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# Evaluation of the implementation of the Learning in Digital Wales Programme

## Final Report



Mae'r ddogfen yma hefyd ar gael yn Gymraeg.

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# Evaluation of the implementation of the Learning in Digital Wales Programme

ICF Consulting Services Limited



Views expressed in this report are those of the researcher and not necessarily those of the Welsh Government

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## Glossary

Acronym/Key word	Definition
BT	British Telecom
BYOD	Bring-Your-Own-Device
CCM	Cross Collaboration Moderation
CPD	Continuing professional development
DL	Digital Leader
ERW	Education through Regional Working
FE	Future Education
HE	Higher Education
ICF	Inner City Fund
ICT	Information and Communication Technology
LA	Local Authority
LiDW	Learning in Digital Wales
LIDWG	Learning in Digital Wales Grant
LNF	Literacy Numeracy Framework
MIS	Management Information system
NDCR	National Digital Content Repository
NDLC	National Digital Learning Council
NDLE	Annual National Digital Learning Event
NPT	Neath Port Talbot
OS	Operating System
PSBA	Public Sector Broadband Aggregation
PISA	Programme for International Student Assessment
PRU	Pupil Referral Unit
PSBA	Public Sector Broadband Aggregation
QR	Quick Response
RE	Religious Education
REC	Regional Educational Consortium
SEN	Special Educational Needs
SENCO	Special Educational Needs Co-ordinator

SMT	Senior Management Team
SRO	Senior Responsible Officer
UXD	User Experience Design
VLE	Virtual Learning Environment

## **Executive summary**

The Learning in Digital Wales (LiDW) programme was launched by the Welsh Government in 2012. It initially comprised a series of discrete projects that later became the LiDW programme, and aims to support the use and exploitation of centrally-funded digital tools and resources in schools and other education institutions across Wales.

The LiDW programme is expected to make a significant contribution to the Welsh Government's 2010 Delivering a Digital Wales Strategy and Framework. Improving ICT skills of children and young people and making the most appropriate use of digital technologies in the delivery of education, training and support for learners are identified as specific goals within the eSkills theme of the Digital Wales Delivery Plan.

The programme comprises the delivery of a central online repository of digital learning tools and resources ("Hwb, the National Digital Content Repository"), a virtual learning environment (VLE) ("Hwb+, the all-Wales learning platform") and third-party resources for all schools in Wales. It also includes a programme of training and support to schools, as well as investments to ensure that all schools are connected to high-speed broadband internet and have access to Wi-Fi. These were split into two workstreams

### **Workstream 1 – Digital Learning**

- Hwb, the National Digital Content Repository (NDCR): Delivery, maintenance and promotion of a national collection of digital tools and bilingual resources to support learning and teaching for learners aged 3 to 19 in Wales.
- Hwb+, the all-Wales learning platform: Procurement and delivery of an all Wales VLE enabling every maintained school in the country to have its own learning platform that is unique to the school and could be customised by the school.
- e-Safety: A programme of e-Safety education and awareness activities across Wales and the creation of e-Safety tools and resources which are hosted on the dedicated e-Safety zone on the Hwb website.



- Hwb Training, Support and Awareness activities: Activities to raise awareness, knowledge and understanding of LiDW products and increase use among school staff, Local Authorities (LAs), Regional Education Consortia (RECs) and other stakeholders.
- Grants to Schools: To develop effective use of Hwb+ within schools and promote peer-learning, grants of £30,000 were awarded to 18 schools, which were selected as Hwb+ Centres of Excellence (Hwb+ CoEs).
- Grants to RECs: To support the effective use of digital learning in schools, grants were given directly to RECs to deliver training and support activities in schools in their regions.

## **Workstream 2 – ICT Infrastructure**

A £39m investment to improve broadband services and local network infrastructure within schools was announced by the First Minister in January 2013. The programme committed to provide teachers and learners across Wales access to robust and reliable broadband services. Specifically, the LiDWG aimed to increase bandwidth to at least 10Mbps for every primary and special school and PRU and to provide 100Mbps for every secondary school by July 2014. It also provided grant funding of £10,000 to every primary and special school and PRU and £20,000 to every secondary school to improve the Wi-Fi and other local network connectivity infrastructure within schools by December 2013.

### **Aims of this evaluation**

The key aims of the LiDW evaluation were to:

- evaluate how the LiDW Programme was implemented
- assess whether the different strands of the LiDW Programme were meeting their objectives
- identify any emerging impacts that the LiDW Programme was having on classroom practice for both teachers and learners.

## **Methodology**

### **Stage 1: Inception and scoping (February – March 2015)**

This stage of research looked to develop an understanding of the different elements of the programme. It included:

- an initial review of data and documents about the implementation of LiDW
- interviews with eight Welsh Government staff responsible for implementing aspects of the LiDW programme
- a rapid search and assessment of published evaluation literature to further our understanding about benefits that should be expected from LiDW outputs
- interviews with two academic experts to add to our understanding of the expected intermediate outcomes and impacts from LiDW activities.

### **Stage 2: Progress and Process Review (March – July 2015)**

This stage focused on understanding the management and implementation of the programme, progress made on delivering the programme outputs and how the programme is perceived by schools (digital champions) and local authorities. It included:

- interviews with five Welsh Government staff, four contractors, 24 LA education service and Regional Educational Consortium (REC) staff who had been providing support to schools, 16 LA information technology (IT) staff involved in infrastructure improvements and roll out of LiDW activities, and 32 Digital Champions (DCs) who participated in Hwb+ training
- an online survey of 331 Hwb Training participants, which collected qualitative information about the relevance and value of activities and events
- review of feedback from HwbMeet, e-Safety and NDLE events collected by the Welsh Government.

### **Stage 3: Progress and Early Impacts (August – November 2015)**

Stage 3 investigated the key outcomes and early impacts of the programme, especially for learners and teachers as a result of schools increasing their use of digital teaching and learning. It included:

- an online Hwb user survey to find out how the Hwb website and online resources are used and perceived benefits
- case study research with 20 schools to gain a more rounded perspective from programme beneficiaries on the local implementation of digital teaching and learning
- telephone interviews with 22 school Digital Champions to assess progress to date and any further support required to take forward digital teaching and learning
- follow-up interviews with 12 LA and 4 REC education staff.

### **Key Findings**

Below we set out the key findings from the evaluation organised according to the evaluation framework set out in Annex A. It looks at the following aspects of LiDW

- Initial design, planning and development of the programme.
- Achievement of Outputs.
- Achieving Outcomes for Learner, Teachers and Schools.
- Emerging Key Outcomes.

Finally, it gives recommendations for WG and other stakeholders moving forward.

## **Design, planning and development of the programme**

### ***Programme delivery and oversight***

The LiDW programme is managed and delivered by the Digital Learning Division within the Welsh Government's Department of Education and Public Services.

#### ***High Level Findings***

- Management of the programme was seen to be strong and flexible.
- There were effective systems in place to plan, develop and oversee each of the programme elements and their specific projects in line with the plans envisaged.

Alongside the WG team the National Digital Learning Council (NDLC, see 3.8 for more detail) took oversight and provided strategic advice to WG on the LiDW Programme. It has been able to provide advice and guidance on the development and implementation of the LiDW programme; and the programme has benefited from these insights.

### ***Project management and implementation***

The LiDW team within Welsh Government made use of established and well regarded project management techniques when implementing the programme.

#### ***High Level Findings***

Project management processes of both workstreams were regarded as being strong, with appropriate consideration given to each phase of implementation. The following can be seen as key drivers of LiDW's project management and implementation:

- Ambitious targets, from the outset, were a strong driver for establishing project management systems to monitor progress and risks of the LiDW team's and contractors' performance;
- The programme has used formal and informal feedback, forums and groups, piloting and testing to develop and adjust products, such as the training for teachers, and respond to delays and barriers, such as broadband upgrading.

It was reported by stakeholders that timelines were challenging; particularly for the infrastructure elements incorporating the LiDW grant element, and this had meant that not all risks may have been considered at the planning stage (such as civil construction work required to deliver fibre to the schools). However, overall most partners (LAs, RECs, contractors) were satisfied with communications and support from the LiDW programme team.

### ***Engagement of RECs and LAs to implement the programme***

Good engagement with RECs and LAs was seen as vital for the implementation of the programme, and indeed the relevant staff in LAs and RECs have been broadly aware of LiDW's aims and the activities to achieve these.

#### ***High Level Findings***

- Overall awareness had improved during 2015 and RECs have gradually become more engaged with the support needed as schools have increased their demand for support during the programme period.
- RECs had, and continue to have plans to focus their current support on schools with lower levels of engagement in digital teaching and learning.

Engagement levels of LAs varied however, with some LAs able to promote and support their schools' development and use of digital technologies, but others not achieving the same level of success. Eighteen LAs participated in the broadband upgrade, although not all were able to support the implementation of the upgrade at the pace required.

## **Achievement of Outputs**

This section presents the evidence of the main outputs of LiDW broken down by the four main elements of the programme: Hwb, Hwb+, Training support and awareness raising and infrastructure.

### ***Hwb***

The overarching objective of Hwb was to create a national collection of digital resources.

### ***High level findings***

A platform hosting bilingual digital teaching resources has been created. This includes digital content and tools available to authenticated users as planned. The digital teaching resources are actively being added to and the website has been upgraded with new functionalities since its launch in August 2014, although out-of-date resources are not necessarily being removed.

Licensed tools and functions (Microsoft Office365, J2e, 360 Degree Safe Cymru) were accessible for Hwb+ users via the Hwb platform using the single sign on.

Awareness of Hwb appeared to be growing over the course of the evaluation period (comparing interviewee responses in the Spring with those in the Autumn), however, only half of schools (53 per cent, January 2016) had 11 or more logins to Hwb, this may suggest that at this point there were still a large proportion of teachers not regularly using the site though it is difficult to analyse this using the data available. There was, however, a rise in logins between November 2015 and January 2016;

Feedback from users suggested:

- Many found it is easy to find resources (60 per cent agree/strongly agree), search (65 per cent), felt that the resources are high quality (85 per cent) and useful (81 per cent); although some users in our sample were not yet familiar with features such as playlist (39 per cent).

- Users surveyed would like more resources (69 per cent), but some of the current resources were used much more than others (79 per cent had not used PISA preparation tools compared to 32 per cent for e-Safety tools).
- Some users and interviewees would like to see improvements to categorisations, search functionality, materials for teaching over 16s and operability on different systems.

### ***Hwb+***

The purpose of Hwb+ was to create a virtual learning environment accessible to all maintained schools across Wales.

### ***High Level Findings***

The centrally-funded learning platform is now available and provides secure facilities for hosting and sharing school teaching, learning and management resources.

Authenticated user accounts have been created for staff and pupils in all but a few schools and PRUs. Although there were some challenges in linking these to LAs management information systems.

Feedback from users suggested:

- To date, Hwb+ has experienced similar usage levels to Hwb (47 per cent of schools had 11 or more logins in January 2016), although usage is generally increasing over time.
- Around a third of users found Hwb+ to be very useful. Some users reported that the platform is not easy to use, which may relate to earlier versions and problems that have been addressed in later versions.
- Some users and interviewees would like to see improvements to username formats, better operability and fewer crashes.

### ***Training support and awareness raising***

It was recommended to WG that to support the development of the digital competencies and confidence of teachers, initial teacher training and CPD should be run to support the other elements of LiDW.

To support this, 30 schools were awarded grants as Hwb+ CoEs, providing peer support and training during 2014/15. Additional funding was also used by RECs to develop Hwb+ accredited trainers, 'digital leaders', (seconded teachers and school improvement advisors) to provide direct support to schools and provide training at a more local level,

### ***High Level Findings***

As of November 2015, an estimated 7,000 teachers have received training, with at least one teacher trained in all schools who received provision. Digital Leaders (DLs) have led two-day training sessions for Digital Champions (DCs), and provided advice, guidance and training to schools to enable them to increase their use of digital technologies. Modular training was also provided. This looked to provide support for 400 schools identified by RECs as the lowest users of digital technologies

The programme also runs regular series of Hwb Meet events and e-Safety briefings at the end of the school day to share information about new resources and digital teaching practices.

Most training participants (mainly DCs) said it was generally well organised and relevant, effectively introducing them to Hwb and Hwb+'s learning tools and resources. Primary school participants were slightly more positive than secondary school participants in this regard. Concerns, where raised, typically related to the depth of training to enable implementation and the level of assumed knowledge/digital competence.



## ***Infrastructure***

Infrastructure improvements focused upon two work streams. Firstly, the in-school connectivity grant and secondly, broadband connectivity improvements.

### ***High Level Findings***

97 per cent of the schools within scope were provided with broadband improvements (as of November 2015); 95 per cent of large primary schools have so far received the increased broadband bandwidth.

Reports of revenue grant reimbursements by 18 LAs indicate that these funds were used for training (eight LAs), but largely for infrastructural and software improvements to take advantage of the improved bandwidth and the platform;

Some challenges were experienced as part of the infrastructure improvements

- Excess construction charges (ECCs), relating to civil construction work for the fibre services were incurred at 590 school sites. The magnitude of the schools affected resulted in additional funding to ensure all schools received the increased broadband bandwidth.
- Delays with completion dates were caused as a result of site surveys being undertaken; exploring available technologies in regional areas; delays within WG to agree the ECCs, seeking planning permissions and the availability of BT Openreach (BTO) resources as a result of BTO supporting a number of strategic initiatives at the same time as LiDW.
- Many interviewees were not aware that the infrastructural improvements were linked to the delivery of Hwb and Hwb+. While a few had not detected any differences, which may reflect that a few schools already had the required level of bandwidth or that some LAs having automatic filtering and blocking which can affect broadband speed, and/or the age of current hardware in some schools, most believed the changes were making a difference.

## **Achieving Outcomes for Learner, Teachers and Schools**

Although many of the outcomes identified cannot be solely attributed to LiDW there is some strong evidence collected that shows the outcomes reported by learners, teachers and schools may be associated with some aspects of the LiDW programme.

### ***Intermediate Outcomes***

Growing usage figures and evidence from the qualitative research suggest that LiDW products and promotional activities have led to an increase in the use of digital technologies across schools in Wales. For example

- In January 2016, there were a total of 210,368 logins to Hwb. Hwb usage increased steadily over the 2015/2016 autumn term and was considerably higher than usage in the summer term of 2014/2015.
- In November 2015, there were a total of 150,500 logins to Hwb+. Hwb+ usage increased steadily over the 2015/2016 autumn term and was approaching the peak usage recorded in June 2015 (164,000 logins).
- 57 per cent of schools in Wales registered 11 or more unique logins to Hwb or Hwb+ while around 73 per cent registered one or more unique login to Hwb in January 2016.

There is considerable variation in usage between schools and by schools across LAs (ranging from 96 per cent to 22 per cent) and there is considerably higher adoption by LAs located in the South West and Mid Wales REC. Local activities and resources available to LAs to promote LiDW, participation in the broadband upgrades and historical use of other VLEs are factors which could explain the varying levels of adoption. A higher proportion of secondary schools (around 80 per cent) logged into Hwb or Hwb+ at least once in November 2015 compared to primary schools (68 per cent).

LiDW training activities have led to increases in participants' knowledge and awareness of Hwb, Hwb+ specifically and digital tools more generally. The effect was higher among participants based in primary schools compared to those in secondary schools. Support from Digital Leaders and Hwb+ Accredited Trainers (LAs/RECs/CoEs) had boosted teachers' confidence and commitment to take actions

to promote digital learning to others in their school. This appears to have a greater impact than participation in training.

LiDW infrastructure improvements in broadband and connectivity have allowed for better and more effective use of existing technologies in schools. They have also allowed and encouraged some schools to invest in new technologies. Both appear to have led to an increase in the use of digital technologies in schools in Wales for teaching and learning.

### ***Emerging Key Outcomes***

Digital resources were seen to:

- have led to improvements in communication between teachers and pupils, such as through Hwbmail and homework submission on Hwb+, and in some schools between parents and schools
- help engage learners and improve their motivation in the classroom and engage a wider range of learners, especially those in lower ability groups and SEN students
- offer schools more opportunities for them to enhance learning through the medium of Welsh and the development of Welsh language skills as the bilingual provision of the Hwb website and Hwb+ facilitated greater awareness of bilingual resources.

Digital resources are also seen to have influenced teachers planning and management systems. For example:

- teachers interviewed reported how digital resources and tools, including Hwb and Hwb+, are providing them with more options for producing and delivering lesson plans, which can lead to better teaching
- teachers reported that digital resources and tools, including those on Hwb+ and the cloud storage in Office 365, have allowed more standardised and streamlined assessments, such as through online assessment and the collection of portfolios of evidence

- there is evidence that school management and operations have improved as a result of the adoption of digital technologies, such as Hwb+ and OneDrive. Benefits arise from sharing documents, calendars, timetables etc. leading to more streamlined processes and practices across schools.

Hwb Networks are providing a useful platform for collaboration and communication between teachers within and across schools. There are also instances where teachers have used Hwb+ tools to create communities of practice. These are leading to increased opportunities for the professional development of teachers.

It was also suggested that LiDW e-Safety resources and training appear to have led teachers to adopt safer behaviours online and to take actions to improve the e-Safety of others, including pupils at school.

## **Conclusions**

The LiDW programme so far, appears to be regarded as having made an important contribution towards achieving its overarching aim of supporting, facilitating and encouraging the use of digital resources in schools across Wales. The programme has achieved most of the targets set at the outset. Delays in achieving the ambitious infrastructure improvement targets were attributed to external factors that could not be controlled by the LiDW team.

In relation to digital resources and learning the programme has contributed to increased awareness, knowledge and competences of teachers and other stakeholders and reduced infrastructure barriers. As to the quality and effectiveness of LiDW products and activities, the evidence drawn from users indicates that the products and activities delivered by LiDW had to some extent met user needs.

Usage data on Hwb and Hwb+ and evidence from surveys and qualitative feedback indicate that LiDW products and activities (including infrastructure improvements) have had positive effects on the use of digital resources in schools. Nonetheless, it is clear that take-up could be improved in many schools if they are to take full advantage of what is in place and available to them for teaching and learning, school

management and parental engagement. More work is needed to encourage and enable the majority of teachers to use digital resources as part of their teaching approach. The case study visits provided some evidence of successful approaches to achieving this, including:

- clear vision about what the school wants to achieve
- links between the digital learning plan and the school improvement plan, identifying how digital technologies will help the school be more effective
- identification of steps required to achieve the vision, and a timeline
- setting of targets and processes monitoring achievement towards these
- lines of responsibility, including ownership of the plan for the whole and plans for leaders/champions in specific departments or year groups
- processes for review and adaptation of the plan.

### ***Recommendations for Welsh Government and partners***

The evidence presented in this evaluation suggests that continued investment and strategic support from the Welsh Government is necessary to support the continuing implementation of LiDW.

The following would further increase the impact of LiDW investment

- Continued focus on improving the understanding and awareness among all teachers in Wales of digital resources, their benefits, how these can be used in school organisation, communication and learning and specifically of LiDW products.
- Continued focus on improving understanding and awareness among head teachers and other school leaders of digital resources and their benefits, specifically around school organisation and meeting Estyn requirements.
- Continued direct support for teachers leading the implementation of digital strategies in schools.
- Continued direct support and guidance for all teachers adopting or trying to adopt digital resources in their practices.
- Improved awareness and understanding of digital resources among parents and the general public.

- Effective active promotion of LiDW aims by RECs and all LAs.
- Continued technical improvements and upgrades of Hwb and Hwb+.
- Further improvements to school estate hardware and connectivity.

These recommendations should consider the following challenges which may affect achievement of LiDW programme objectives

- Moving from awareness to whole-school implementation.
- Limited resources for external, expert support.
- Persistent and pre-existing views of Hwb+ and the mixed economy of learning platforms.
- Lack of awareness and knowledge about the benefits of learning platforms, digital tools and resources.
- Teacher confidence and competence.
- Availability and access to suitable hardware and connectivity.

## **1. Introduction**

- 1.1 The Learning in Digital Wales (LiDW) programme has been delivered by the Welsh Government since 2012. It aims to support the use of digital tools and resources in schools and other education institutions across Wales. For schools, the programme comprises the delivery of a central online repository of digital learning resources: 'Hwb', the National Digital Content Repository, a virtual learning environment (VLE) : 'Hwb+', the all-Wales learning platform, and making available a suite of third-party resources for all schools in Wales. It also includes a programme of training and support to schools, and investments to ensure that all schools are connected to high-speed broadband internet and have access to Wi-Fi.
- 1.2 In January 2015, the Welsh Government appointed ICF Consulting and Arad Research to undertake an independent evaluation of the implementation of the LiDW programme. The evaluation has focused primarily on the process of implementing LiDW up to November 2015 to inform the future direction of the programme.
- 1.3 This section outlines the aims of the study and describes the research methodology.

### **Aims of the study**

- 1.4 The key aims of the evaluation specified by the Welsh Government were to:
- evaluate how the LiDW Programme was implemented
  - assess whether the different strands of the LiDW Programme are meeting or have met their objectives
  - identify any emerging impacts that the LiDW Programme is having on classroom practice for both teachers and learners.
- 1.5 As a result of the lack of baseline data available on the situation before the introduction of LiDW it was not an aim of this evaluation to quantify the difference that LiDW products have had on key indicators. These key indicators could include: use of technology within the classroom (or proxies thereof), confidence of teachers in using digital resource, teacher use of

digital resources in lessons, teacher use of digital technologies for school communication etc.

