DRAFT

Support



It will be necessary to support effectively the infrastructure that will be inserted via this strategy. With a significant increase in devices we anticipate there will be an increase in demand for support services.

Generally, school staff will not be expected to undertake the work of correcting technical network problems or devices.

Reduce the demand

Any demand for a service is a barrier to learning, by reducing the demand for a service we will reduce the learning barriers.

Initially, we will plan the system to reduce the demand for support in the first place. One of the ways we will undertake this will be by standardising the network, devices and how users will use the system. In addition, we will make full use of Hwb.

By standardising the network and devices it is possible to ensure a thorough understanding of specific devices and any components can be ordered in higher numbers. It is also possible to implement an improvement across the network or devices.

Every school will receive a specific number of spare devices, if it is not possible to support the equipment remotely then it would be possible to use these devices temporarily.

It will be possible for an engineer to log into the system of any remote user to make changes to the settings of individual machines.

Although there is an increase in devices, standardising the provision will lighten the impact of the increase, however, there will be a regular demand for support.

What can schools expect as a service?

Schools will be able to contact a central help desk to ask for assistance. Where it is not possible for the user to correct the problem it will be possible for a technician to contact the user's device remotely.

If the fault is on the device, then a new device will need to be supplied as a replacement while the faulty device is returned to the manufacturer. Spare devices can be provided from secondary schools, larger primary schools or via the Education Business Centre.

Support to the network will be in accordance with the support for devices with an expectation that the schools will initially contact the help desk. A technician will seek to solve the problem remotely before travelling to individual schools.

The duration of calls will be measured, with the target that the device works for the user in less than 24 hours.

It will not be possible to service devices that are outside this scheme.

Support Models

A specific team will be required to support and provide a service for devices and the network.

Service hubs will need to be established that will serve the catchment areas and these hubs can be secondary schools or larger primary schools.

DRAFT

There will be a wide range of skills within the team to ensure that we respond to the various challenges that may arise when supporting the increasing number of devices.

Service Packages

Every school will receive the basic service that will ensure that core devices and the network are supported. This will be part of the core service level agreement. It is the schools that will fund this agreement.

Supplementary packages to the core service will be available for services that would be beneficial for the school but in addition, and beyond the Welsh Government's digital standards. It will be possible for schools to choose the additional service, while the core service will be common to every school.

Service	Core	Supplementary
Pupils' Laptops	X	
Teachers' Laptops	X	
Corporate telephone system	X	
Telephone system of the School's choice		X
Mobile phones	X	
Wide Area Network	X	
Local Area Network	X	
Interactive screens		X
Television screens		X
Website (platforming)	X	
Sign-in system		X
Door security		X
Closed-circuit television		X

Whatever the final support model is, there will be a clear focus on ensuring that the system works consistently well for every user and allows continuous access to digital learning.

DRAFT

Sustainable Model

Up to £5 million will be invested by Gwynedd Council and the Welsh Government to improve the infrastructure for digital learning in our schools. To gain access to the grant from the Welsh Government, evidence needs to be submitted of how the investment will be undertaken.

In the past, a lack of commitment to a sustainable model has meant that the equipment has dated and is unreliable, a risk to security or cannot be a platform to standard software.



Gwynedd Council is committed to renew network and wifi equipment in schools by investing £2.25 million over a period of ten years.

The sustainable model for devices means that an annual investment is required that will be set aside and invested by buying new devices when a device has reached the end of its life.

It is a substantial challenge to secure this investment, although a number of schools do invest in the sustainability of the infrastructure, it appears to be an impulsive investment.

In response to the challenge the Council will contribute up to half of the cost to replace all devices after 5 years of use.

Schools are expected to cover half the cost by opening a renewal fund. They can secure appropriate funds in whatever way they wish through a contribution from schools' balances at the end of the year, by setting a permanent budget in their budgets , or through other sources.

Through this strategy we will ensure the best value sustainable model.

Devices

The lifespan of devices has a significant impact on the sum that will need to be invested annually to maintain them. The usable life of devices is controlled by the operating systems developments and software developments that would be used.

The physical condition of the devices will also deteriorate over time.
It is suggested that the device should be used for the following periods

Device	Lifespan (years)
FP	5
3 & 4	5
5 & 6	5
Secondary	5
Teacher	5

iPad

We will provide iPads for pupils in FP at a ratio of 1:4

Chromebook

We will provide Chromebooks to pupils in years 3 & 4 at a ratio of 1:1.

Windows 10 Laptop
We will provide Windows 10 laptop to pupils in years 5-11 at a ratio of 1:1
We will provide Windows 10 laptops to all teachers.

DRAFT