1.6 To meet these aims, the study has focused on

- How the programme has been implemented so far and the effectiveness of the delivery processes in place. This includes considering the operational management and commissioning arrangements for the programme. For each of the strands, this included how they achieved their aims and targets to enable schools to increase and innovate with digital learning.
- How far different strands have been taken up by schools (and LAs/RECs where relevant). This includes considering what support or activity has been accessed and used by schools and why. If support has not been accessed, examining why and investigating whether other tools are used. This also includes considering where LiDW has been seen to have increased competence and/or confidence in using digital applications and resources, the difference this made compared to their situation before the programme began, and what is the pace of change.
- How far have the different strands begun to affect teachers and learners within schools, such as classroom practice, assessment, learning in class and outside school, organisational arrangements for teaching and learning, and any outcomes, such as improved attitudes to learning, more effective responses to different learning styles, and speedier learning. This includes considering whether and to what extent anticipated educational outcomes are being achieved or are expected to be achieved. The extent that this covers all areas of teaching and the curriculum or which parts, and understanding how the pace of change reflects any barriers to implementation, the extent of previous use and understanding of the effective use of digital resources.
- How can different paces of implementation and change and different levels of early outcomes be explained to inform the programme's next steps to build on the foundations that have been put in place. This includes considering what differences there are between schools (phases, types) and areas (LAs, RECs), what has enabled schools and teachers to



increase their use of digital resources and what are believed to be challenges, and how the programme's development matches up to any needs in order to increase the pace of using what is available to benefit teaching and learning.

## **Methodology**

### **Stage 1: Inception and scoping (February – March 2015)**

- 1.7 Initial scoping research took place in February and March 2015 to develop an understanding of the different elements of the programme, how these are delivered and managed and how information on progress is recorded and monitored. This research included:
- an initial review of data and documents about the implementation of LiDW, such as minutes of management group meetings, internal programme documents, reports from subcontractors delivering strands, and project monitoring data
  - interviews (face-to-face and telephone) with eight Welsh Government staff who were implementing or had been implementing aspects of LiDW
  - a rapid search and assessment of published literature of evaluations of initiatives and programmes that have undertaken similar activities to LiDW to further our understanding about benefits that should be expected from LiDW
  - interviews with two academic experts to add to our understanding of the expected intermediate outcomes and impacts from LiDW activities, namely:
    - Dr Don Passey, Professor of Technology Enhanced Learning at Lancaster University and an expert on learning platforms;
    - Dr Steve Higgins, Professor at the School of Education, Durham University and an expert on ICT in schools and high impact educational interventions.
- 1.8 From this, a high-level progress model for the LiDW programme was produced which maps the programme activities (key features) against the expected intermediate and longer-term expected outcomes. This is presented below in 0 . At the start of each chapter the relevant evaluation criteria are stated. These are a set of indicators which outline the outputs and

outcomes of the research. A full list of these criteria along with the evaluation tools used to measure them is provided in Annex 1.

- 1.9 The Welsh Government LiDW management team and Steering Group had already collated and assessed the initial design, planning and development phases of the programme to a high level of detail using recognised project management techniques. Therefore it was agreed that the research activities would focus on answering research questions relating to the:

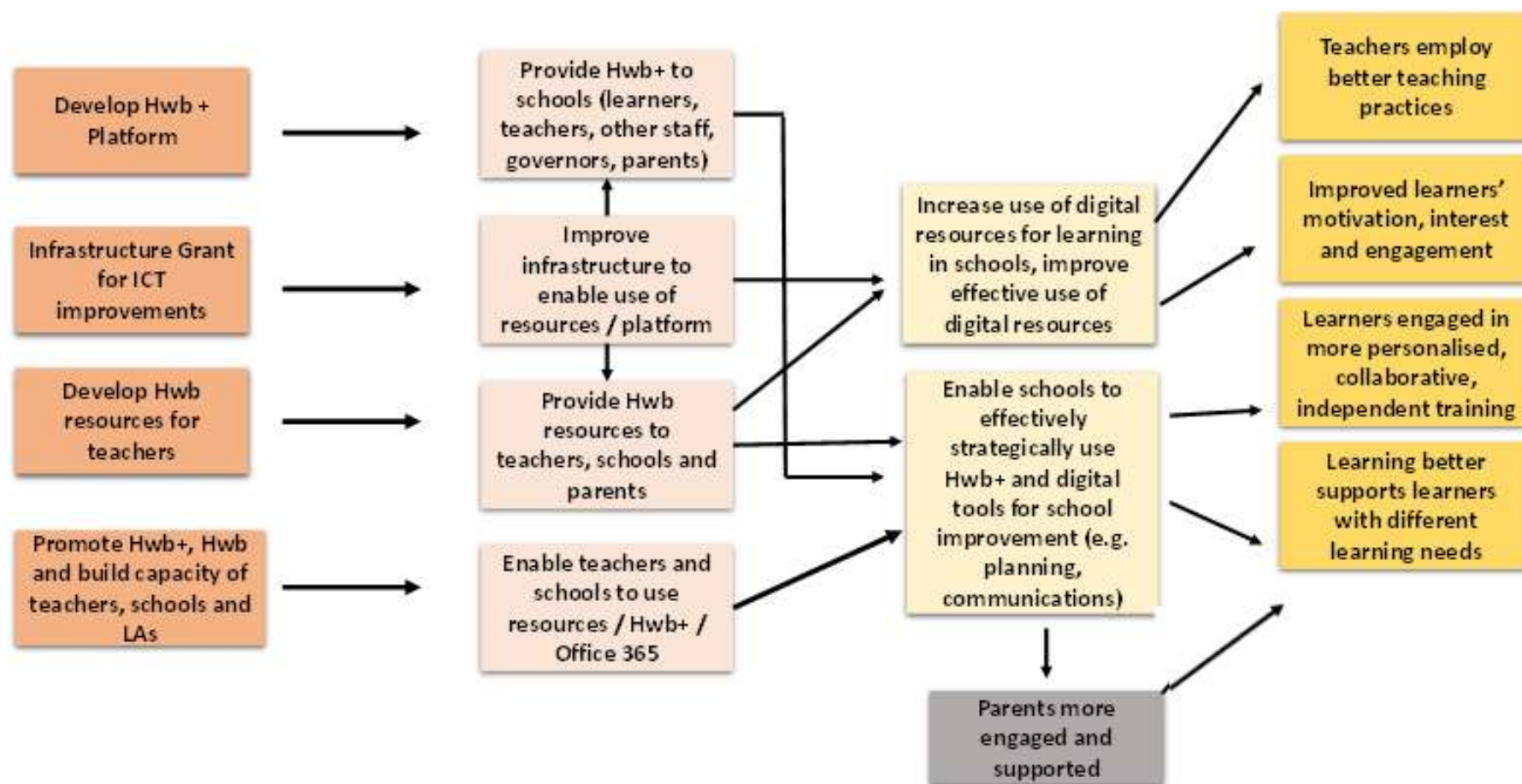
- awareness and views of teachers
- use of Hwb, Hwb+ and other tools in schools
- awareness and activities undertaken by RECs and LAs.

### **Stage 2: Progress and Process Review (March – July 2015)**

- 1.10 This stage focused on understanding the management and implementation of the programme, progress made on delivering the programme outputs and how the programme is perceived by schools (digital champions) and LAs. We undertook the following research tasks:

- interviews with five Welsh Government staff managing the LiDW programme and two steering group members
- interviews with four contractors
- interviews with 24 LA education service and REC staff who had been providing support to schools
- interviews with 16 LA information technology (IT) staff who had been involved in infrastructure improvements and roll out of LiDW activities
- interviews with a sample of 32 Digital Champions (DCs) who participated in Hwb+ training. These were selected to ensure a balance of school types (secondary, primary, Special, PRU), language (Welsh/English), size, geographical coverage and extent of Hwb+ usage (ranging from Hwb+ Centres of Excellence to schools with no uptake).

Figure 1.1: LiDW Programme Progress Model (Key Features)



- an online survey of Hwb Training participants which collected qualitative information about the activities and events particularly their perceived relevance and value. Because personal emails for school staff (DCs) who had attended digital champion training events were gathered using a third party event organising system (Eventbrite), consent to use emails for research purposes had not been sought. The survey therefore had to be promoted between Mid-June and the end of the school summer term through flyers, making approaches to LA contacts, the Hwb website and the Dysg newsletter. This achieved 331 unique responses. This was a sufficient sample size to allow the comparison of responses between primary and secondary school participants
- review of feedback from HwbMeet, e-Safety and NDLE events collected by the Welsh Government.

### **Stage 3: Progress and Early Impacts (August – November 2015)**

1.11 This stage of the evaluation focused on investigating the level of understanding of the key outcomes and early impacts of the programme, especially for learners and teachers where schools had increasing their use of digital teaching and learning. The research included:

- An online Hwb user survey to find out how Hwb and online resources are used and perceived benefits. The survey was launched on 6<sup>th</sup> August 2015 and closed on the 4<sup>th</sup> November 2015 and was disseminated by:
  - emails and reminders to general school email addresses and respondents to the Hwb Training Survey who had agreed to participate in further research
  - request for dissemination via LiDW LA education contacts (and reminders)
  - notices in the Dysg newsletter
  - announcements on the Hwb website, Hwb twitter feeds and Welsh Government Facebook group aimed at parents.

1.12 The survey achieved 279 unique responses, which allows for comparisons between school levels and teaching language. The level of response may have been affected by other online surveys of schools taking place at the same time. The research also included

- School case study research with 20 schools to gain a more rounded perspective from the beneficiaries of the programme about the local implementation of digital teaching and learning and the emerging outcomes for school management and teaching, teaching practice and learning. Schools were selected from self-nominations sought from the Hwb Training and Hwb user surveys and suggestions from interviewees about potential participants to ensure coverage was gained of a diversity of experiences and stages of implementation of digital learning, school type (primary, secondary, special), school language, geographical location (region, urban /rural) and school size. At each school, in-depth conversations took place with key school staff involved in the implementation of digital learning at the school. Shorter interviews were held with school managers, other teachers and teaching assistants, school IT support staff, governors and pupils with observation of lessons and other activities related to digital learning. In some schools where they were working with other schools to develop digital learning, parents and staff from partner schools were interviewed. In total, the case studies included interviews with 77 school staff members, parents and governors and 159 pupils.
- Telephone interviews of school Digital Champions (22) to assess progress and identify what further support is required to take forward digital teaching and learning. These included 8 follow-up interviews and 14 interviews with teachers in schools not interviewed previously. The achieved sample includes a range of school type, size, language medium and geographical location (region and urban/rural).
- Follow-up interviews of some of the LA (12) and REC (4) education staff who had been interviewed during Stage 2 to assess progress, explore whether views about LiDW activities have changed or stayed the same and to gather perceptions of emerging benefits as well as what else is required to support the aims and objectives of the programme.

## **Limitations of the methodology**

1.13 There are a few limitations to the analysis because of the research completed. These are

- Stage of implementation – during the research, take up of the key LiDW products (Hwb and Hwb+) was at an early stage in most schools in Wales. Given the stage of implementation, it was not feasible or appropriate for the evaluation to undertake a review of coverage of all areas of teaching and the curriculum and or an assessment of educational outcomes achieved. Instead, the research has focused on identifying what factors encourage take-up and what are the challenges, as well as collecting information about effective usage and emerging benefits to schools, teachers and learners.
- Programme complexity - Many interviewees in schools and LAs were not always aware of the different strands of LiDW programme activity. Some interviewees had limited awareness of infrastructure improvements, training and changes to the programme. This may have influenced their responses in the qualitative interviews and to a lesser extent the survey; It is also not possible to link survey responses to the benefit gained from the LiDW infrastructure grant for broadband improvement.
- Brand confusion –We found that there is confusion between the Hwb+ VLE product and the Hwb website and resources with some interviewees using the terms interchangeably or using the term Hwb when referring to Hwb+. This may have affected answers to the online surveys.
- Engagement with infrastructure improvements - Responses from schools in the four local authorities that did not participate in the infrastructure improvement grants have been excluded from analysis on questions about broadband improvements.
- Views on training attended – because the training survey could not be directed specifically at those who had participated in LiDW training, it is possible that some attendees did not receive an invitation to complete the survey and some of the respondents may have attended training that was not provided through LiDW.

- Numbers of survey responses (Training and Hwb user surveys) – these allow for limited sub-group analysis, so it was not possible to compare responses at local authority level.

### **Content of this report**

1.14 The rest of this report is structured as follows:

- Chapter 2 - context and overview of the LiDW programme
- Chapter 3 – design, planning and development
- Chapter 4 - achievement of outputs
- Chapter 5 – achievement of outcomes
- Chapter 6 – conclusion and recommendations

## **2. The Learning in Digital Wales Programme**

- 2.1 In this section we provide an overview of the LiDW Programme. This covers the key features of the LiDW Programme; the rationale for the programme; and the policy context that has influenced the inception, delivery and implementation of the programme.

### **Overview**

- 2.2 Learning in Digital Wales (LiDW) aims to support the use of digital resources in schools and further education institutions across Wales. In particular, the programme aims to deliver the recommendations of the Digital Classroom Task and Finish Group<sup>1</sup> (see Section 2.6) and Ministerial commitments on ICT in education which are outlined in section 2.4 below.
- 2.3 The LiDW programme comprises a number of activities each with specific aims under two workstreams. The workstreams commenced as standalone projects initially and were consolidated into a single programme in late 2014. The following activities, relevant to school-level education, are examined in this evaluation<sup>2</sup>:

### **Workstream 1 – Digital Learning**

1. Hwb, the National Digital Content Repository (NDCR): Delivery, maintenance and promotion of a national collection of digital tools and resources in English and Welsh to support learning and teaching for learners aged 3 to 19 in Wales. This has been delivered through the establishment of the [hwb.wales.gov.uk](http://hwb.wales.gov.uk) website which has evolved over the course of the programme into an information portal for all activities of this Workstream.
2. Hwb+ Project: Procurement and delivery of an all Wales VLE enabling every maintained school in the country the opportunity to have their own learning platform called Hwb+ that is unique to the school and

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<sup>1</sup> <http://wales.gov.uk/docs/dcells/publications/120328digitalen.pdf>

<sup>2</sup> The LiDW programme also implements activities relating to further and adult education which are outside the remit of this evaluation. This includes grant funding for infrastructure services to post 16 learning providers, via JISC ; and the Unique Learner Number (ULN) project( Aim is to improve the management and structure of awards and achievement data across the Education Sector for learners aged 14 upwards). Additionally, a project delivering Computing workshops for teachers and school pupils has not been examined as part of this study.



could be customised by the school. Hwb+ also provides the ability to integrate tools and content from third-party providers.

3. e-Safety: A programme of e-Safety education and awareness activities across Wales and the creation of e-Safety tools and resources which are hosted on the dedicated e-Safety zone of the Hwb website.
4. Hwb Training, Support and Awareness activities: Activities to raise awareness, knowledge and understanding of LiDW products and increase effective use of them among school staff, LAs, RECs and other stakeholders. This has included a comprehensive programme of training for at least two teachers in every school, additional follow-up support, modular training sessions, Hwb resource awareness events (HwbMeets) and the National Digital Learning Event and awards, a major annual conference. A team of eight dedicated trainers, the Digital Leaders, was assembled to deliver Hwb+ training and provide direct support to schools. This team was reduced to five team members in September 2015 due to external recruitment restrictions.
5. Grants to Schools: To develop effective use of Hwb+ within schools and promote peer-learning, grants of £30,000 were awarded to 18 schools which were selected as Hwb+ Centres of Excellence (Hwb+ CoEs). CoEs had to deliver a programme of training to other schools and other activities between March and July 2015.
6. Grants to RECs: To support the effective use of digital learning in schools, grants were given directly to RECs to deliver training and provide support activities in schools in their regions and to support the activities of Hwb+ CoE schools in their region.

## **Workstream 2 – ICT Infrastructure**

1. ICT Infrastructure - Learning in Digital Wales Grant (LiDWG)  
Programme: A £39m investment to improve broadband services and local network infrastructure within schools was announced by the First Minister in January 2013. The programme committed to provide teachers and learners across Wales access to broadband services which are robust and reliable. Specifically, the LiDWG aimed to increase bandwidth to at least 10Mbps for every primary and special school and PRU; and to provide 100Mbps for every secondary school

by July 2014. In addition, the LiDWG provided funding of £10,000 to every primary and special school and PRU; and £20,000 to every secondary school to improve the Wi-Fi and other local network connectivity infrastructure within schools by December 2013.

### **The rationale for the Learning in Digital Wales programme**

- 2.4 The LiDW programme is expected to make a significant contribution to the Welsh Government's **2010 Delivering a Digital Wales Strategy and Framework**<sup>3</sup>. Improving ICT skills of children and young people and making the most appropriate use of digital technologies in the delivery of education, training and support for learners are identified as specific goals within the eSkills theme of the Digital Wales Delivery Plan. In pursuit of these aims, a key target was for an agreed approach to implementing a nationally coordinated approach to learning platforms by 2012.
- 2.5 To take this forward, the Minister for Education and Skills commissioned a Task and Finish Group of expert practitioners familiar with the issues and problems to develop a strategy for the National Grid for Learning (NGfL) and cloud based content delivery as well as developing the digital skills of teachers and educators.

#### *The Digital Classroom Teaching Task and Finish Group*<sup>4</sup>

- 2.6 The **Digital Classroom Teaching Task and Finish Group** articulated a vision to create a digital learning and teaching hub available to all teachers and learners in Wales. Its report made a strong case for action at an all-Wales level to:
- Give consistent support to all teachers and learners.
  - Provide the organisational structures and culture that will allow schools to develop sound pedagogic use of digital resources and technologies and take advantage of what digital technologies offer.
  - Ensure that all pupils benefit from modern communication and knowledge that is routinely digital, ubiquitous and highly interactive.

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<sup>3</sup> <http://gov.wales/docs/det/publications/101208digitalwalesen.pdf>

<sup>4</sup> <http://wales.gov.uk/docs/dcells/publications/120328digitalen.pdf>

- Provide a resources hub/collection that will allow suitable resources to be shared and accessed easily to improve educational standards, prepare learners for life and careers, and support the Welsh economy.

2.7 The two broad areas for national action recommended by the group are summarised in Annex B.

*Contribution of LiDW to policy objectives*

2.8 According to the Digital Wales Delivery Plan, the anticipated benefits of using digital technologies in delivering education, training and support for learners are

- A clearly articulated vision by all local authorities on how ICT will be used to transform education provision.
- Reduced costs of connectivity, hardware and software procurement.
- Increased percentage of education funding spent directly with learners.
- Strong corporate ownership with clear strategic leadership for the development of ICT policy for education in Wales.
- Cost effective and sustainable ICT investment for schools.
- Secure and appropriate sharing of information on learner performance to inform the planning of education and training and help learners assess their progress and make informed decisions about their future.
- The sharing of expertise and skills across public services in Wales.

2.9 LiDW is also expected to support strategic objectives for young people's attainment and achievement. The successful delivery of LiDW is one of the Welsh Government's key methods of supporting teaching and learning in Wales<sup>5</sup>. It is seen as a vital component of the strategy to raise standards and to combat the impact of poverty on educational attainment. The Welsh Government's Improving Schools Plan (2012)<sup>6</sup> builds on its response to the recommendations in the Digital Classroom Teaching Task and Finish Group's 2012 report and commits to delivery of LiDW activities as part of an integrated and coherent ICT strategy to underpin improving effective learning and teaching in schools.

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<sup>5</sup> Huw Lewis, Learning in Digital Wales Programme Update, 30 Sept 2014, Your Senedd.  
<http://www.yoursenedd.com/debates/2014-09-30-statement-learning-in-digital-wales-programme-update>

<sup>6</sup> <http://learning.wales.gov.uk/news/sitenews/improvingschools/?lang=en>

- 2.10 As part of the Welsh-medium Education Strategy (2010)<sup>7</sup>, LiDW and in particular the Hwb platform is expected to contribute to the aim of improving the central teaching and learning resources for Welsh-medium education and training<sup>8</sup>. The Welsh second language Action Plan (2012)<sup>9</sup> outlines an action to continue to commission digital learning materials to engage and inspire young people, especially boys, to continue to develop Welsh language skills.
- 2.11 The new National Model for Regional Working (2014)<sup>10</sup>, which outlines the vision for RECs, specifies that the coordination of the regional dimension of the ICT strategy will include:
- school ICT self-evaluation
  - leadership and planning of ICT for learning
  - safeguarding
  - emerging technologies
  - virtual learning environments
  - learning technology and the national literacy and numeracy framework
  - running networks for heads of departments and ICT co-ordinators
  - support for pedagogy and curriculum development.
- 2.12 Most recently, the 2015 Independent Review of Curriculum and Assessment Arrangements in Wales<sup>11</sup> (the Donaldson Review) has made a number of recommendations for the adoption of a new curriculum for Wales which require the successful implementation of LiDW activities and are expected to influence take-up of LiDW products in schools. Specifically Donaldson recommended that:
- In relation to the curriculum*
- Developing the ‘digital competence’ of children and young people should be, along with literacy and numeracy, a Cross-Curriculum Responsibility for all teachers across all areas of learning.

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<sup>7</sup> <http://wales.gov.uk/docs/dcells/publications/100420welshmediumstrategyen.pdf>

<sup>8</sup> Welsh-medium Education Strategy: Annual report 2013–14. <http://wales.gov.uk/docs/dcells/publications/140711-welsh-education-strategy-report-en1.pdf>

<sup>9</sup> <http://wales.gov.uk/docs/dcells/publications/120711welsh2ndlangen.pdf>

<sup>10</sup> <http://wales.gov.uk/docs/dcells/publications/140217-national-model-for-regional-working-en.pdf>

<sup>11</sup> Independent Review of Curriculum and Assessment Arrangements in Wales, Professor G. Donaldson, February 2015, <http://gov.wales/docs/dcells/publications/150225-successful-futures-en.pdf>

- A digital competence framework and an accompanying 'Routes to Learning Digital Competence' should be developed, in order to achieve the recommendation above.

*In relation to pedagogies*

- Significantly better and more creative use should be made of technology in the teaching and learning of Welsh and also modern foreign languages.

*In relation to assessment*

- Innovative approaches to assessment, including interactive approaches, should be developed drawing on the increasing potential contribution of digital technology.
- Assessment should include self-assessment and peer-assessment as ways of encouraging children and young people to take greater responsibility for their own learning.
- Summative reporting to parents and carers should include holistic assessments of achievement in relation to the curriculum purposes, drawing on experience from beyond the formal classroom.
- Children and young people should develop their own e-portfolio, possibly including 'e-badges', to record key achievements and experiences.
- Summative reporting at key transition points should be supported by portfolio evidence and face-to-face discussions involving the relevant teaching staff.
- Increased use of digital media should be explored to help to improve the immediacy of feedback to parents and carers and engage them more directly in supporting learning.

### 3. Design, planning and development of the programme

3.1 This section presents evidence collected on the design, planning and development of the LiDW programme both as a whole, and in relation to individual projects. In particular, it presents evidence against the evaluation criteria identified in the evaluation framework for assessing this phase of the implementation process, as shown in the box below. Evidence in this section is primarily drawn from qualitative interviews with Welsh Government staff, project contractors, LAs and RECs and a documentary review, as well as reflections from interviews with teachers where relevant.

Evaluation Criteria: Initial design, planning and development of the programme	
<ul style="list-style-type: none"><li>• Welsh Government programme design matches identified need / solves problem</li><li>• Welsh Government and contractors identifies and allocates sufficient resources</li><li>• Welsh Government puts appropriate commissioning and delivery arrangements in place</li><li>• Welsh Government sets measurable and realistic targets set (including expressed in contracts / grants)</li><li>• Welsh Government / contractors set appropriate and realistic timelines</li><li>• Welsh Government ensures ongoing review arrangements in place</li><li>• Welsh Government and contractors effectively respond to problems, barriers, delays.</li></ul>	<ul style="list-style-type: none"><li>• Programme activities respond to user feedback</li><li>• National Digital Learning Council (see 3.10 -3.13 for further detail) oversee and contribute to programme delivery effectively</li><li>• NDLC promote LiDW activities to networks</li><li>• LAs and RECs are aware of LiDW aims and activities</li><li>• LAs and RECs engage with LiDW and deliver actions (e.g. PSBA, MIS transfer)</li><li>• LAs and RECs promote and support LiDW to schools and teachers</li><li>• School and teacher awareness of LiDW and activities</li><li>• Stakeholders engage with LiDW and promote/support activities.</li></ul>

## **Programme Delivery and Oversight**

### *Delivery*

- 3.2 The LiDW programme is managed and delivered by the Digital Learning Division, a small team within the Welsh Government's Department for Education and Public Services.
- 3.3 The team was created in early 2012 to start planning the delivery and implementation of the Task and Finish Group's recommendations and Ministerial commitments. This team evolved into the team responsible for delivery of the Digital Learning Workstream activities.
- 3.4 A further Ministerial announcement in January 2013 committed funding and resources for the ICT Infrastructure Workstream. Additional staff were committed in late 2013 to a Digital Delivery team.
- 3.5 The LiDW programme is delivered as a number of different projects, each with a project manager or lead responsible officer. Each project has an operational group, which includes contractors where relevant, that meets on a monthly basis. Workstream Project Boards for each of the two workstreams were established and provided oversight and coordination of projects within their workstream.
- 3.6 Though there was coordination between the activities of the two Workstreams, the teams operated mostly separately throughout the duration of the programme because of the distinct nature of their work.

### *National Digital Learning Council<sup>12</sup>*

- 3.7 The NDLC exists to oversee and provide advice to the Welsh Government on the LiDW Programme.
- 3.8 The NDLC was established in September 2012 as a direct response to recommendations made by the Digital Classroom Teaching Task and Finish Group. Membership of the NDLC was refreshed in 2014 with 20 members appointed to serve for the 2014-2016 period. Members serve in a voluntary

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<sup>12</sup> <http://hwb.wales.gov.uk/pages/Community-NDLC>

capacity and bring expertise and knowledge of digital technology in teaching and learning from a range of professional backgrounds.

3.9 The NDLC meets quarterly and its key functions are to<sup>13</sup>:

- maintain an overview of the LiDW Programme and provide advice to Welsh Government, in particular on: improving learner engagement and outcomes; supporting improved learning and teaching using digital technology; digital literacy; interfaces with other education initiatives; emerging technologies and innovation; and learner voice
- provide advice on Hwb, Hwb+, improving teaching of ICT and computing, and promoting digital citizenship
- provide advice on monitoring and evaluating the use of digital technology for teaching and learning
- monitor progress against key milestones in the LiDW programme
- act as a source of guidance, information and support in respect of digital learning and act as ambassadors for the LiDW programme.

#### *Observations on effectiveness*

3.10 The minutes of the NDLC meetings and interviews with stakeholders as well as Welsh Government staff interviews indicate that the NDLC have provided strategic direction, scrutiny and oversight of the delivery of the projects. They receive updates, reports, statistics and data on individual projects within LiDW which are discussed within the group and with Welsh Government managers. Members of the NDLC reported feeling able to ask questions querying aspects of the delivery and providing feedback based on their own knowledge/expertise and from others. Welsh Government staff believe that the two bodies are important boards to validate (or scrutinise) their plans of work and have contributed to the development of future planning.

#### **Project Management and Implementation**

3.11 Management of each project has followed established project management processes with each project generally including phases of: initiation, planning, delivery, monitoring and (where relevant) closing. LiDW programme and project documentation and management reports show that LiDW

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<sup>13</sup> National Digital Learning Council 2014-2016, Draft Terms of Reference, NDLC2-01-01



projects have considered needs/requirements at the initiation stage (including through consultation with stakeholders), have established goals and objectives, considered a number of options for meeting needs, established a project plan (timelines) for delivery, undertaken pilots/trials, and considered risks and benefits realisation.

- 3.12 Specific aspects of project management are considered below.

*Setting Targets*

- 3.13 All major projects within the LiDW programme were tasked by Welsh Ministers throughout 2012/2013 to achieve ambitious high-level targets in a (relatively) short timeframe. Specifically these were for:

- Hwb NDCR to be launched on 12 December 2012
- Hwb+ VLE to be rolled-out to all schools in Wales by July 2014
- School broadband bandwidth to be increased to the Ministerial commitment level by July 2014.

- 3.14 These targets were set and announced following a short process of planning, piloting and assessment of risks and challenges. Once projects moved into implementation, a number of challenges arose which had not been known or fully understood in the planning stages. For example, the full extent of excess construction charges (charged by BT Openreach when broadband connection to a school required additional civil construction work) were not known at the point of setting targets. In fact, some LA/REC staff interviewed noted that the project would have benefitted from less ambitious targets and greater flexibility in how these were implemented.

‘I think it was a very big ask for anyone to deliver it in the time period...the time frames of the LiDW grant were unrealistic’. Local Authority interviewee

- 3.15 In hindsight, Welsh Government staff agreed that some projects could have benefitted from longer stages of piloting, testing and implementation planning. For example, while both the Hwb and Hwb+ products were launched as planned (the Hwb beta version launched on 12 December 2012 as targeted), early teething problems and glitches experienced by users of these versions have led to some negative feedback, which continues to affect

take-up of these products. This coupled with lack of ‘teacher readiness’ meant that not all teachers were in the position to take on new approaches.

- 3.16 Welsh Government programme and delivery staff agreed that the ambitious, comprehensive (i.e. for all schools in Wales) targets and the project-based delivery model were important drivers for the programme to strive to deliver. They felt that this ensured that the programme and projects did not lose momentum – this may have been the case with a delivery-as-usual type programme with long or non-specific timeframes.

*Procurement, Management, Monitoring and Review*

- 3.17 Contracts to external contractors were awarded by the Welsh Government for the delivery of aspects of the Hwb, Hwb+, broadband infrastructure and e-Safety projects. The LiDW Programme activities were either procured through a competitive tendering process, as required by competition law, or alternatively through existing Government framework contracts.
- 3.18 Contractors reported that the engagement and tendering process was as expected for the type of work they deliver. Contract specifications were described as clearly setting out expectations and timescales yet also allowing scope for interpretation and adaptation – thus allowing organisations to showcase their expertise and demonstrate solutions.
- 3.19 Contractors report that Welsh Government staff executed strong project management and monitoring procedures. On the whole, they considered the project delivery board structure to be effective in ensuring that performance is discussed and reviewed formally every month. In addition to these meetings, all contractors had weekly project meetings and, in periods of high activity, communicated with the Welsh Government lead daily or several times a day with Welsh Government staff taking appropriate actions to support the resolution of urgent problems.
- 3.20 Contractors reported a few cases of frustration with Welsh Government reporting requirements and instances of slow responses, for example decisions regarding substantial infrastructure excess construction charges. They broadly understood this to be part-and-parcel of delivering national public sector contracts which, compared to private sector work that they have undertaken, requires a higher degree of accountability and reporting.

- 3.21 During project delivery, contractors reported that Welsh Government staff worked collaboratively with their teams, again allowing for discussion and flexibility to address unexpected challenges. This was particularly valued by contractors delivering more creative projects (Hwb, Hwb+, e-Safety). Contracts were awarded for specified lengths of time and allowed for contract extension or termination as appropriate, thus not tying in the Welsh Government to excessively long contracts. A number of projects have undergone processes of independent contract review. In larger contracts, in addition to standard procurement processes, these have involved additional exercises of auditing and assessment of value for money prior to contract extension award.
- 3.22 Monitoring the achievement of targets and project milestones has taken place throughout the delivery of projects as well as at project closure. For example, the project providing funding to LAs to fund connectivity improvements (Wi-Fi and others) closed at the end of March 2014. To review the effectiveness of implementation, Welsh Government staff undertook monitoring visits to 104 schools, which included testing of actual bandwidth available and Wi-Fi connectivity, checking installation of equipment claimed by LAs and a survey of staff members. The monitoring report identified a number of remaining challenges that could compromise how well schools use additional infrastructure. These have been considered and incorporated in Welsh Government on-going actions and discussed with LAs when appropriate.

*Programme and Project Development and Responsiveness*

- 3.23 The LiDW programme and the projects in scope of this evaluation have changed and adapted. They have had to address external challenges, as well as evolve to address user needs, ongoing feedback and changing requirements.
- 3.24 User and stakeholder views and feedback have been gathered formally through Workstream Project Boards, the NDLC, the LiDW Delivery Group and as well as through piloting and testing phases of specific products. For example, a dedicated user feedback workshop was organised in late 2015 to inform the design and developments of future features and functionality

within the Hwb portal. User feedback was also gathered through extensive ongoing engagement, presentations and communications with users and stakeholders at all levels (described in detail below). This has been in a variety of forums and groups delivered by the Welsh Government team, through participant feedback forms following events and through ongoing feedback from the Digital Leaders (DLs) who regularly engage with teachers and LA users.

3.25 It is not possible or appropriate to document every change in the implementation of LiDW project delivery. However, some examples of key changes include:

- **LIDWG Broadband upgrades:** following a survey of 150 school sites, it was identified that a high percentage of schools would be in difficult-to-reach areas and may require considerable civil engineering works to deliver a fibre connection to these areas. The civil work could consequently incur substantial excess construction costs (ECCs) which had not been fully incorporated in the original budget forecast. In August 2013, the project plan was revised to reflect a 'mostly-fibre' deployment to allow schools to benefit from improved connections which would facilitate future enhancements with minimal future investment. More substantially, an additional £10m was secured to cover most additional ECCs.
- **Hwb+ training:** during the 2013/14 academic year, the Ministerial commitment for a centrally-funded professional development programme for teachers was delivered through offering two days of training for teachers in every school, delivered by the team of eight DLs. Feedback from participants identified that many schools were unable to commit teachers to two days of training; this was then adapted to a programme of modular training for 2014/15 that allowed greater flexibility for teachers. For 2015/16, with the team of DLs reduced to five, DL time is now spent on working with RECs to target priority areas including schools that have the lowest usage of Hwb/Hwb+.
- **Hwb website:** the Hwb website has developed beyond a 'National Digital Content Repository' into a central portal for all digital learning activities. For example, it hosts information about events and training activities. An important change relevant to furthering the overall aim of encouraging

greater use of effective digital technologies for learning in schools has been the set-up of the Hwb Networks. This is a **collaborative** web space that allows online groups of teachers across different schools to discuss pedagogical resources, work collaboratively on creating new ones and coordinate activities such as moderation and (non-virtual) meetings. The change resulted from identifying a demand from stakeholders for this functionality.

- 3.26 The LiDW programme as a whole has also adapted to user and stakeholder feedback, adding projects and initiatives as required. For example, in late 2014 it was identified from feedback from teachers, stakeholders and DLs that schools were most responsive to advice, support and training from their peers, i.e. other teachers. As such, the programme developed and implemented the **Hwb+ Centres of Excellence** project, which responded to this need by funding 18 schools across Wales to deliver peer-learning and peer-led support to other schools.

### **Engagement of Regional Educational Consortia and Local Authorities**

- 3.27 RECs and LAs were identified as essential and necessary partners for the roll-out of the LiDW programme in the Ministerial statement. Their successful engagement and support in promoting the aims and objectives of the programme is considered for each LiDW Workstream below.

#### *ICT Infrastructure Workstream*

- 3.28 For the ICT Infrastructure Workstream, LAs were the direct beneficiaries of the In-school Connectivity Grant which funded Wi-Fi and other connectivity investments and, as the direct purchasers/providers of broadband connectivity for schools, they were also the main clients for the broadband improvement project (see Section 4.4 on details of delivery – not all LAs participated in all elements of this workstream)
- 3.29 LA staff with IT responsibilities were asked about their views and engagement with the LiDW programme.
- 3.30 Interviewees showed strong awareness and understanding of the aims, objectives and rationale of LiDW investment in infrastructure. Many spoke of ‘pent-up demand’ from schools and further expected increases in demand as

schools had started to invest in hardware, such as tablets and laptops, but were finding existing broadband and Wi-Fi connections unable to handle the increase in traffic.

‘We went through a decision-making process to decide to sign-up but it was an obvious choice for the local authority, as the internet speed in schools was slow and we had been talking about investing in improving broadband. The programme came at a great time for us.’ Local Authority interviewee

3.31 As both aspects of the LiDWG were welcomed and understood, LAs generally engaged sufficiently with the Delivery Team. However, it is clear that some LAs did not have sufficient resources (because of budget cuts or size) to support the implementation of the programme to the extent that was required to meet the programme targets. This is especially true for the broadband improvement project for which LA IT staff had to respond to communications from the project contractors and sub-contractors, communicate with schools and school estate teams, and make arrangements with their LA’s planning and highways teams, as required.

3.32 Some interviewees reported that the project created considerable demand on their time and stretched the resources of their team. Some believed that the targets set for delivery were too ambitious, particularly considering the rural geography of their localities. Interviewees explained that delays in the delivery of the programme meant that they did not receive the level of Revenue Reimbursement Grant that they expected and planned for, they regarded this as lessening the overall effectiveness of the programme.

‘We lost out on funding throughout the programme because of delays due to problems with the infrastructure element of LiDW as well as unrealistic deadlines for spending money provided in grant form. I don’t think they built in enough contingency at the start to take account of rural issues.’ Local Authority interviewee

3.33 Some LA interviewees expressed a preference for greater flexibility in the grant implementation – particularly an opportunity to deviate from Ministerial commitments to shape the investment so that it better met local need. This was particularly voiced in relation to the original commitment for LiDWG to

deliver 'fibre only' broadband upgrades where the LA view was that other technologies were more feasible (as detailed above the LiDWG policy on this was later changed to 'mostly fibre'). A few also wanted longer timeframes and greater flexibility in using the In-School Connectivity grant to allow for better planning of the investment, such as to investigate opportunities for regional collective purchasing of hardware (this was not feasible in the timescales of the project). Nonetheless, other interviewees praised the Welsh Government's pragmatism in accommodating local solutions, such as in relation to network configuration.

'We know our estate well so could have helped come up with the best solution for each school. It [LiDWG] was too rigid in the approach and too fixed on fibre.' Local Authority interviewee

- 3.34 LA interviewees on the whole reported that communication with the Welsh Government about the LiDWG activities were appropriate and effective. Most spoke about engagement with a named senior Welsh Government official which was welcome. Feedback on engagement with the main contractor (Logicalis) for the broadband project were generally positive with a few reporting initial problems which later improved. A few mentioned that communication about progress on particular school sites (including decisions about ECCs) could have been better. However, many voiced complaints about the lack of timely information from the key sub-contractor BT Openreach (BTO) which in some cases led to delays in delivery. A few suggested that communication about the In-School Connectivity grant also could have benefitted from more and clearer information and support about how to utilise the grant. LAs were generally satisfied with the delivery of the LiDWG programme. Interviewees attributed delays and challenges mainly to geographical barriers and the lack of capacity and commitment of BTO, rather than to any aspect of programme design or PSBA Network's performance.

'There was historical underspend on infrastructure for ICT in schools, the old hubs and switches has created big bottlenecks in accessing bandwidth, some schools paid for their own improvements. The old system was a little ad hoc and inconsistent. Now, thanks to the LiDW Grant, the

system is equal and consistent and standardised across the county.’ Local Authority interviewee

- 3.35 Considering the programmes’ achievements, interviewees were mostly positive about the broadband and infrastructure outputs achieved which one described as *‘the most successful element of the LiDW programme’*. The commitment to ensuring equality in provision across schools was mentioned as a key benefit. This is also considered the basis for success for the wider programme aspirations, i.e. schools using digital technologies effectively.
- 3.36 The LiDW team continued (and continues) to engage with IT managers in local authorities to address the remaining challenges faced by schools, for example around local LA web filtering practices, and in relation to achieving the aspirational targets towards the 100Mbps and 1Gbps bandwidth targets (for primary and secondary schools respectively) by 2020. There appears to be demand in some LAs for further support and guidance from the Welsh Government on common issues that IT managers in education face, such as procurement, collective purchasing opportunities, and web filtering and future upgrades.

#### *Digital Learning Workstream*

- 3.37 RECs were identified as essential and necessary partners for the roll-out of the LiDW programme in the 2012 Ministerial statement, even though they were in the inception stages of their own formation at the time. The National Model for Regional Working (2014)<sup>14</sup>, which outlines the vision for RECs, specified that RECs should be responsible for the coordination and implementation of a regional ICT strategy which includes all aspects of LiDW.
- 3.38 The LiDW Delivery Team has worked closely with RECs throughout the duration of the programme and, recognised the need for additional resources to ensure that RECs have capacity to promote LiDW by providing direct grant funding to RECs for this purpose. Activities undertaken by RECs using these grants are discussed in section 0.
- 3.39 The LiDW team also engaged with LA education teams, in both school improvement and pedagogical support (to promote the update of Hwb/Hwb+)

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<sup>14</sup> <http://wales.gov.uk/docs/dcells/publications/140217-national-model-for-regional-working-en.pdf>



and school estate IT teams (to support the roll-out of Hwb+ usernames and password by linking school Management Information System (MIS) data).

- 3.40 It is clear from our interviews that LAs have responded in different ways to the transfer of responsibilities for school improvement and teacher CPD to the RECs as well as budget pressures. Some LAs appear to have retained strong education support teams with direct involvement in school. Others appear to have more limited direct engagement with schools and very limited capacity to engage with LiDW and support its aims.
- 3.41 Across RECs and LAs, we found good awareness and support for overall objective of promoting digital learning in schools. Knowledge of the full range of LiDW activities among LAs was however mixed in the first round of interviews: there was high awareness of the Hwb+ learning platform but not all interviewees had heard of Hwb or were aware of training activities. We also found that some negative perceptions from the initial implementation of Hwb+ in pilot schools lingered among some interviewees and as a result this influenced how they perceived (and continued to perceive) the whole programme. Similarly, there was very low awareness of the LiDWP infrastructure improvements with very few LA educational staff recognising the link between the two workstreams.
- 3.42 Nonetheless, there is some evidence that awareness and perceptions of LiDW are changing and improving over time. In follow-up interviews, LA interviewees reported greater awareness of the tools available through Hwb for which there appears to be greater interest in schools.
- ‘Lately we’ve been talking to primary schools a lot more about J2e... for example how they can use it with the camera tool on new iPads that they’ve bought and how they can use it for assessment and performance measurement. We are also talking about Office365, for collaboration and assessment. Hwb+ is a bit of a harder sell...we are now focusing on the easier wins first.’ Local Authority interviewee
- 3.43 LAs and RECs report that schools are now demanding and requesting greater support for implementing digital technologies – which in turn leads to greater engagement with the LiDW programme by LAs and schools. Interviewees attribute the shift in awareness to a variety of factors - including

the activities of the LiDW programme - but also aggressive marketing and promotion by other major IT companies and greater recognition of the need for, and benefit of, digital learning by teachers. The recommendations of the Donaldson review on digital competences are seen to have had a considerable influence in that they have, according to one interviewee, either validated the work that some schools are doing or 'raised alarm bells in those schools that haven't yet embraced this agenda' Local Authority Interviewee .

- 3.44 The nature of LiDW involvement with LAs and RECs has also changed across the duration of the evaluation. As the LiDW digital leader team has decreased in size, the five remaining digital leaders are now working very closely with RECs to coordinate support to schools using REC resources and school-to-school peer learning. Similarly, the capacity and capability of RECs to implement and deliver a regional ICT strategy and thus support the LiDW programme has changed, as these organisations have become established and settled. Follow-up interviews found that RECs appeared to have developed clearer plans and were taking actions to promote digital learning in their regions. All RECs now have staff in place with a responsibility for the promotion and development of digital learning.

- 3.45 Interviewees reported that work with the LiDW team in their localities in 2015/2016 academic year has become increasingly targeted with specific focus on schools that are not using Hwb/Hwb+ according to data. Nonetheless, there still remains demand by LAs for more information on LiDW and REC activities (such as upcoming training and funding opportunities and forthcoming technical improvements of Hwb and Hwb+) and for improved coordination of efforts across LAs, RECs and LiDW.

'Compared to last year, we now get better data and have a better understanding of the situation in on Hwb and Hwb+ usage, but also on infrastructure. We will use this knowledge base to target our support to schools.' Local authority interviewee

- 3.46 There also appears to be greater awareness among RECs and in some LAs that they must consider their own use of digital technologies (to lead by example) when engaging with teachers and schools, for example in the delivery of non-IT related CPD and when delivering school improvement

activities. Work in this area is underway in some RECs but all recognised that more can be done in terms of embedding use of Hwb, Hwb+ and Office365 with other colleagues in their organisation.

- 3.47 Rhondda Cynon Taff Borough Council are piloting an entirely-digital process of delivering information and support to School Governors through Hwb+. Using their Hwb+ accounts, Governors can now access reports, data, meeting agendas and other documents through their schools and the local authority's Hwb+ sites. Digital communications and virtual documents are replacing voluminous printed reports which were mailed to governors every term, leading to tangible cost savings in printing and postage. Governors can access documents from their tablets or smartphones at any point and can also use the Hwb+ spaces to create and collaborate on new documents.

### **Assessment and Conclusions**

#### *Programme delivery and oversight*

- LiDW has had a strong flexible team within the Welsh Government with effective systems in place to plan, develop and oversee each of the programme elements and their specific projects in line with the plans envisaged.
- The NDLC has been able to provide advice and guidance to the development and implementation of the LiDW programme.
- The LiDW programme has benefitted from the insights and advice of the NDLC.

#### *Project management and implementation*

- The LiDW programme has fully met two of its three high level targets to deadline, namely delivering Hwb and Hwb+. The third target for broadband speed is still in progress.
- Ambitious targets were strong drivers for establishing project management systems to monitor progress and risks of the LiDW team's and contractors' performance.
- The timelines were challenging and had not necessarily considered all the risks at the planning stage such as, increasing school broadband bandwidth (ECCs) and for testing Hwb sufficiently before it was launched.

- The programme has used formal and informal feedback, forums and groups, piloting and testing to develop and adjust products, such as the training for teachers, and respond to delays and barriers, such as broadband upgrading.
- Most partners (LAs, RECs, contractors) were satisfied with communications and support from the LiDW programme team.

*Engagement of RECs and LAs to implement the programme*

- Relevant staff in LAs and RECs have been broadly aware of LiDW's aims and the activities to achieve these though this has improved during 2015; though considerable numbers of LA staff were not aware that ICT infrastructure improvement workstream was part of the programme.
- Eighteen LAs participated in the broadband upgrade, not all were able to support the implementation of the upgrade at the pace required.
- Some LAs have been able to promote and support their schools' development and use of digital technologies; others have not.
- The RECs have gradually become more engaged with the support needed as schools have increased their demand for support during the last 18 months or so of the programme.
- RECs have plans to focus their current support on schools with lower levels of engagement in digital teaching and learning.

## 4. Achievement of Outputs

- 4.1 This section presents evidence collected on the achievement of outputs of the LiDW project. In particular, it presents evidence against the evaluation criteria relevant to this phase of the progress model, as shown in the box below. Evidence in this section is primarily drawn from management information analysis and documentary review and user responses to the two online surveys and is complemented by evidence from the qualitative interviews with teachers and case study research with LA / RECs.

Evaluation Criteria: Delivery of Outputs	
<ul style="list-style-type: none"><li>• Achievement against target: Hwb+ schools provisioned, Hwb resources, number of teachers trained, number of support sessions held, number of schools broadband upgraded</li><li>• Assessment of outputs delivered by REC and LA grantees</li><li>• Awareness of connectivity (broadband/Wi-Fi) improvements in schools</li><li>• Awareness of training and support offers</li><li>• Satisfaction with training and support</li></ul>	<ul style="list-style-type: none"><li>• Awareness of Hwb and Hwb resources</li><li>• Users' views of quality of Hwb and Hwb resources (easy to use, find)</li><li>• Users' views of usefulness/fit of Hwb resources</li><li>• Awareness of Hwb+ and tools</li><li>• Users views of quality of Hwb+ resources (reliable, easy to use)</li><li>• Users views of usefulness of Hwb+ resources</li></ul>

### Hwb

- 4.2 The overarching objective of the Hwb NDCR project is to deliver a national collection of digital resources to support learning and teaching for learners aged 3 to 19 in Wales and **help raise standards of attainment for learners** by:
- providing access to relevant high quality digital teaching and learning resources via the NDCR
  - increasing the proportion of relevant digital teaching and learning resources which are available in Welsh

- making effective educational use of tried and trusted online digital technologies.

4.3 The objectives of the Hwb project as listed in the project initiation document include (among others):

- providing, curating, purchasing and creating high quality digital teaching and learning tools
- purchasing or licensing tools and content on a 'buy once for Wales basis for all schools and key groups in Wales'<sup>15</sup>
- hosting these on a user friendly platform and providing an intuitive search facility;
- providing spaces/means to encourage collaboration between teaching professionals in Wales.<sup>16</sup>

*Achievements against targets*

4.4 The project has achieved its overall objective by creating a bilingual, public-facing website called Hwb (<http://hwb.wales.gov.uk/>) which hosts digital teaching resources in English and Welsh available to any visitor. It also hosts teaching digital content and tools made available only to authenticated users<sup>17</sup>.

4.5 A beta version of the Hwb website hosting existing NGfL Cymru resources was launched, as planned, on 12 December 2012. The website, its content and functionalities, have been continuously upgraded since then. Highlights include:

- a refreshed Hwb website with significant upgrades was launched in August 2014, this included an improved search function and ability to rate resources
- functionality to allow teachers/educators to upload their own resources was added later in 2014
- 'Hwb Networks', a feature providing reliable and safe online spaces, which allow groups of teachers/education professionals to engage in

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<sup>15</sup> This objective later became part of the Hwb+ project.

<sup>16</sup> National Digital Content Repository, Project Initiation Document (PID), V1-3, 23/01/15

<sup>17</sup> Licences for use of third-party content have been purchased for learners and teachers in schools in Wales. Authenticated users are provided with usernames and passwords through Hwb+ project activities.

collaborative working was launched in early 2015. Each space provides the group with a set of digital tools to allow communication, collaboration and document sharing

- playlist functionality was added in mid-2015. This allows teachers to create a lesson plan in the form of a playlist containing Hwb and non-Hwb resources.

- 4.6 New functions being trialled and tested as of November 2015 included additions to the playlist function to allow teachers to set online quizzes and tasks for student assessment as part of the playlist, while providing data on correct answers to the teacher.
- 4.7 Content on Hwb is managed and curated by a team of Welsh Government staff; the Hwb Content team. This team ensures that content meets the minimum quality standards (that it is available for free/without subscription and that it is non-commercial in nature) and that it is provided bilingually where possible.
- 4.8 The Hwb Content team has no remit or budget to purchase or commission new digital resources to populate the tools accessed through Hwb. Instead the team liaises with other Welsh Government colleagues, and in particular the Education Resources team, to ensure that resources developed and commissioned are hosted on Hwb. For example, during the 2014/15 PISA testing period, Hwb hosted and featured specific PISA resources which were commissioned by educational resources literacy and numeracy leads in Welsh Government. The team also liaises with a host of external organisations such as National Museums Wales, the National Library, BBC Cymru and others to make educational content (that must be free and not commercial in nature) available via Hwb<sup>18</sup>.
- 4.9 Specific resources for e-Safety were procured by the LiDW programme, through a specific e-Safety project which was developed in 2013 and launched in 2014. An external contractor, South West Grid for Learning (SWGfL) was commissioned to create and promote bilingual resources on e-

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<sup>18</sup> Resources may be hosted elsewhere but will be linked to via Hwb and therefore be accessible to user browsing or searching Hwb.

Safety aimed at schools, parents and children<sup>19</sup>. The 360Degree Safe Cymru tool has been the key deliverable: it is an e-Safety self-review toolkit for schools. The resources are all hosted on Hwb's e-Safety zone.

- 4.10 The Hwb website enables authenticated users to access licensed tools and content (Office365, Just2Easy and Encyclopaedia Britannica) through a Single Sign On interface. With the exception of Office 365, these are licenced through the Hwb contract and are described in Section 4.27

#### *Awareness*

- 4.11 Many teachers and other school staff we interviewed initially were either not aware or did not have a clear understanding of Hwb and its offer. Many interviewees, particularly in the first phase of interviewing, appeared confused about the differences between Hwb+ and Hwb resources. There was greater awareness of Hwb resources in Welsh medium schools than in English medium schools.
- 4.12 Follow-up and case study interviews in the autumn 2015 term found comparatively more awareness and positive feedback about Hwb. This may be associated with the release of the playlist feature which was frequently mentioned spontaneously and seems very well received by teachers who use it. There was also more awareness of Hwb Networks by both teachers and REC/LAs. Interviewees mentioned that they had heard of these when they attended regional or local meetings and events on a range of academic and professional issues (not necessarily related to digital learning) and had joined a Hwb Network or intended to join one as a result.
- 4.13 LiDW data on Hwb logins shows that in 73 per cent of schools in Wales there was at least one incidence of login to Hwb resources in January 2016. Eleven or more logins were recorded in 46 per cent of schools in November 2015 which increased to 53 per cent in January 2016. This suggests that many teachers and schools in Wales do not regularly use Hwb resources. Although there has been a recent increase in usage; it is clear that there remains considerable scope to further raise awareness of digital teaching among teachers which may further boost the log in figures.

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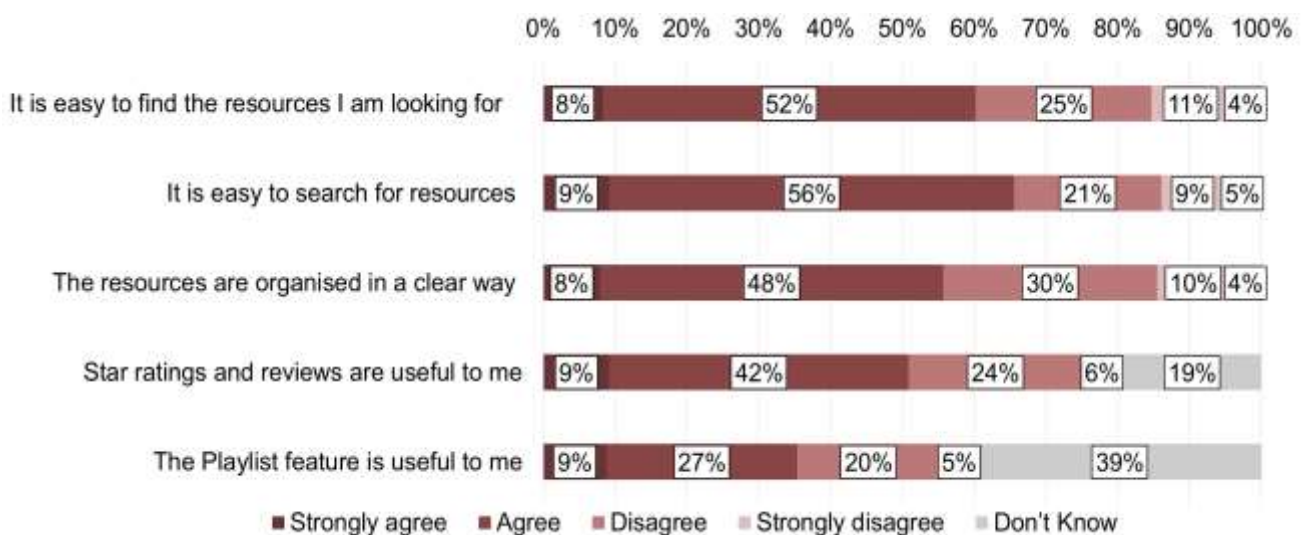
<sup>19</sup> This contract also included delivery of briefings and training events, promotional activities linked to the Safer Internet Day and a research study on state of play for e-Safety in Welsh schools.



### Views of users

- 4.14 Interviewees who were aware of Hwb expressed mixed views about the usefulness of the website and resources available. With some confusion between Hwb and Hwb+, negative views of the latter appear to influence perceptions of Hwb. Some interviewees expressed dissatisfaction with the way resources are organised and the ease of finding resources needed. The survey of Hwb users (0 below) shows that the majority of users agree or strongly agree that it is easy to find (60 per cent) or search (65 per cent) for resources, although around a third or more disagree (36 per cent and 30 per cent respectively).

**Figure 4.1: Views on Hwb Resources ease of use/usefulness, % agreement with statements**

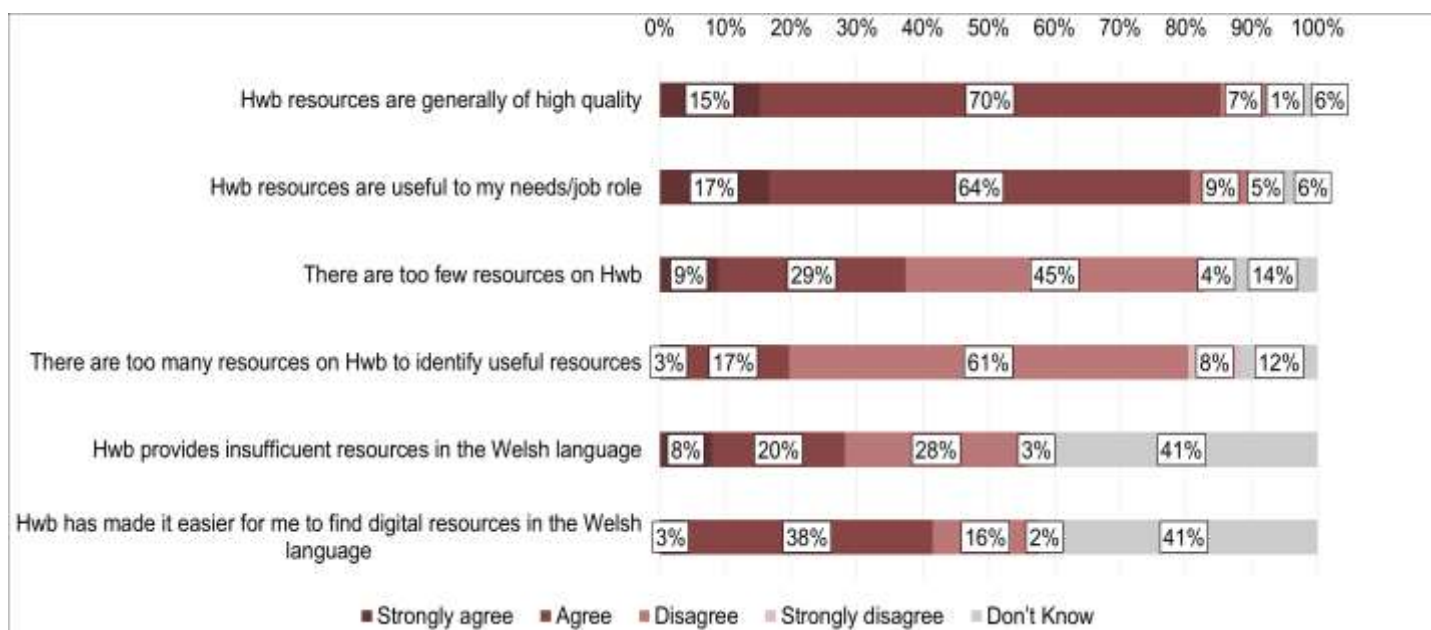


Source: ICF Hwb User Survey, October 2015, 229 responses

- 4.15 While the playlist feature had positive feedback from users, nearly four in ten (39 per cent), in October 2015, provided a 'don't know' response which could suggest they were not aware of the function or not aware of the features it offers (0).
- 4.16 Most Hwb users agree or strongly agree that Hwb resources are of **high quality** (85 per cent) and are **useful** to their job (81 per cent), as shown in 0. Only around a third of survey respondents (38 per cent) felt that there were too few resources against nearly a half (49 per cent) who did not.

Interviewees more generally believed that teachers would appreciate **more and a wider range of resources** to be made available on Hwb – although some explained that categorization and search should be improved so that useful resources can be found more easily and resources that are out-of-date and no longer relevant to the curriculum should be removed.

**Figure 4.2: Views of Hwb Resources Availability and Quality, % agreement with statements**

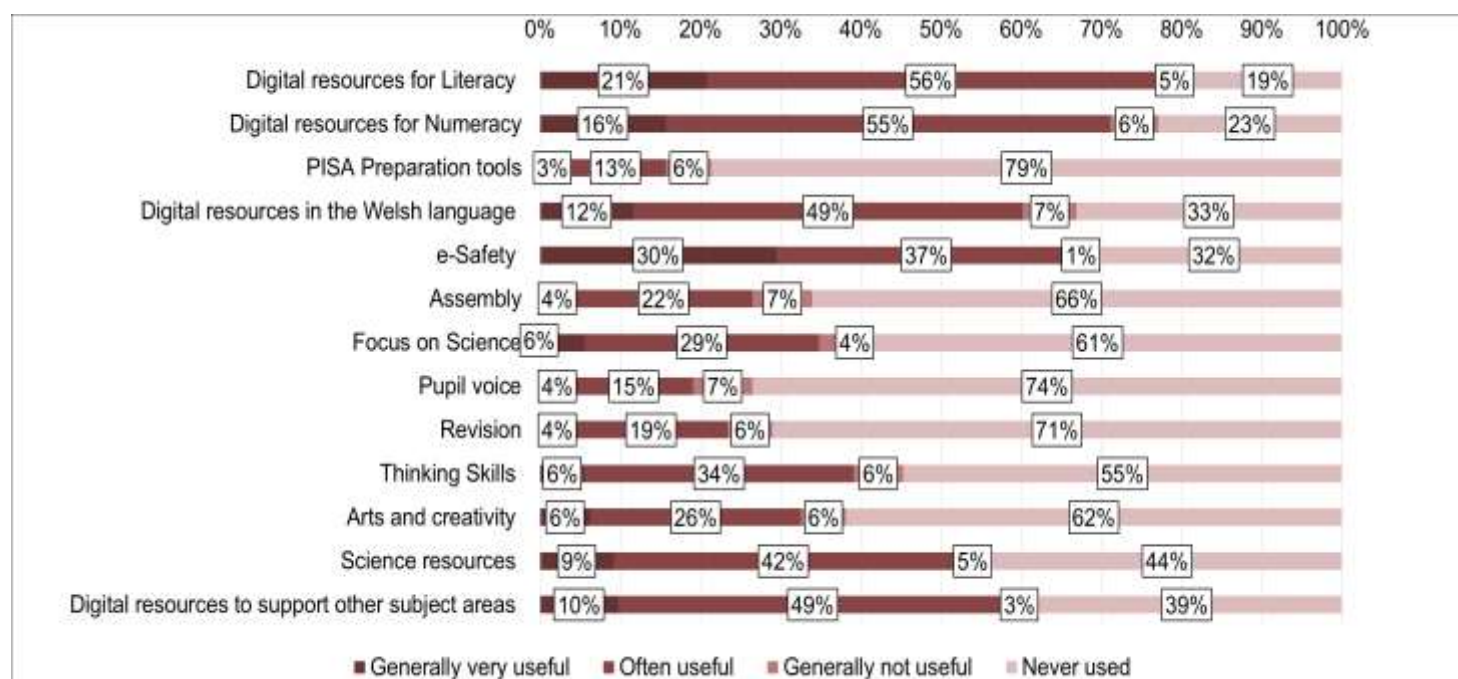


Source: ICF Hwb User Survey, October 2015, 217 responses

- 4.17 Figure 4.3 shows that resources for **literacy** are assessed as being very useful by the greatest share of users, followed by resources for, **numeracy, e-Safety and Welsh language resources**. Interviews in Welsh medium schools found greater awareness, use and enthusiasm about the resources on Hwb compared to English medium schools.

‘To teach the curriculum I try to use Welsh examples of things – Hwb is the first place I will go, especially because you will get Welsh examples, which is what I need for the Welsh curriculum’ Digital Champion, Primary School

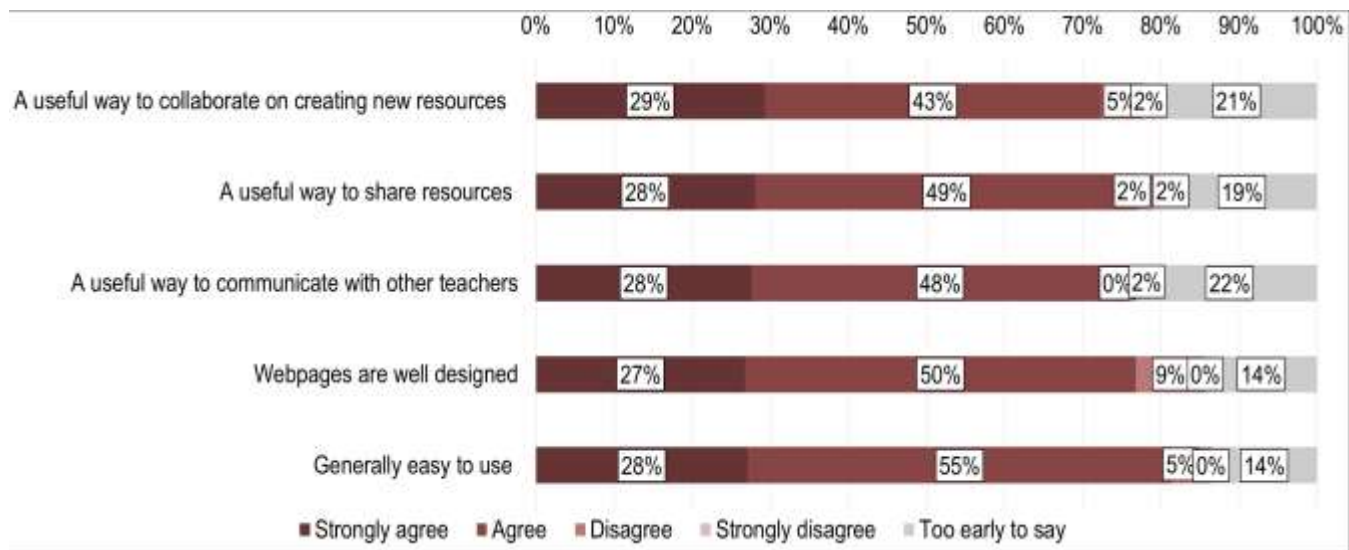
**Figure 4.3: Views of Hwb resources usefulness, % agreement with statements**



Source: ICF Hwb User Survey, October 2015, 168 responses

- 4.18 Hwb Networks are rated very highly for usefulness by survey respondents. As shown in 0 below, around three quarters agreed that Hwb Networks was easy to use and well-designed and that this feature is a useful way to communicate with other teachers, share resources and collaborate on creating new resources.

**Figure 4.4: Hwb Network Users views of usefulness, % agreement with statements**



Source: ICF Hwb User Survey, October 2015, 60 responses

4.19 The most frequent suggestions for improvements (from interviews, case studies and surveys) included:

- improving the categorisation of resources
- improving the search function for resources
- ensuring Hwb and individual resources appear in Google search results
- ensuring resources work on all operating systems (particularly on Apple OS)
- increasing the range of resources available, such as for post-16 education and vocational education.

#### *Hwb+*

4.20 The purpose of the Hwb+ Project is to deliver the all Wales VLE enabling every school in the country to access an individual and customisable learning platform. The objectives of the Hwb+ project as listed in the VLE project initiation document<sup>20</sup> include (among others):

<sup>20</sup> Virtual Learning Environment Project, Project Initiation Document (PID), V4-6, 23/01/15

- Procuring an all Wales VLE that is fully funded by the Welsh Government, allows equal access to all resources for all teachers and learners and can be accessed anywhere, at any time from any device.
- Establish a single user log on for teachers and learners.
- Develop a culture of digital citizenship by encouraging teachers to operate in a digital environment.

4.21 The Hwb+ Project also delivered actions towards meeting the objective to purchase tools and content on a 'buy once for Wales' for all schools and key groups in Wales, which was initially part of the Hwb project.

*Achievements against targets*

4.22 The main objectives of this project were delivered by the procurement, launch and development of Hwb+, a learning platform or VLE which is centrally funded for all maintained schools in Wales.

4.23 The Hwb+ tool was developed by external providers, Learning Possibilities, in very close collaboration with the LiDW team. An early version of Hwb+ was piloted with 30 schools in 2012 and early 2013. Since then the learning platform has undergone several stages of further development and upgrading to ensure the system is technically robust and fit-for-purpose in response to user feedback. Further technical upgrades are planned.

4.24 Access to each school's Hwb+ site is only available to authenticated users linked to that school. Hwb+ therefore offers a safe environment for the hosting and sharing of learning material and for communications between school managers, teachers and learners. Each Hwb+ school site has integrated tools to create and edit content by teachers, other staff or pupils including: documents, pictures, videos, calendars, surveys, discussions, wikis and blogs. There is also a feature for school or classroom announcements and for homework submission.

4.25 Key to the roll-out of Hwb+ to schools was creating authenticated user accounts (usernames and passwords) that are linked to each school's Management Information System (MIS) and then disseminating these to users. This 'provisioning' process has been the most labour intensive and challenging aspect of the roll-out. The Hwb team and Learning Possibilities worked with schools, LAs and MIS providers to arrange the data transfer and

linkage. Schools use different MIS suppliers, products, configurations and hosting arrangements (school sites, LA, externally by suppliers). Throughout the roll-out, 22 different MIS configurations were identified and required different solutions.

- 4.26 All schools that provided MIS data to the Hwb team were provisioned by July 2014, meeting the Ministerial commitment. However, the MIS challenges described above, which were not fully appreciated at the outset of the project, led to a delay in providing a learning platform to all schools in Wales by July 2014. As of November 2015, all schools have been provided with Hwb+ usernames and passwords with the exception of a handful of PRUs and schools that are undergoing a process of consultation on closure.
- 4.27 The LiDW programme has also delivered access to a selection of licensed tools and resources to Hwb+ users through Single Sign On. These have been licenced for use through Hwb and Hwb+ and include:
- **Microsoft Office365:** a suite of office software accessed online which includes Office Online (Word, PowerPoint, OneNote, Excel), Exchange Online (email – specifically branded ‘Hwbmail’, calendar, contacts), OneDrive (document storage and collaboration on the cloud) and Lync (instant messaging and teleconferencing).
  - **Just2Easy (J2e):** tools to create and edit text (documents, blogs, code), pictures, animations, audio, video, images, online polls and websites using interfaces and menus that are appealing and suitable to infants, primary and special school pupils.
  - **Encyclopaedia Britannica:** general knowledge reference source, available in three levels of reading ability allowing for use in mixed-ability classrooms.
  - **360Degree Safe Cymru:** a self-review toolkit for schools on e-Safety.

#### *Awareness*

- 4.28 LiDW data on Hwb+ activity shows that in 70 per cent of schools in Wales there was at least one incidence of login to Hwb+ in November 2015 with 11 or more logins recorded in 49 per cent of schools in November 2015 (not

including logins to Office365 and J2e<sup>21</sup>. Forty one per cent of schools have logged in to Office365 at least once in October 2015<sup>22</sup>. Even though the majority of schools are now registering at least some use of Hwb+ and Office365, the data suggests that most schools do not use Hwb+ in great numbers, regularly or across a large number of pupils every month.

- 4.29 Interviewees and findings from research at case study schools indicate that most teachers have at least heard of Hwb+. Teachers who received Digital Champion and other LiDW training had a good understanding of the functions of a learning platform, though not all were sure about how to use one at their school. Other teachers (who did not attend training) interviewed as part of case studies did not always have a good awareness of what a learning platform is, how it can be used and what benefits can be expected from using a learning platform.
- 4.30 Some Digital Champions interviewed in the summer term had not heard of licensed products (Office365, J2e and Encyclopaedia Britannica) made available through Hwb and Hwb+. These were mentioned more frequently in follow-up interviews, suggesting that there may be growing awareness of these products.

#### *Views of users*

- 4.31 Interviewees who are using Hwb, Hwb+, Office365, J2e or Encyclopaedia Britannica regularly (i.e. they have incorporated them in their day-to-day practice) report that these have been very useful for their work. Particularly with Office365 and J2e, many are grateful that these can be accessed from any connected device at any time and that they are provided at no cost to their school. Around a third of survey respondents have found Office 365 tools, J2e and 360Degree Safe Cymru generally very useful (Figure 4.5) though between a fifth and two fifths have never used specific tools. In interviews J2e was particularly popular with students who reported:

'I like it because I think of it like a plain piece of paper and there is loads of cool stuff you can do to it – like you can have a picture and write about it...I sometimes like going on J2e because, say you don't finish

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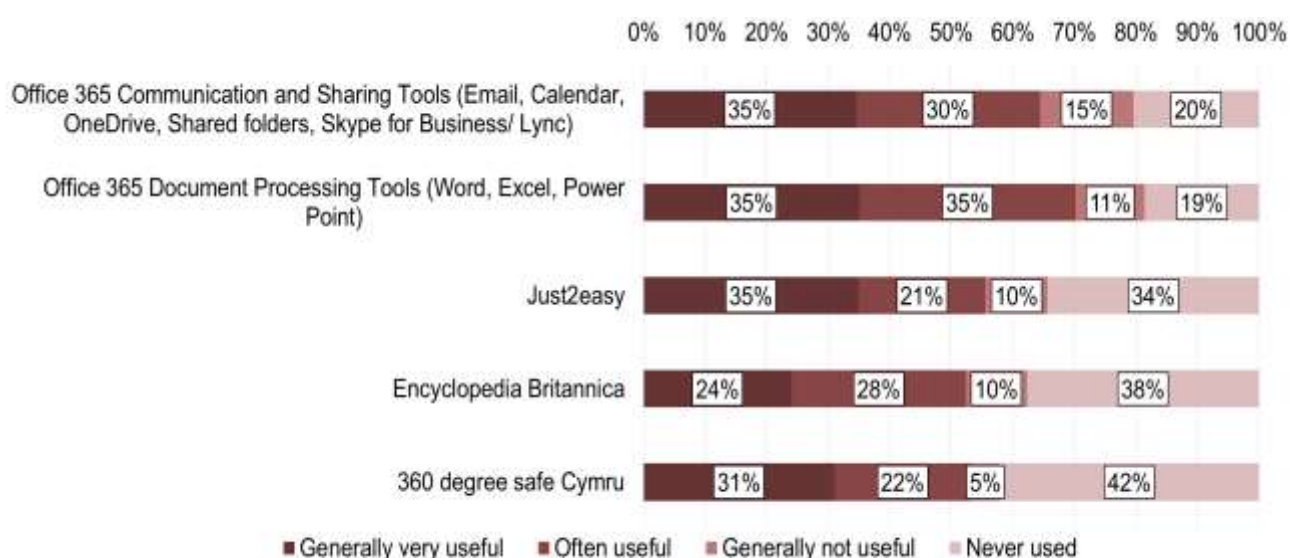
<sup>21</sup> Data on take-up by school level and local authority is presented in section 5.1.1

<sup>22</sup> This does not include access through mobile devices such as Mail app on iPads

the work in school, you can edit in your house so you can finish everything.’ Pupil

- 4.32 Interviewees who had experience of learning platforms in the past (many spoke of abandoned Moodle projects) felt that Hwb+ was better suited to the particular needs of their school. Many were positive about the fact that Hwb+ was a government-backed, Wales-wide solution and were attracted by expectations of high quality and ongoing support for the platform (compared to past experiences where a school adopted a learning platform in isolation or where the LA stopped offering support after a time).

**Figure 4.5: Hwb User Views on usefulness of Hwb+ licensed tools and functions**



Source: ICF Hwb User Survey, October 2015, 191 responses

- 4.33 Nonetheless, among many Hwb Training Survey respondents and interviewees, there is a perception that Hwb+ is not easy or friendly to use. Some interviewees reported that they found Hwb+ difficult to navigate and that undertaking tasks was overcomplicated. Many referred to hearsay from pilot schools based on experiences of early versions of Hwb+ - anecdotal feedback from these appears to be circulating among the teaching community.



‘Hwb+ is not easy to use. I consider myself digitally literate and competent and I do not find it easy to use at all. I find it fiddly and a lot of hard work...having spoken to other head teachers, they find it a problem as well.’ Digital Champion, Primary School

- 4.34 Several survey respondents and interviewees also made statements comparing Hwb+ less favourably with Google Education products, and describing the latter as easier and more intuitive to use.
- 4.35 Some DCs who were interviewed and several survey respondents also described difficulties in accessing Hwb+ because of problems with the password system and MIS transfers which was particularly frustrating. Follow-up interviews in the autumn term indicated that these problems had been resolved in some schools but remained (or the perception of the problem remained) in others.
- 4.36 The most frequent suggestions for improvements (from interviews, case studies and surveys) included:
- simplifying username and password formats, particularly for foundation and early primary school students, or providing greater control to schools to set their own passwords
  - improving the loading speed and the stability (reducing crashes)
  - ensuring that all features and functions work easily with all devices and browsers (particularly on Apple devices)
  - providing an app for Office365 or other solution to allow speedier / more direct access to the suite from tablets
  - providing more technical support for Office365
  - ensuring that Hwbmail is supported by LAs and recognised as a valid school address by commercial organisations (for educational discounts/memberships).

## **Training, Support and Awareness Raising**

4.37 The Digital Classroom Task and Finish Group recommended delivering a programme of initial teacher training and CPD for teachers to improve their digital competencies and confidence and encourage the take-up of digital resources. It also wanted teachers to be encouraged to take advantage of social media and online forums to communicate and share ideas. The VLE project initiation document makes references to the following objectives within the Education ICT Delivery Programme:

- Establish a pan-Wales CPD programme to support the teaching of ICT, computer science and ICT in schools.
- Create a team of eight Digital Leaders by January 2013.

### *Achievements against targets*

4.38 The LiDW programme delivered a pan-Wales programme of training for teachers<sup>23</sup> through a variety of routes, initially through a central team of eight Digital Leaders (DLs) and then increasingly through funding and supporting training through schools (peer-to-peer), RECs and LAs. In parallel, LiDW also delivered an extensive programme of presentations to a range of forums, meetings and conferences addressing teachers, school leaders and a range of stakeholders to raise awareness, increase take-up of digital learning, and foster the exchange of best practice. Delivery of key aspects is described below.

### *Digital Leaders*

4.39 A team of eight DLs were recruited and appointed in 2013 as part of the Hwb Project team. They received extensive and in-depth training to develop their own knowledge and expertise in digital content for pedagogical purposes so that they could be able to deliver training and support and cascade their knowledge to school staff. As a first task, DLs and other Hwb team members worked on delivering a programme for CPD training of teachers.

4.40 DLs focused on delivering the specified formal training sessions described in 4.43 below. Their role then expanded to working with schools through school

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<sup>23</sup> LiDW also delivered Computing workshops for secondary school teachers and pupils as a discrete project which has not been examined in this evaluation.

visits, for example to deliver training sessions to wider group of teachers or to work intensively with teachers on their Hwb+ school site. In parallel, DLs also worked to train and raise awareness of features and functionalities of Hwb and Hwb+ to LA and REC staff and delivered training sessions to students on teacher training courses within Welsh HEIs.

- 4.41 For the 2015/2016 academic year, the team of DLs was reduced to five individuals. The DLs are now working more closely with RECs to deliver a coordinated programme of training and support. DLs and RECs are now specifically targeting their training and development activities on 'low' or 'no use' schools.

*Hwb+ 'Digital Champion' and Modular Training*

- 4.42 A formal two-day training programme was developed and delivered over the 2012/13 and 2013/14 academic years. Schools were asked to nominate a specific person to be the school Digital Champion (DC) who would then receive training, delivered by DLs. The training model required that the DC would then cascade training to other teachers at their school. Subsequent actions of DCs were not systematically recorded or followed-up.
- 4.43 While the programme was not prescriptive about who in a school would be a DC, schools were encouraged to nominate a member of teaching staff. Some schools nominated staff providing IT support or ICT teachers.
- 4.44 Scheduling of training broadly followed Hwb+ roll-out and provisioning (though some schools received training before they were provisioned). The majority of schools were trained prior to the launch of their Hwb+ site and thus some teachers did not receive hands-on training on wider Hwb features (e.g. using the Encyclopaedia Britannica and J2e tools).
- 4.45 Ahead of the 2014/15 academic year, it was recognised that the DCs training programme roll-out was coming to an end and that there was a need (and demand) to refresh the training programme so that it was suitable and appropriate to a wider range of teachers. Feedback from teachers also identified difficulties in participating in two days of training because of teaching commitments and the cost of supply cover. As a result the DC training programme was adapted into a series of modular training. Specific training modules were developed focusing on using Hwb+ tools for literacy

and numeracy and for school management and administrative staff. 2,021 teachers have been trained across 1,482 schools (89 per cent of all schools) through the DC and modular training. In the 2015/16 academic year, DLs focused on delivering training on school sites.

- 4.46 As of December 2015, an estimated 7,000 teachers have received training on Hwb+ by the Digital Leaders. Available data records a total of 6,401 teachers participating in formal training sessions. Detailed attendance records were not kept on training delivered in the 36 pilot and Beta phase schools; it is estimated that between 10 and 20 teachers were trained in each of these schools. At least one teacher has received training in all schools provisioned.

#### *HwbMeets*

- 4.47 To raise awareness and teacher knowledge about Hwb and the digital content available a series of HwbMeet events have been organised and delivered. These are targeted at any teacher who wishes to find out more about the use of digital classroom technologies including Hwb and Hwb+. The Hwb Content team led on the organisation of these events. Eight HwbMeets were delivered in 2014/15 and eight in 2013/2014. A series of eight further HwbMeets have been planned for 2015/16. They have been held in different locations around Wales. They run as twilight activities between 16:30 and 18:30 for teachers at the end of the school day. A total of 786 delegates have participated in HwbMeets up to December 2015 (391 in 2013/14, 298 in 2014/15 and 97 in the first term of 2015/16).
- 4.48 HwbMeets were inspired by the TeachMeets initiative. TeachMeets offer networking and information sharing around pedagogical practices for teachers. The HwbMeet format includes a guest speaker from an external organisation (such as the National Library or a film organisation) presenting their digital content offer and suggesting how it could be used in schools. Participants then break into groups and can rotate around a series of tables and participate in discussions. Table hosts can be the digital leaders, education colleagues (e.g. with a focus on Literacy Numeracy Framework (LNF) targets) or other teachers. Participants are encouraged to ask questions and share their experiences.

#### *National Digital Learning Event*

- 4.49 To promote the use of digital technology and digital resources in schools and FE colleges in Wales, the LiDW Team organised an annual National Digital Learning Event (NDLE).
- 4.50 The NDLE features keynote speeches from Ministers and other experts in plenary sessions, break-out workshops focusing on key LiDW activities (such as e-Safety, Hwb+, Hwb Networks), and an exhibitor area with material from LiDW contractors and partners. The NDLE also includes the presentation of the National Digital Learning Awards, recognising excellent practice in schools and colleges.
- 4.51 Three NDLEs have been held to date: in June 2013 at Cardiff City Stadium, with around 200 participants, July 2014 at the Wales Millennium Centre, with 92 participants (participation was restricted by venue capacity) and in June 2015 at City Hall, Cardiff, with 179 participants. NDLE proceedings are also available remotely via webcast and recorded sessions are available to view on Hwb.

#### *E-safety briefings and CPD Webinars*

- 4.52 E-Safety briefings and CPD webinars have been delivered through the e-Safety project in 2014 and 2015. Up to December 2015 a total of 40 events or presentations on e-Safety have been delivered with 1,843 delegates attending. These have been open to any staff but typically have been aimed at senior school managers and heads of ICT. The model of delivery requires staff to cascade knowledge to other school staff. Materials from these events and resources for self-guided learning on e-Safety have also been produced and made available through Hwb. It was agreed that the outcomes and impacts of this training activity were outside of the scope of this evaluation and have therefore not been explored in detail.

### *Training by RECs and LAs*

- 4.53 The LiDW programme awarded direct funding to RECs for regional and LA delivery of training and awareness to schools and for RECs to support Hwb+ Centres of Excellence. A programme of training was developed so that REC staff (and later peer-trainers in schools) could become Hwb+ accredited trainers and directly deliver cascade training and support.
- 4.54 A total grant of £750,000 was awarded to the four RECs over a three year period up to 31st March 2016. REC reports detailing specific activities delivered through the CPD grant were not made available to this evaluation (permission to view the reports must have been sought from each REC).
- 4.55 Interviews with RECs indicate that activities delivered include formal training sessions for teachers, one-to-one support for schools, organisation of larger awareness and knowledge/practice sharing sessions (such as regional events and conferences) and training of their own staff. Three RECs used grant funding to second teachers to the RECs who became Hwb+ accredited trainers and delivered support to other schools. Three RECs interviewed in October 2015 reported that LiDW funding and activities had enabled their staff to be trained to deliver support to schools; for example in one REC several school improvement officers have been trained. In the fourth REC, teachers have been seconded to LAs to provide support.
- 4.56 LiDW staff, especially DLs, are now working closely with RECs to collaborate on delivery of training and support to schools. Interviews with LiDW staff and RECs suggest that collaboration and coordination at a regional level has increased in 2015/16 compared to previous academic years as RECs have become more established and are able to dedicate resources to promoting LiDW aims while the DL team has been reduced in numbers. DLs and RECs have also been able to make better use of data on usage of Hwb and Hwb+ by school in 2015 to prioritise working with schools which are least engaged.
- 4.57 In addition to the above, a proportion of the LA Revenue Grant (part of the Infrastructure Workstream) has been spent on seconding staff to support the roll-out of LiDW activities which included training of school staff though training outputs and outcomes have not been systematically recorded.

### *Hwb+ Centres of Excellence*

- 4.58 In the spring and summer term of 2014/15, LiDW provided funding and support directly to schools through the Hwb+ Centres of Excellence (Hwb+ CoE)<sup>24</sup> project. Following a competitive application process, eighteen schools were awarded a grant of up to £30,000 to work with other schools, LA and REC staff to show how the adoption of the Hwb+ learning platform and the wide range of digital tools offered through the programme can make a positive difference to teaching and learning within a school setting<sup>25</sup>. Each Hwb+ CoE was expected to provide learning opportunities for at least 100 other teachers in their region, develop professional learning communities and create 'good practice' material.
- 4.59 This evaluation has not examined the achievements of the Hwb+ CoE project. Feedback from schools selected to be Hwb+ CoEs suggested that the short timescale available for delivery of the activities (all activities had to be completed by the end of the 2014/15 academic year) was a challenge for them. They felt that they could have delivered more sustainable actions had they had more time to plan and promote activities.

### *Awareness of Training*

- 4.60 On the whole, the qualitative interviews found that there was good awareness of the training and support offered among teachers and LA/REC staff. Evidence from follow-up interviews with both types of interviewee suggests that awareness has improved over the course of the evaluation with interviewees regularly mentioning participation in events such as HwbMeets and the activities of Hwb+ Centres of Excellence, as well as activities run by other schools and LAs/RECs. There was also more mention of using the Dysg newsletter to stay informed about events and developments in follow-up interviews.

'I would say the council are doing a very good job of providing training. There's plenty there; a great range of courses on offer. It's just a

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<sup>24</sup> Hwb+ Centres of Excellence outputs and impacts have not been examined in detail by this evaluation.

<sup>25</sup> Hwb+ Centres of Excellence Programme Guidance, January 2015  
<http://resources.hwb.wales.gov.uk/VTC/2015/01/30/hwb%2Bcentresofexcellenceprogrammeguidance.pdf>  
accessed 09/04/15

question of persuading people to take it up.’ Teacher, Primary School  
(follow-up interview)

#### *Views of users*

#### *Organisation of training*

- 4.61 Hwb Training Survey results and feedback from qualitative interviews indicates that the majority of participants were very satisfied with all aspects of the organisation of LiDW events that they attended, as shown in Table 4.1 below. Primary school (and early years) staff generally agreed with the statements below to a greater extent than secondary school (and PRU) staff.

‘The Hwb and Hwb+ training was excellent in terms of the content and delivery. Welsh Government Digital Leaders are excellent, very knowledgeable and the ad hoc support has been very good.’ Digital Champion, Primary School

**Table 4.1: Views of training event organisation (All training events)**

The training event was delivered by / supported by...	Strongly Agree / Agree			Disagree / Strongly Disagree			Don’t Know / Not Applicable	Responses (n)
	All	Primary	Secondary	All	Primary	Secondary		
<b>High quality trainers</b>	94%	96%	87%	5%	3%	13%	1%	296
<b>High quality learning resources</b>	86%	91%	72%	13%	9%	28%	0%	295
<b>Well organised</b>	90%	92%	79%	10%	8%	21%	0%	291
<b>Convenient location</b>	90%	90%	90%	10%	10%	10%	0%	293

Source: ICF Hwb Training Survey, July 2015, 331 unique responses

- 4.62 Feedback from the qualitative interviews and open text survey responses in relation to improving the organisation of training events tended to focus on problems with technical infrastructure at the training venues. A few DCs interviewed and a few survey respondents stated that they experienced problems in receiving sufficient information about the course details, content and organisers’ expectations ahead of the event. A few participants believed



that they would have benefitted from receiving pre-course reading or copies of the training material in advance of the training.

- 4.63 Several DCs interviewed discussed the support material received and in particular the Handbook that was provided to accompany the Hwb+ Training. DCs were generally pleased to receive it and to have access to all the learning material in hardcopy. However, some felt that it was extremely long and hard to navigate. They suggested that an index section would make it easier, and more likely, to be used.

#### *Organisation of Training*

- 4.64 Across all respondents to the survey, most participants agreed that the training content delivered was relevant to their job role and IT responsibilities and applicable to their school's needs. The majority also agreed that training was delivered at an appropriate pace and included sufficient opportunities for hands-on use of the Hwb+ tool. 0 also indicates that most participants (86 per cent) agreed that the training content delivered was at the appropriate level for their needs.

**Table 4.2: Views of relevance and appropriateness of training events (All training events)**

The training content was / included...	Strongly Agree / Agree			Disagree / Strongly Disagree			Don't Know / Not Applicable	Responses (n)
	All	Primary	Secondary	All	Primary	Secondary	All	All
<b>Relevant to my job role</b>	94%	97%	87%	5%	3%	13%	0%	295
<b>Relevant to my school management responsibilities</b>	84%	88%	73%	9%	7%	17%	7%	293
<b>Relevant to my IT responsibilities</b>	92%	95%	80%	6%	3%	18%	2%	294
<b>Applicable to my school's needs</b>	86%	90%	72%	13%	9%	27%	1%	290
<b>Appropriate pace according to the time available</b>	83%	85%	75%	16%	15%	24%	1%	293
<b>Sufficient opportunities for hands-on use of the Hwb+ tools</b>	85%	87%	75%	14%	12%	24%	1%	292

Source: ICF Hwb Training Survey, July 2015, 331 unique responses

- 4.65 General satisfaction with the content of training is supported by findings from qualitative interviews with DCs, teachers and LA/REC staff.

‘The initial training provided basic information on Hwb and Hwb+ and this was well structured and delivered. I got a good basic understanding of the platform and resources. The Digital Leaders delivering the training were very good and the training covered almost everything I would have wanted. Two colleagues have also attended the Hwb training and they all considered it to be of a very high quality.’ Digital Champion, Secondary School

‘I attended two HwbMeets... they were really useful and interesting. I found out about new features and resources on Hwb such as the Welsh National Library material and Encyclopaedia Britannica which we’ve since used at school.’ Teacher, Primary School (special educational needs specialist)

‘It was outstanding training on the 360 on-line safety resource [sic] and I felt every school in the county should have been represented /benefitted.’  
Senior manager, Local Authority (survey comment)

- 4.66 However, as shown in 02 and 0, it is clear that the extent of agreement is higher for primary school (and early years) participants than secondary school (and PRU) participants. Over a quarter of secondary school respondents (27 per cent) stated that the training was not applicable to their school needs and did not agree that the pace and opportunities for hands-on use of the tools were appropriate / sufficient. Nearly a quarter (23%) of secondary schools felt that the training delivered was too basic for their needs.

**Table 4.3: Appropriateness of training content by school type (All training events)**

Agreement with the statement:	Primary Schools (& Early Years)	Secondary Schools (& PRUs)	Special Schools	All Schools
The training delivered was too advanced for my needs	8%	3%	0%	7%
The training delivered was at the appropriate level for my needs	89%	74%	100%	86%
The training delivered was too basic for my needs	3%	23%	0%	7%
<b>Responses (n)</b>	<b>212</b>	<b>65</b>	<b>11</b>	<b>288</b>

Source: ICF Hwb Training Survey, July 2015, 331 unique responses

- 4.67 Many respondents suggested that the training that they received should have been better tailored to their ability and school type. This is largely supported by findings from the DC interviews. Many felt that it was difficult for trainers to pitch the training to meet all needs because of the range of abilities among the attendees.

‘I don’t know how you could sufficiently differentiate for the varying levels of skills of staff attending. I personally would have preferred to sit down with an IT technician and gone deeper into designing Hwb+. This wouldn’t be appropriate for all staff.’ Teacher, (survey comment)

‘I found that the teachers I took with me on the training were not impressed at all. I think they’d sort of taken for granted that people are

computer literate, when some of the people going on the courses were ordinary teachers (and this was how it was advertised [i.e.] for ordinary teachers to go on) and just couldn't make head nor tail of what was being explained to them. I had one teacher come back and say "I'm not touching it with a barge pole." I would say the other teachers found the training the Digital Leader did within the school far more beneficial than the external training.' Digital Champion, Primary School

- 4.68 Some stated that the focus of the training was too theoretical and that they would have liked to hear how other schools are using the technology. It was suggested that the training could have been improved by focusing on practical examples of how Hwb+ and other tools can be used for specific educational needs and levels/year groups.

'From the start there could have been excellent secondary school examples of all the elements of Hwb+. This would have provided the audience with example to take back to school to showcase with other staff.' IT staff member, (survey comment)

- 4.69 Several respondents suggested that too much content was covered in a short period of time.

'It was pretty overwhelming with all that was introduced within the two days.' Teacher, (survey comment)

#### *Digital Leader Support*

- 4.70 In interviews, most Digital Champions explained that they were satisfied that Hwb+ Training provided an holistic overview of Hwb+, Hwb and Office365 tools 'because it demonstrated what was possible'. However, many explained that this was not sufficient to enable them to implement what they had learnt in the school without considerable time and effort, including seeking substantial additional support from DLs.

'The training was good in giving a base for the documentation we were given and was a very efficient for delivering that, all being condensed...the effective part of the training was that it allowed you to get a feel of the system and its little peculiarities.' Digital Champion, Secondary School

‘I was fortunate enough to be in position to have time away from the classroom to work on this. My head teacher is very supportive and enthusiastic – they went on the training too two years’ ago – and I’m a member of the SMT so I don’t have to convince anyone that this is worthwhile. I spent a lot of time doing behind-the-scenes work, setting up the Hwb+ site the way I want it. The Digital Leader, [name], was very good and answered all my questions and helped me with various things.’ Digital Champion, Special School.

- 4.71 The case studies and qualitative interviews suggest that additional, focused DL support has been instrumental in helping schools adopt Hwb+ effectively.

*Views on the 2015 training offer*

- 4.72 Interviewees in the autumn indicated that participants were generally more satisfied with the content of recent training and learning events. Training, support and events appeared to be less technical and more focused on practical implementation in the context of teaching.

‘The initial Hwb+ two-day training was not so effective, they squeezed too much in two days. Later training sessions I went on, like on J2e, using Hwb+ for literacy and numeracy, e-Safety and others, were much better, more specific and focused.’ Head teacher, Primary School

- 4.73 Teachers and other participants also reported that more recent sessions had allowed opportunities for sharing good practice and networking with other schools. This appears to be particularly valued by teachers.

‘I recently attended a training event on transitions from key stage 2 to key stage 3. It was a very good session, focused and a good opportunity to network with teachers in other schools, both primary and secondary.’ Senior Manager, Secondary School

‘Use of Hwb+ in our school is a bit patchy... I use it for homework and they also used for blogging in science and RE... The best thing about the training is the networking; finding out from other schools what they are doing and getting ideas about how we can do it too. This term myself and the deputy head now plan to dedicate more time to help put some of those ideas in practice.’ Teacher, Secondary School

- 4.74 Nonetheless, there remains a concern among some teachers that the current training offer is not sufficient to meet needs to upskill the whole school workforce to the levels required to adopt digital learning effectively. Some interviewees reported that there has been an increasing interest among their colleagues in digital learning in general and in LiDW products specifically, with many referring explicitly to the Donaldson Review. However, they were disappointed that they could not direct these colleagues to LiDW organised training in the 2015/2016 academic year. Others spoke about the need to deliver more fundamental 'basic IT skills' for several colleagues.

### **ICT Infrastructure**

- 4.75 The LiDWG programme comprises two work streams<sup>26</sup>.

#### *Stream 1: In-School Connectivity Improvement – infrastructure grant to LAs*

- 4.76 This stream relates to infrastructure improvements within school sites to ensure that schools have the right equipment to benefit from increased bandwidth. Grants of £10,000 per primary and special school and £20,000 per secondary school were available. Local authorities (school estate ICT teams) were the grant beneficiaries and were responsible for organising the delivery of activities that could be funded through the grant: typically a school survey, purchasing and installation of broadband routes and Wi-Fi equipment. All (100%) of schools in scope are reported to have benefitted from the infrastructure grant. A total budget of £18.25m was made available for this purpose in the 2013/14 financial year of which £18.1m was spent. This slight underspend was due to some suppliers delivering at lower costs than anticipated by LAs.
- 4.77 Interviewees reported some initial delays in LAs taking action to utilise this grant. This was mainly due to team capacity issues within small LAs, although there were also some delays due to suppliers not delivering circuit boards and other equipment on time. As a result, the majority of grants were paid out in full by the end of March 2014, with three LAs receiving a short extension to complete works and submit claims.

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<sup>26</sup> Torfaen and Monmouthshire LAs were not eligible to participate in LiDWG because they had previously received ICT infrastructure investment as part of the 3<sup>rd</sup> Tranche Capital Programme.

## *Stream 2: Broadband Improvements*

- 4.78 This stream intended to provide broadband connectivity, through the Public Sector Broadband Aggregation (PSBA) service for schools that did not have broadband connections at the bandwidth limits identified by the First Minister (434 schools had already met this bandwidth). Specifically, it aimed to increase bandwidth to at least 10Mbps for every primary and special school and PRU; and to provide 100Mbps for every secondary school by July 2014.
- 4.79 One element of this work, involved upgrading the overall (core) network to ensure adequate capacity to serve local authorities and schools. This work was delivered by the wider PSBA team (outside the LiDWG Team) with LiDWG contributing funding to deliver this work.
- 4.80 The bulk of the remaining work related to delivering improvements up to the school gate. As internet service providers to schools, LAs acted in the capacity of client liaison. In addition, the LiDWG project committed to reimburse revenue costs for school connections which met the Ministerial bandwidth commitments, up to March 2015. This funding was dependent on LAs committing to maintain these services until March 2017 and for subsequent years. Following an internal budget review process in each LA, Merthyr Tydfil opted to not pursue PSBA provision for its schools, while the Vale of Glamorgan opted to retain its existing wireless network. Both LAs did receive minor grant funding to increase their internet transit for schools traffic.
- 4.81 Across the 18 participating LAs, a total of 1,528 school sites were initially identified as being within the scope of the broadband improvement programme, this was revised to 1,435 school sites following advice from LAs which identified 93 school sites which were about to be moved, closed or merged with other schools. At end of November 2015, the programme had delivered broadband improvements that met the First Minister's commitment to **1,386 schools or 97% of schools** within scope. As indicated in 0, progress has been slower in some of the predominantly rural local authorities.

**Table 4.4: School sites upgraded through LiDW Grant, November 2015<sup>27</sup>**

Local Authority	Total no. of schools sites in scope <sup>28</sup>	No. of sites completed	No. of school sites in progress	% Completed
Blaenau Gwent	28	28	0	100%
Bridgend	60	60	0	100%
Caerphilly	93	93	0	100%
Cardiff	120	120	0	100%
Carmarthenshire	111	102	5	92%
Ceredigion	51	46	5	90%
Conwy	69	66	2	96%
Denbighshire	58	57	1	98%
Flintshire	84	83	1	99%
Gwynedd	113	109	3	96%
Isle of Anglesey	45	36	9	80%
Neath Port Talbot	81	81	0	100%
Newport	56	55	1	98%
Pembrokeshire	69	60	8	87%
Powys	96	92	3	96%
Rhondda Cynon Taf	132	132	0	100%
Swansea	99	99	0	100%
Wrexham	70	67	2	96%
<b>Total (Wales)</b>	<b>1435</b>	<b>1386</b>	<b>40</b>	<b>97%</b>

4.82 In some cases where fibre was not financially viable, schools have been upgraded using alternative solutions. In some of these cases, the upgrade has not delivered the target capacity. As of November 2015, 22 schools were provisioned at lower bandwidth connections than targeted.

4.83 In addition to the original commitment, the programme committed to connect **268 large primary schools at 100Mbps broadband** to ensure satisfactory connectivity for teachers and pupils at those schools; this was later revised to 259 schools. As of the end of November 2015, 250 large primaries schools or 97% of the total have been provisioned with higher capacity broadband.

<sup>27</sup> Source: LiDW project information validated with WG and LA

<sup>28</sup> Does not include school sites that were removed from scope because of school closure or school closure consultation. Additionally some schools did not receive connectivity upgrades because they were already at the appropriate broadband speeds.



- 4.84 As noted earlier, the broadband connectivity stream of work encountered a number of challenges that had not been anticipated at planning stage and therefore had to adapt and evolve.
- 4.85 A significant challenge was determining how to provision school sites that were not served by existing BT Openreach fibre connections. BTOr undertook a survey of sites, determined what additional measures would be required to deliver a fibre or copper wire connection to the school and presented the cost of these excess construction charges (ECCs). The survey process identified that the cost for ECCs would be higher than originally budgeted with 634 school sites identified that needed significant civil engineering work to deliver a broadband connection to meet the Ministerial target for the school.
- 4.86 To resolve this, in mid-2013 the project plan was adapted with an additional £10m grant secured to cover ECCs to deliver fibre to most sites. A process was initiated where the value-for-money for each ECC was considered systematically. ECCs were approved for 590 sites ranging from a few hundred pounds in costs to around £90,000. ECCs were rejected for 44 sites, either because increased connectivity at the targeted levels could be delivered through other technologies (i.e. not through fibre connections) (9 sites) or because value for money could not be demonstrated (35 sites). The process of reviewing value for money meant that, as of November 2015 the actual ECCs costs were expected to be around £5m, considerably lower than the original additional cost expected.
- 4.87 Other factors contributed to delays in meeting the targets
- Delays by BT Openreach / Logicalis UK. Floods in England diverted BT resources. However, even outside this period, contractors were not able to meet performance standards despite concerns being raised directly by Ministers. It was suggested that BTOR's limited capacity as a result of supporting other initiatives alongside LiDW.
  - Delays in supplies of circuit material.
  - Delays by LAs in granting planning control approvals (wayleaves, traffic management, full planning applications in some case).

- Insufficient(electric) power provided in a number of local authorities / school sites.
- Anglesey did not commit to PSBA until April 2014.

*Grant to LAs for line rental charges and reinvestment (Broadband Improvement Revenue grant)*

- 4.88 For all schools that were connected to the Ministerial bandwidth commitments over the period 1 April 2013 to 31 March 2015, LAs received a revenue grant reimbursement for the cost of bandwidth. The level of grant was determined by the number of schools within the LA which were in receipt of the Ministerial bandwidth commitments at the outset of the project, or had been upgraded within the time period (April 2013 – March 2015).
- 4.89 The terms of the grant stipulated that all revenue cost savings must be reinvested by LAs in local educational ICT. This can include equipment, software, services and staffing costs. LAs are responsible for determining how this is spent. LAs have to evidence how they have used the grant in annual reports submitted at the end of March.
- 4.90 Guidance to LAs strongly recommended that the revenue grant should support the implementation of Hwb and Hwb+ through actions to:
- support schools in using the platform (e.g. by securing additional training from local authority and regional education consortia school improvement teams)
  - provide technical support to the platform at a local authority level
  - enable local authority MIS teams to complete activities to support the transfer of data to the supplier of the platform in a timely fashion.
- 4.91 As the upgrade programme progressed at a slower pace than anticipated, the value of grants awarded has been much lower than anticipated.
- 4.92 Review of reports submitted by benefitting local authorities identify that, over the period 2013-2015, the 18 local authorities received a total of £4.1m through this grant mechanism. Grant values differed across local authorities due to differences in the number of schools receiving upgrades and the timeframe of connection improvements (schools already connected or who

were connected earlier were eligible to claim grant funding earlier and therefore received a higher level of grant).

4.93 A review of reports submitted to the Welsh Government accounting for £3.4m of expenditure identifies that the grant has been spent as follows

- Approximately £1.6m was invested on ICT hardware, including firewalls, network, servers, and data storage and client devices serving both specific schools and the school estate in general. These were intended to improve the user experience of connecting to Hwb+ and improve access to Wi-Fi.
- Approximately £0.75m was invested in additional staffing costs incurred by LAs, such as for the installation, configuration and support of the broadband and connectivity improvements and for delivering training events to teachers.
- Services to schools (approximately £0.6m) and software (approximately £0.5m) accounted for the rest of the expenditure.

4.94 With the staffing costs category, eight of the LAs reported using this grant to deliver specific training activities to schools in their areas. Additionally, one LA invested in a training centre specifically for delivering training on digital learning to teachers. Three LAs reported using the grant to fund the employment of peer-trainers (through secondments of teachers) to support other schools with the implementation of digital learning.

4.95 LAs reported that these improvements have enabled schools to use Hwb and Hwb+, as well as other digital technologies, more safely, efficiently and effectively, ensuring a more stable and user-friendly experience for teachers and learners. Many also reported that schools are now better able to access the internet using a variety of devices (desktops, laptops, tablets and smartphones). Improvements in firewalls and web filtering are reported to result in greater flexibility and, in the case of one LA, greater ability for secondary schools to manage their own e-Safety.

#### *Awareness of infrastructure improvements*

4.96 For many interviewees (DCs, LA Educational staff), the LiDW infrastructure investments and improvements were not perceived to be part of the Hwb+, Hwb and Digital Leader initiative. Many interviewees were surprised to hear

that the physical infrastructure improvements were part of the same programme. Fewer still identified that there was a link between the infrastructure improvements and the expected uptake in the use of digital resources and learning platforms at schools.

- 4.97 A few schools (mainly secondary schools) explained that they already had the network capacity expected by LiDW targets and therefore were not aware of or could not comment on the direct benefits from the LiDW Infrastructure Grant. A few of the DCs interviewed stated they had not noticed any changes or improvements, while one or two had to check with colleagues whether the school had Wi-Fi or a broadband connection (these were at schools which were least engaged with the Hwb+ rollout).
- 4.98 Nonetheless, where teachers were aware of infrastructure investments at their school they were overwhelmingly positive about the investment received and spoke about improvements in broadband and Wi-Fi speed, reliability and coverage.

‘That has been fantastic. We have 56 iPads, a range of laptops and PCs. We have wireless connection all through the school and I cannot praise it enough. I can’t think of a time when my connection has dropped...every time a child picks up a laptop or an iPad they can connect to the internet. Have not complained to me about speeds or lag.’ Digital Champion, Primary School

#### *Views of users*

- 4.99 As schools and individual teachers were not always aware of the LiDW infrastructure improvements at their schools and because some schools did not receive connectivity upgrades because they were already at the appropriate broadband speeds, it has not been possible to fully capture the views of users on this activity through interviews and surveys.
- 4.100 Most interviewees who were aware of the investment were very positive. They spoke about improved connection speeds and Wi-Fi coverage which has allowed their schools to invest in more devices and to use existing devices more effectively.

‘Infrastructure improvements are felt within the school... in a positive way. When you walk across the school there are fewer squeaky board pens and more projectors firing.’ Digital Champion, Secondary School

- 4.101 Nonetheless, evidence from interviews, case studies and survey results indicate that connectivity remains a challenge for some schools and a barrier for further adoption of digital learning in some schools. In the July 2015 DC Training Survey, 62% of survey respondents (all local authorities included) stated that they were satisfied or very satisfied with the internet connection speed at their school, while nearly a third (31%) were not. Dissatisfaction is highest in secondary schools<sup>29</sup>. However, the interviews identified a number of further issues affecting user experience of broadband connections outside the control of LiDW, including filtering and blockages by local authorities (as the internet service providers), age of hardware equipment and inappropriate set-up configurations. For example, eight in ten (82 per cent) respondents to the Hwb Training survey agreed that automatic blocking is a barrier to accessing digital resources that they require.
- 4.102 Identifying and responding to this issue, the LiDW team (Digital Delivery Unit) produced and published in June 2015 specific guidance on recommended web filtering standards for schools in Wales.<sup>30</sup>

‘Fibre optic installed as part of upgrade and Wi-Fi speeds have increased dramatically. The school now just need to find funds for additional hardware to make best use of it because lack of hardware in the classroom is the main obstacle to using digital learning tools now.’ Digital Champion, Primary School

## **Assessment and Conclusions**

### *Hwb*

- The platform hosting digital teaching resources in English and Welsh has been created with digital content and tools available to authenticated users as planned.

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<sup>29</sup> It is important to note that this does not necessarily reflect the achievement of the LiDW programme as it includes respondents from LAs who did not participate in LiDWG.

<sup>30</sup> <http://gov.wales/docs/dcells/publications/150629-recommended-web-filtering-standards-en.pdf>

- The website is updated and has been upgraded since its launch with new functionalities for networking, adding resources and lesson planning (playlist).
- The digital teaching resources are actively being added to, though out of date resources are not necessarily being removed.
- Awareness of Hwb appears to be growing (comparing interviewee responses in the Spring with those in the Autumn) with positive feedback on playlist and Hwb networks.
- But recently half of schools (53 per cent, January 2016) had 11 or more logins to Hwb so it is not regularly being used by many teachers or schools. There was however, a rise between logins between November 2015 and January 2016.
- Many of the users agree that it is easy to find resources (60 per cent agree/strongly agree) and search (65 per cent), and that the resources are high quality (85 per cent) and useful (81 per cent) though many users are not yet familiar with features such as playlist (39 per cent).
- Most users surveyed would like more resources (69 per cent) but some of the current resources are used much more than others (79 per cent had not used PISA preparation tools compared to 32 per cent for e-Safety tools).
- Some users and interviewees would like to see improvements to categorisations, the search functions, materials for teaching over 16s and operability on different systems.

#### *Hwb+*

- The centrally funded learning platform is available to all maintained schools and provides secure facilities for hosting and sharing school teaching, learning and management.
- Authenticated user accounts have been created for staff and pupils in all but a few schools and PRUs; challenges were met to cope with 22 different MIS configurations.
- Licensed tools and functions were accessible for Hwb+ users (Microsoft Office365, J2e, 360 Degree Safe Cymru).

- Similar levels of use as Hwb have been achieved so far (53 per cent of schools had 11 or more unique log ins in January 2016) though usage is generally increasing over time.
- Awareness of the licensed tools and the platform capabilities has increased among interviewees during 2015.
- Around a third of users have found Hwb+ very useful, most are using Microsoft Office 365; though some report that the platform is not easy to use. This may relate to earlier versions and problems which have been addressed.
- Some users and interviewees would like to see improvements to username formats, better operability and fewer crashes.

#### *Training support and awareness raising*

- DLs have led two day training of DCs and provided school level advice, guidance and training to enable schools to increase their use of digital technologies. More recently they have focused on modular training for DCs and others and worked with RECs to coordinate training and support for 400 schools which are the lowest users of digital technologies. To date, an estimated 7,000 teachers received training with at least one teacher trained in all schools provisioned.
- The programme has run a regular series of Hwb Meet events after the end of the school day over three years at different locations around Wales to share information about new resources and digital teaching practices; in addition to webinars and e-Safety briefings.
- RECs have used funding to develop Hwb+ accredited trainers (seconded teaches and school improvement advisors) to provide direct support to schools and provide training at a more local level.
- The study has not been able to use reports on the use of the grant which has been used in part for training.
- Thirty schools were awarded grants as Hwb+ CoEs who provided peer support and training during 2014/15.
- Most participants in the training (mainly DCs) said it was generally well organised and relevant and introduced them to Hwb+ and Hwb's learning tools and resources. Slightly fewer secondary school participants said this than primary school participants. Most concerns were about the depth of

the training to enable implementation and the level of assumed knowledge/digital competence.

- Interviewees who were familiar with the modular training and Hwb Meets generally believed these activities helped with understanding.

#### *Infrastructure*

- The in-school connectivity grant was allocated and spent.
- 97 per cent of the schools within scope were provided with broadband improvements (November 2015); 95 per cent of large primary schools have so far received the increased broadband bandwidth.
- ECCs were incurred on 590 school sites with additional funding needed to ensure all schools received the increased broadband bandwidth; Delays were due to surveys necessary where fibre solutions were encountering high additional funding, delays within WG in agreeing ECCs, planning permissions and the availability of BTOr as a result of BTOr supporting a number of strategic initiatives at the same time as LiDW.
- Reports of revenue grant reimbursements by 18 LAs indicate that these funds were used for training (8 LAs) but largely for infrastructural and software improvements to take advantage of the improved bandwidth and the platform.
- Many interviewees were not aware that the infrastructural improvements were linked to the delivery of Hwb and Hwb+. While a few had not detected any differences because of these (which may reflect that a few schools already had a higher level of bandwidth, some LAs having automatic filtering and blocking, and the age of current hardware in some schools) most believed the changes were making a difference.



## 5. Achieving Outcomes for Learners, Teachers and Schools

5.1 This section presents evidence collected on the achievement of outcomes of the LiDW project. In particular, it presents evidence against the evaluation criteria relevant to this phase of the progress model, as shown in the box below. Evidence in this section is primarily drawn from user responses to the two online surveys, qualitative interviews with teachers and case study research. It is complemented by interviews with LA/RECs and Welsh Government staff.

Evaluation Criteria: Outcomes	
Intermediate Outcomes	Key Outcomes
<ul style="list-style-type: none"><li>• Use of digital technologies in schools</li><li>• Use of Hwb and Hwb+</li><li>• Teachers have improved levels of digital skills, competencies and knowledge</li><li>• Teachers are confident and committed to using digital resources in the classroom</li><li>• Teachers are confident and committed to using digital resources for communication (learners, other teachers, parents)</li><li>• School leaders are confident and committed in using digital resources for management and communication</li><li>• Teachers and school leaders can use digital resources strategically (within school plan)</li><li>• Teachers and school leaders can train or inform other teachers about digital resources</li><li>• Teachers use LiDW products for sharing and professional development</li></ul>	<ul style="list-style-type: none"><li>• Teachers changed their practice (for teaching, other guided learning and assessment)</li><li>• Teachers create resources for Hwb and shares ideas and methods</li><li>• School management and operations have improved; improved internal communication in schools</li><li>• Improved external communication of schools (with parents, others)</li><li>• Wider deeper learning</li><li>• Learners are more engaged and motivated in learning</li><li>• More opportunities for personalised and independent learning</li><li>• Learning is more inclusive and meets needs of wider range of learners</li><li>• Effects on financial savings / costs (e.g. teaching time and reduced infrastructure investments)</li></ul>

## Intermediate Outcomes

### *Use of digital technologies, including Hwb and Hwb+, in schools*

- 5.2 In the absence of a survey providing baseline data about the use of digital technologies in schools prior to the introduction of LiDW, it is not possible for this evaluation to fully assess any change in the extent that digital technologies are being used in schools. It is also not possible to distinguish the impact of LiDW activities from other factors which may have influenced take-up of digital technologies in schools. Three such factors in particular appear to have had a noticeable effect:
- the ‘Donaldson review’<sup>31</sup>, published in February 2015, and in particular the recommendation to treat digital competence as a key competence along with literacy and numeracy
  - greater use of technologies outside the school by teachers, governors, pupils and parents, resulting in demand to use technologies (and particular tablets) in schools, as well as greater familiarity and confidence to use these;
  - activities by commercial organisations, most notably Google, which have targeted schools and teachers.
- 5.3 Nonetheless, there is evidence that the roll-out of Hwb and Hwb+, including Office365, LiDW Grant investment in broadband and connectivity and LiDW engagement and awareness activities have encouraged many schools and teachers to try digital technologies for the first time or to extend their use where they were already being used.
- 5.4 Several interviewees stated that LiDW **infrastructure improvements** have allowed schools to invest – and in some cases invest substantially – in additional hardware. For example, DCs described purchasing iPads for use by pupils because they can now be used effectively in many locations throughout the school premises with better Wi-Fi connectivity. A few DCs also mentioned that Wi-Fi connectivity had allowed them to implement Bring-Your-Own-Device (BYOD) policies which have extended use of digital resources among teachers and students.

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<sup>31</sup> <http://gov.wales/docs/dcells/publications/150225-successful-futures-en.pdf>

‘We’ve purchased a class set of tablets for the SEN Asperger’s classroom. They just have the tablets available within easy reach. The tablets start-up so much faster than laptops and desktops... students can just power one on without waiting... they quickly get to the internet and do what they need.’ Digital Champion, Secondary School

- 5.5 A DC in one school described that improvements in broadband and connectivity have demonstrated that existing equipment is still functional and does not need to be replaced, so this has actually led to the school saving money.

‘We have seen a massive improvement. A few years ago, we would regularly lose internet connection for say half a day. Now that doesn’t happen anymore. We were thinking of replacing several of our laptops and desktops...now we are probably looking at keeping those devices because they are working satisfactorily at good speeds with the new connection.’ Digital Champion, Secondary School

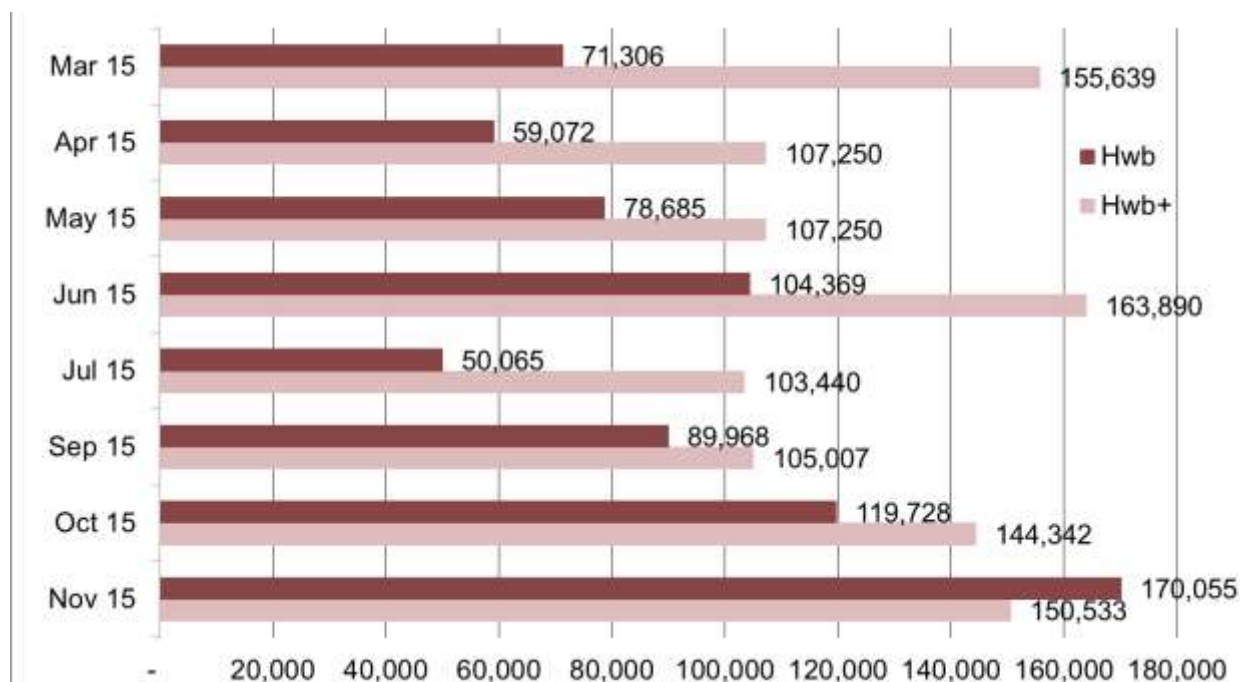
A rural school in Pembrokeshire used HWB+ in conjunction with the school’s new wireless capability and their existing iPads to implement a novel feedback and assessment component for an English oracy project. New exam board requirements stipulate that oracy assignments need to be videoed for assessment purposes. To assist in achieving this, the school asked students to use iPads to film each other practising their speeches on the topic of encouraging people in their community to go to war. Video files were then stored on HWB+ cloud storage. The students conducted peer-to-peer review of the speech footage, and using a printed Quick Response (QR) code accessed the video at home so that their parents could offer them advice and feedback. Teachers used the final recordings for assessment moderation. The students were very enthusiastic about the work and one said ‘it was good to show parents because they get to see what we did at school’. The teacher involved felt that the process of peer-review and feedback had improved student work and expects to see a positive impact on attainment.

- 5.6 **Data on usage of Hwb and Hwb+** supports evidence from the qualitative interviews suggesting that investment in these products and LiDW activities to promote their use has led to an increase in the use of digital technologies across Welsh schools. The interviews and case studies found that more

schools are using VLEs as a result of the introduction of Hwb+, some schools replaced other VLEs with Hwb+ and are making more frequent or better use of their chosen VLE as a result of renewed enthusiasm. Provision of Office365 and J2e has led to more teachers to make use of digital resources in classrooms and for school organisation and communication.

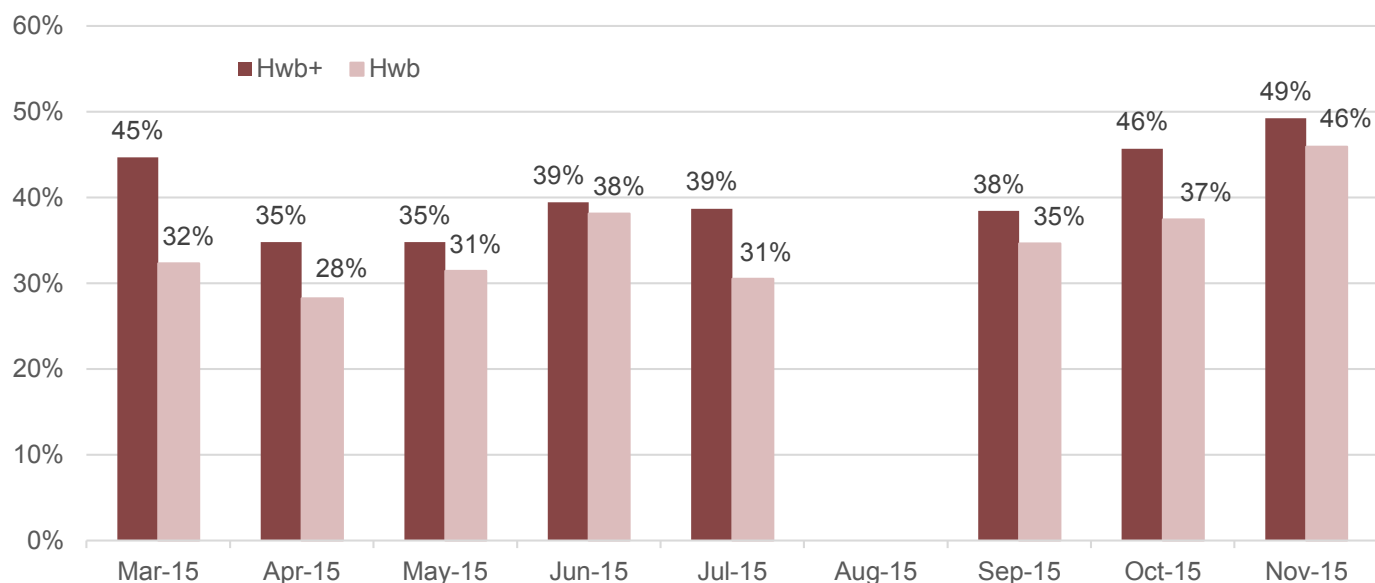
- 5.7 0 shows the total number of Hwb and Hwb+ logins by month in 2015. Usage peaked in June for Hwb+ with over 160,000 logins for Hwb+ and in November 2015 for Hwb with over 170,000 logins. 0 shows share of schools registering at least 11 logins on Hwb and Hwb+ by month in 2015. There is a clear upward trend in the usage of both Hwb and Hwb+ in the autumn term of 2015/2016, following an expected drop in usage over the summer break.

**Figure 5.1: Hwb and Hwb+ logins (cumulative, all schools), March to November 2015**



Source: LiDW Digital Leader Hwb Dashboard 2015/16, November 2015 (Data not shown for August 2015 due to school holidays)

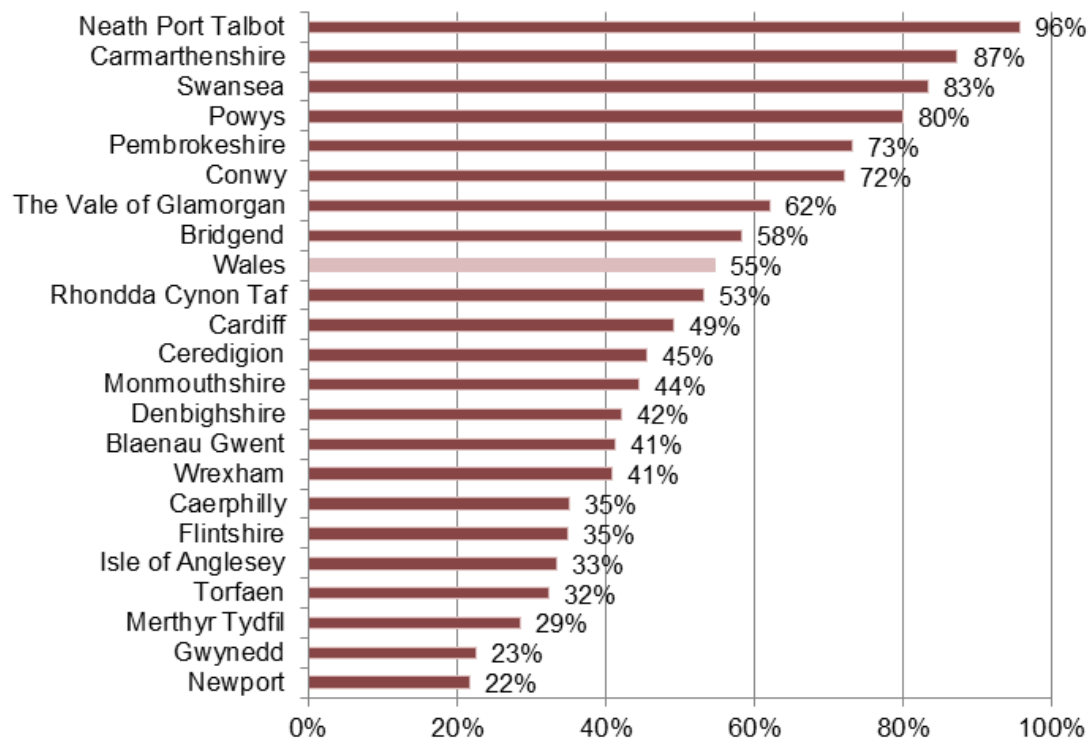
**Figure 5.2: % of schools with 11 or more logins to Hwb and Hwb+, March to November 2015**



Source: LiDW Digital Leader Hwb Dashboard 201516, November 2015 (Data not shown for August 2015 due to school holidays)

5.8 0 shows the percentage of schools in each LA that registered 11 or more logins to Hwb or Hwb+ (whatever is greater) in November 2015. 0 shows the same data mapped by LA and indicating the REC groupings. There is considerable variation in adoption between LAs with nearly all schools (96 per cent) in NPT registering at least 11 logins compared to just over a fifth (22 per cent) in Newport. LAs with the highest adoption rate are clustered in the South West Wales REC (ERW).

**Figure 5.3: % of schools with 11 or more logins to Hwb or Hwb+ by LA, November 2015**

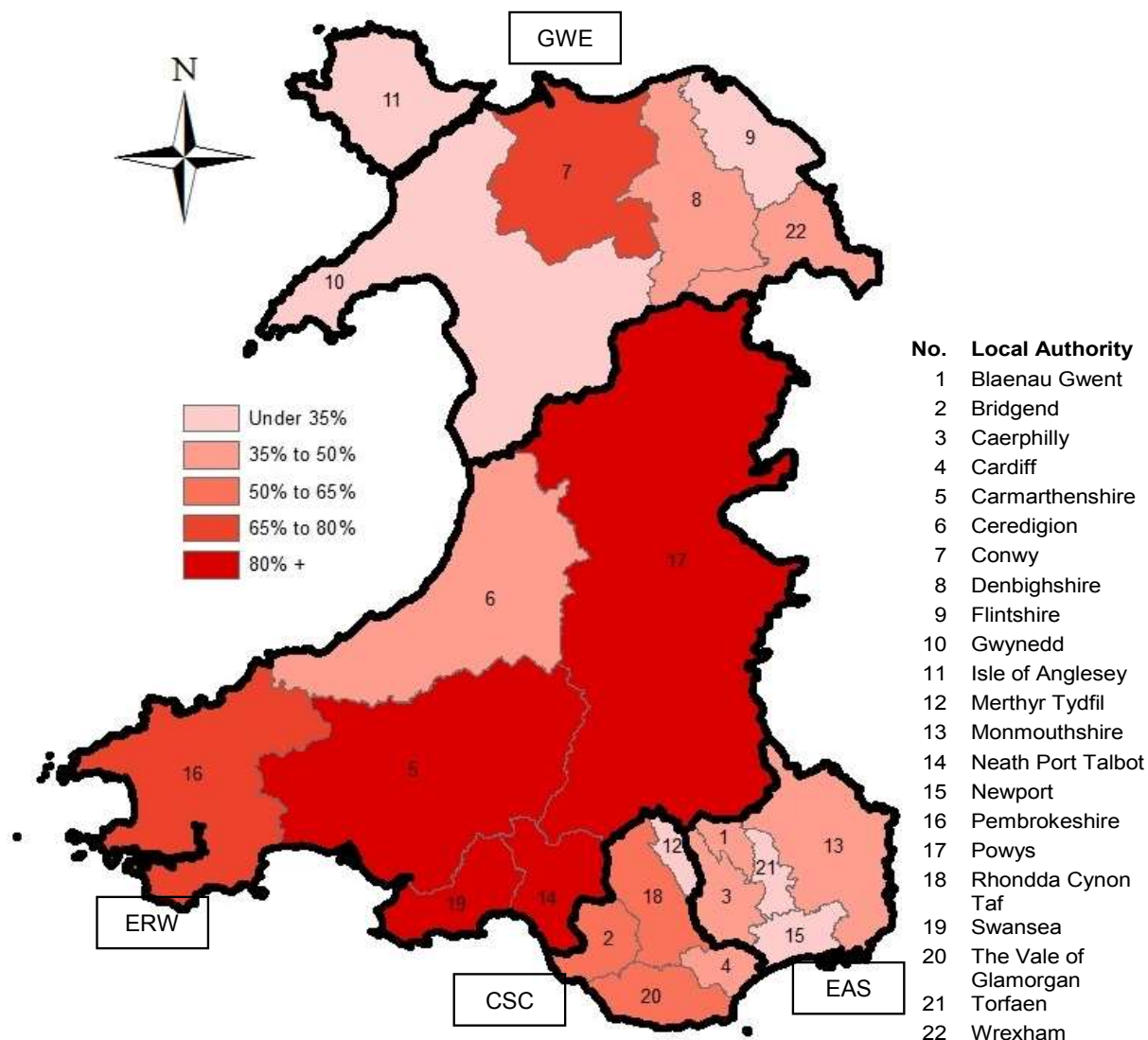


Source: LiDW Digital Leader Hwb Dashboard 2015/16, November 2015 (Data not shown for August 2015 due to school holidays)

- 5.9 The data does not show use of other VLEs: some of the variation in adoption can be explained by the historic use, investment and promotion of other learning platforms (such as Moodle) in specific LAs and regions. Even if schools are using other VLEs in these areas, it could be expected that there would be activity on the Hwb website by schools regardless of the VLE they choose to use.
- 5.10 Receipt of broadband upgrades through the LiDW Infrastructure Workstream also appears to be related to adoption of Hwb and Hwb+ with the four LAs which did not participate in the PSBA upgrade registering low adoption rates (with the exception of the Vale of Glamorgan). The Isle of Anglesey committed to the PSBA upgrade later than other LAs and as a result is furthest behind on the broadband upgrade broadband with only 80 per cent of schools at target speeds (at November 2015). Qualitative interviews with digital champions from Anglesey schools suggest that insufficient broadband connections affected schools' ability to adopt and implement Hwb and Hwb+.

5.11 More widely, evidence from the qualitative interviews with LA and REC staff and teachers suggests that as might be expected there is a relationship between the level of engagement with LiDW within a LA and adoption rates. Interviewees in LAs with high adoption rates described specific actions which they had undertaken to raise awareness and support schools with digital resources. They also appeared to have good levels of knowledge of the status of IT infrastructure their school estates and of LiDW products and activities. Some also described how other departments or individuals in LAs that interact with schools were promoting the use of digital resources. On the contrary, many LAs with low adoption rates did not appear to have taken actions to promote digital resources and had limited awareness of LiDW products and activities and limited knowledge of the state of play in their schools. In a few, there is some evidence of some departments within LAs promoting other systems that do not align with LiDW, for example IT departments promoting their own email systems to schools (rather than Hwbmail). It is also clear that a few LAs do not have many resources to engage with schools, with such services contracted to private organisations, and thus have had limited opportunities to promote LiDW objectives.

**Figure 5.4: LAs and RECs by % of schools with 11 or more logins to Hwb or Hwb+, November 2015**

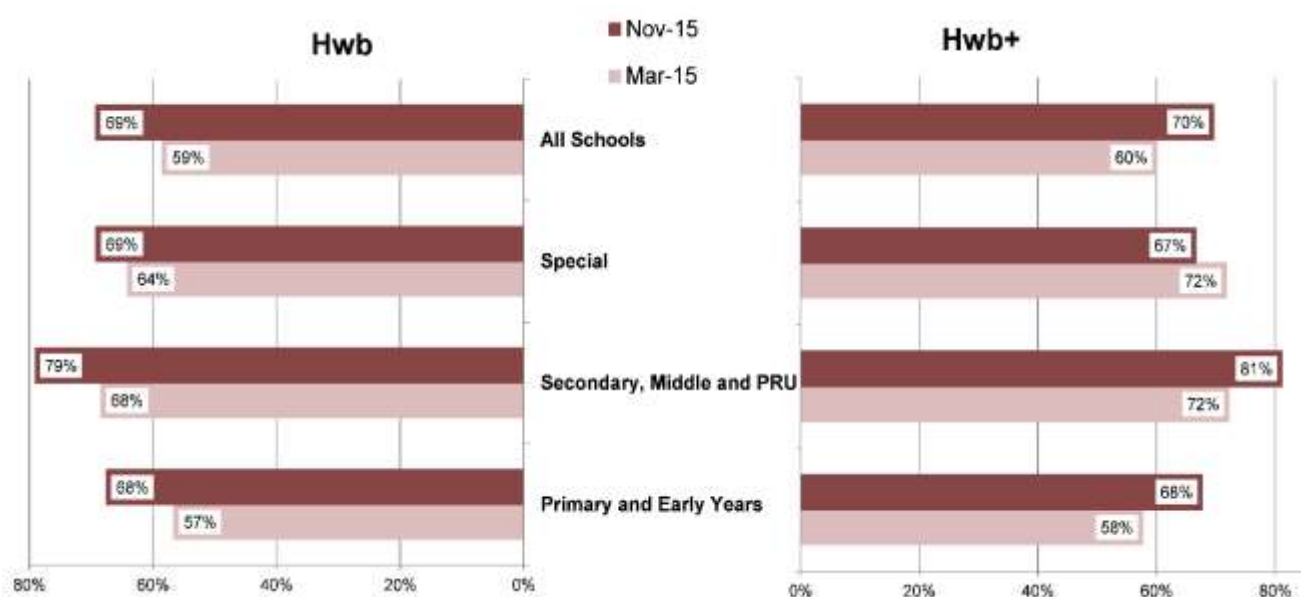


Source: LiDW Digital Leader Hwb Dashboard 2015/16, November 2015. Bold boundaries indicate REC groupings. Contains National Statistics data © Crown copyright and database right 2014; Contains Ordnance Survey data © Crown copyright and database right 2014. Map created using ArcGIS® software by Esri. ArcGIS® and ArcMap™ are the intellectual property of Esri and are used herein under license. Copyright © Esri. All rights reserved.



- 5.12 There is also some variation in use of Hwb and Hwb+ by type of school. As shown in 0, around 80 per cent of secondary schools (including middle and PRUs) registered at least one login to Hwb and Hwb+ in November 2015 compared to just under 70 per cent of primary schools (including early years settings). However, as secondary schools have higher numbers of teaching staff and pupils it could be expected that at least one login to either Hwb or Hwb+ is registered.
- 5.13 0 also shows that more schools used Hwb or Hwb+ in November compared to March 2015. Whilst there is clearly an upward trend, a third of all primary schools and a quarter of secondary schools in Wales did not use either Hwb or Hwb+ in November.

**Figure 5.5: % of schools with 1 or more logins to Hwb and Hwb+. November and March 2015**



Source: LiDW Digital Leader Hwb Dashboard 2015/16, November 2015

### *Teacher confidence and commitment*

- 5.14 LiDW training activities have led to an increase in participants' knowledge and awareness of Hwb+ and digital tools across the full range of uses, as shown in 0. A considerably higher proportion of staff based in secondary schools (and PRUs) disagreed with the statements (20 per cent or more) compared to primary (and early years) staff (5-13 per cent).

**Table 5.1: Improvements in knowledge and awareness (All training events)**

The training has improved my knowledge and awareness of...	Strongly Agree / Agree			Disagree / Strongly Disagree			Don't Know / Not Applicable	Responses (n)
	All	Primary	Secondary	All	Primary	Secondary	All	All
Learning platforms (such as Hwb+ or Moodle) at school	90 %	95%	78%	8%	5%	20%	1%	292
Hwb+ digital tools for teaching literacy and/or numeracy	85 %	89%	73%	12 %	10%	24%	2%	289
Hwb+ digital tools for communication	84 %	86%	76%	15 %	13%	23%	1%	292
Appropriate usage practices for Hwb+	84 %	86%	77%	14 %	12%	22%	2%	285

Source: ICF Hwb Training Survey, July 2015, 331 unique responses

- 5.15 In the main, fewer participants felt that the training activities sufficiently prepared them to cascade training to other colleagues. Just over a third of survey respondents (37 per cent) did not agree that the LiDW training they attended had prepared them for sharing learning, as shown in 0 below. Participants in Hwb Meet events were much more likely to agree or strongly agree (71 per cent) that it had than e-Safety event participants (48 per cent). There are also differences by type of school with two thirds of primary school participants (66 per cent) agreeing/strongly agreeing compared to just over half (53 per cent) of secondary school participants.

**Table 5.2: Preparation for Sharing Learning (All training events)**

To what extent do you agree or disagree whether the training/event(s) prepared you for sharing learning with other teachers and staff at your school?	Agree / Strongly Agree	Neither Agree Nor Disagree	Disagree / Strongly Disagree	Responses (N)
<b>By Type of Event</b>				
<b>Hwb+ Training</b>	62%	22%	15%	297
<b>HwbMeet event</b>	71%	20%	9%	56
<b>E-safety event</b>	48%	23%	29%	66
<b>By School Type</b>				
<b>Primary School (&amp; Early Years)</b>	66%	23%	11%	235
<b>Secondary School (&amp; PRUs)</b>	53%	21%	26%	77
<b>Special School</b>	77%	8%	15%	13
<b>All Schools</b>	<b>63%</b>	<b>22%</b>	<b>15%</b>	<b>325</b>

Source: ICF Hwb Training Survey, July 2015, 331 unique responses

- 5.16 Around 80 per cent of survey respondents indicated that they took some action to share learning with others following participation in LiDW events, as shown in 0. Nearly a third of participants from secondary schools (28 per cent) had not shared learning from the training compared with around a sixth of participants from primary schools (17 per cent).

‘I delivered training to colleagues about e-Safety issues. I feel that teachers have benefitted from the discussion about e-Safety. We are now as a school more united in our views of e-Safety and in our approach of how to address them – using the 360 Degree Safer Cymru framework. I’ve also run parents e-Safety awareness events.’ Digital Champion, Primary School

**Table 5.3: Sharing Learning (All training events)**

Have you shared what you learned on the training with others?	Yes	No	Responses (N)
<b>By Type of Event</b>			
Hwb+ Training	80%	20%	297
HwbMeet event	82%	18%	56
E-safety event	85%	15%	66
<b>By School Type</b>			
Primary School (& Early Years)	83%	17%	235
Secondary School (& PRUs)	72%	28%	77
Special School	85%	15%	13
All Schools	81%	19%	325

Source: ICF Hwb Training Survey, July 2015, 331 unique responses

- 5.17 Qualitative interviews with teachers and case studies indicate that **additional support** from Digital Leaders and others (such as by Hwb+ Accredited Trainers in LAs, RECs or Centres of Excellence) had greater effects on teachers' confidence and commitment to take actions to promote digital learning to others in their schools.

'We did have Moodle in the past but no one was using it... I went to the training ages ago but we weren't too convinced that it was worth the investment in time and effort. [Name of Digital Leader] came to the school and spoke in depth with the head. Then when the announcement from the Minister that funding for Hwb+ was secure came, we decided to start rolling out Hwb+ properly. [Name of Digital Leader] gave us a lot of guidance, they really helped us move this along. We have adopted a whole school approach, we have just completed training with the whole staff and we are training up the students, one class at a time.' Digital Champion, Secondary School

'Training at the school [delivered by Local Authority staff] has been great because it's nice to share ideas and questions and work in a small group in the classroom. That's when we've been able to focus on our own thing and develop aspects that we are interested in.' Digital Champion, Primary School

### *School leaders' commitment and understanding*

- 5.18 In the case study schools, the views and support of head teachers and senior management were important factors in the adoption of digital learning. In most of these schools, one or two enthusiastic individuals drove implementation supported by heads / management team staff that allowed these individuals time to make plans, supported their plans for training of other teachers and agreed to hardware investments.

A rural school in Pembrokeshire with nearly 500 students has been very successful with engaging teachers to use Hwb+ on a day-to-day basis. Currently, all teaching and administrative staff have Hwb+ accounts. This has been achieved by the school Business Manager taking a strategic and comprehensive approach to developing use of Hwb+.

The first stage of this was to get all staff to begin accessing HWB+ through a 'big switch-over' to email accounts hosted via Hwb+. To support this, on the first day of the new 2015 school year all staff were given introductory training to familiarise themselves with the platform and to see its tools and functions. Also, in order to make HWB+ useful and appealing for staff, the school have developed HWB+ as a 'one-stop-shop' for all staff, whereby the platform has replaced all of the paper based systems and the previous shared folders on the server. The Hwb+ staff page has all school events on a shared calendar, announcements, a thought for the day, school documents (schemes of work, school data archives), room and IT bookings, and the staff cover list. Staff also have their own individual pages where they access emails and their own calendar. It links directly to Class Charts (seating plan software) and to Office 365 tools.

The idea is that staff will first become familiar with Hwb+ and then, as part of the next phase of the strategy in spring 2016, will be invited to begin using Hwb+ in teaching practice, including online resources, play lists, video clips, student self-review, and home-work drop. This gradual and managed approach was considered to be important to avoid teachers using the platform and tools in a piecemeal and ineffective manner.

So far, more and more staff are using Office 365, the main advantage of which is the facility to work on shared documents and to have off-site access. Four teachers benefitted from more advanced LiDW training at the local authority and these are developing subject specific areas of the platform. The approach has relied upon strong support from the Digital Leader and from a member of administrative staff taking responsibility for populating the platform and managing its operation.

- 5.19 DCs in schools where implementation was low often explained that digital resources were not a priority for the head teacher meaning they had limited opportunities to drive the agenda within the school. A few described that they had struggled to persuade head teachers about the benefits of investing in Hwb and Hwb+ and that they would have benefitted from greater understanding by the leadership team.

‘The Head initially said “I don’t want to know anything about it, don’t tell me about it, I’m not interested”. I don’t think he understood that this [the Hwb and Hwb+] is what we would have. I think he thought that we’d still be able to use SIMS and do our own thing but that’s not the case. He’s quite a new-ish Head and I don’t think he really realised that the financial burden taken on by the Welsh Government was really with a view to everybody using the Hwb (sic). I think he thought, you know, out of the kindness of their hearts, the Welsh Government were upgrading all of their access to IT and I don’t think he really got it to be honest. It took a while to get the message through...’ Digital Champion, Primary

- 5.20 Findings from the Hwb Training survey (July 2015) found that over half (61 per cent) of respondents stated that leadership was ‘very knowledgeable’ or ‘knowledgeable’, four4 in ten10 (40%) of respondents said that the leadership was ‘not very’ or ‘not at all’ knowledgeable (0 below). Secondary school respondents were much more likely to state that the school leadership team were ‘not very’ or ‘not at all’ knowledgeable (56 per cent). In relation to overall views on digital resources, 60 per cent described views as positive or very positive while about a third (32 per cent) felt that leadership had ‘neither positive nor negative’ views about digital resources. The share of negative views is small (7 per cent) however this is again considerably higher, at 16 per cent, in secondary schools.

**Table 5.4: Perceived knowledge and views of leadership team in relation to digital resources**

	Primary School (& Early Years)	Secondary School (& PRU)	Special School	All Schools	Responses (N)
How would you describe the level of knowledge of the leadership team within your school in relation to digital resources?					
Very knowledgeable	9%	9%	23%	10%	31
Knowledgeable	56%	34%	46%	51%	164
Not very knowledgeable	31%	42%	23%	33%	107
Not at all knowledgeable	4%	14%	8%	7%	22
How would you describe the views of the leadership team in relation to digital resources?					
Very positive	18%	13%	33%	17%	55
Positive	48%	29%	50%	44%	141
Neither positive nor negative	30%	42%	17%	32%	104
Negative	3%	13%	0%	5%	16
Very Negative	2%	3%	0%	2%	6

Source: ICF Hwb Training Survey, July 2015, 331 unique responses

- 5.21 Interviews with teachers suggest that, over the course of the evaluation, more school leaders were becoming aware of the need to consider digital learning and technologies in their schools and some were finding out because of REC and LiDW activities, or through networking with other schools. Again, the effect of other factors such as Donaldson is cited by many teachers, as is the interest that Estyn has shown in this area in recent inspections.

### **Emerging Key Outcomes**

- 5.22 In this section we summarise emerging evidence of achievement of key outcomes (benefits) from the adoption of digital technologies and digital learning in schools in Wales. This draws on evidence from schools and teachers that are using LiDW products, as well as schools that are using products and technologies from other sources.

#### *Teachers are changing teaching and assessment practices*

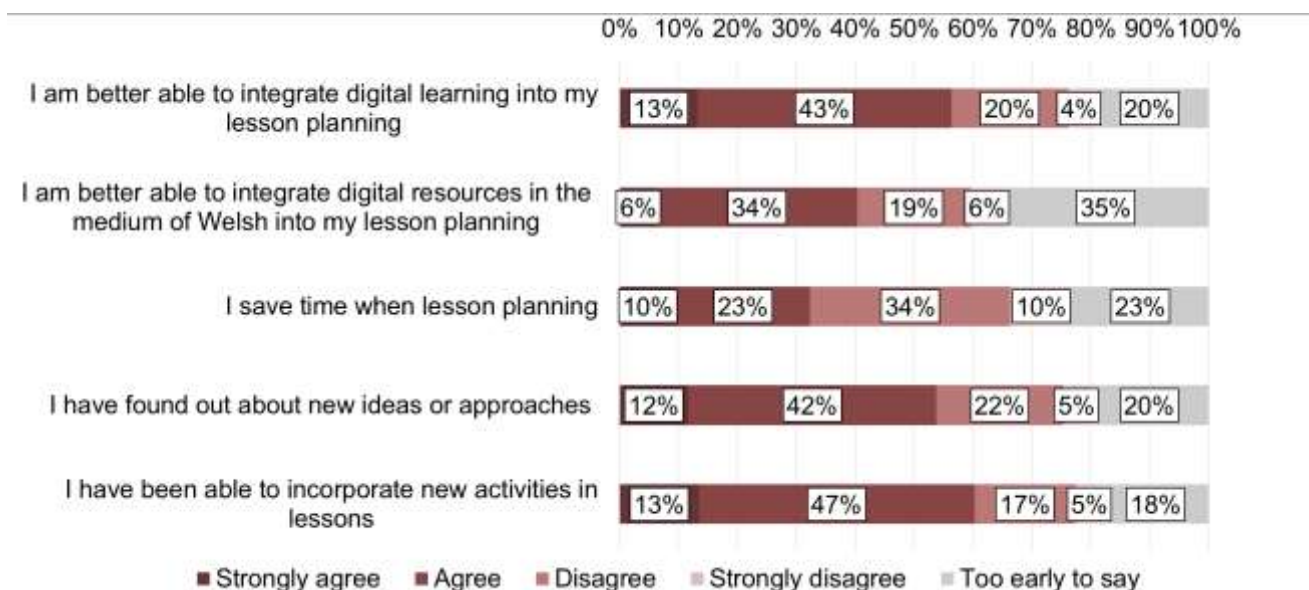
- 5.23 Teachers interviewed reported how digital resources and tools are providing them with more options for producing and delivering lesson plans and this can lead to better teaching. A few teachers spoke specifically about

incorporating Hwb resources, such as Hwb+ blogging and discussion tools and J2e into their lesson plans and using the Hwb Playlist feature to plan lessons.

‘I use the Hwb playlist for planning my lessons. I also use Hwb+ discussion boards and posts. Both are useful to me. They save me time, it’s great to have all resources in one place.’ Newly Qualified Teacher, Primary School

- 5.24 Nearly six in ten respondents (56 per cent) to the Hwb User survey agreed that as result of using the Hwb website they are better able to integrate digital learning into lesson planning and have been able to incorporate new activities in lessons, as shown in Figure 5.6. Just over half (54 per cent) agreed that they have found out about new ideas and approaches as a result of using the Hwb website.

**Figure 5.6: As a result of using the Hwb website (including resources)... , % agreement with statements**



Source: ICF Hwb User Survey, October 2015, 243 responses

- 5.25 In some schools who have adopted Hwb+, OneNote and other document sharing platforms, teachers told us that assessment practices are changing as a result.
- 5.26 Standardising assessment is an outcome mentioned by interviewees who use Hwb+ or other learning platforms. Online access to students’ work is



allowing teachers to use software (such as online tests) to collect data and systematically implement assessment schemes and record assessments for student work submitted online. A few schools have started sharing these with peers, across departments and with school management and this is leading to shared standards of assessment.

‘With Hwb+, it’s great to have all school resources in one place and all the children’s work stored online. The main benefit is that it creates a consistency of how teaching is organised and how children are assessed... Staff are really starting to see the benefits and are putting it to everyday use.’ Teacher and Senior Manager, Primary School

5.27 Accessing classwork and homework online is allowing teachers to incorporate peer-review and peer-assessment in their lessons as students use discussion forums and shared documents to review and comment on each other’s work. In a few cases, teachers and students are providing feedback through a range of media such as voice recordings or videos.

5.28 A few schools are using digital resources to collect portfolios of evidence of students’ work on the cloud, for example through Office 365’s OneDrive. This is changing assessment practices and offers opportunities for student self-reflection. A number of case study schools have mentioned future plans in this area, to meet the recommendations of the Donaldson review.

‘[We used to] take photos of children’s work and activities and burn them on CDs to give to parents at the end of term as evidence of their child’s learning journey. This was a massive administrative exercise that had to be done every term. With OneDrive, they are now saving everything to the cloud – often directly from tablets so there is no wires involved. It is so much easier. The learning journey will stay with the child throughout their career. It will be great for them to access it when they are older.’ Senior Manager, Primary School

A large primary school in Conwy has benefitted substantially from the infrastructure upgrades. A stable and secure broadband and Wi-Fi connectivity has allowed the school to consider how to best integrate technology in learning and assessment. The school has included ICT as one of their six key targets for the school and has developed a digital learning implementation plan. The plan considers infrastructure, training and support for staff, using digital resources, developing digital competences and using ICT for assessment. Digital resources are currently most commonly used in years 5 and 6.

To help teachers introduce digital learning for younger pupils, the school has developed an ICT Record of Achievement for each pupil which sets out what pupils in each year group should be capable of doing with digital resources. This is also used by teachers to assess pupils' digital competence levels. For the future, the school has adopted a target of establishing a system for recording evidence of pupils ICT skills. An action plan to achieve this has been developed and they are now moving towards implementation.

*Teachers have more and better opportunities for Professional Development*

- 5.29 Several interviewees reported that Hwb Networks are providing a useful platform for collaboration between teachers and thus directly providing more opportunities for professional development.
- 5.30 It is evident that Hwb+ has been used effectively to create communities of practice which offer professional development of teachers and other educators.

A special school in Central South Wales has used grant-funding from the Hwb+ Centre of Excellence programme to improve the effectiveness of a cross collaboration moderation (CCM) network set up for the professional development of teachers in special schools, enabling school staff to develop, discuss, test and share good classroom practice.

Prior to the project, a collaboration group existed involving seven special schools who met on a regular basis to discuss good practice in teaching children with special educational needs. The meetings were paper-led with proposals being submitted in hard copy and minutes and learning materials being copied around the group via e-mails. People attending, found the meetings useful but the processes were labour intensive, with each piece of work having to be copied several times, feedback was slow due to the volume of work submitted and there was no accessible central storage of verified material.

The CCM network now uses Hwb+ tools to set-up meetings, facilitate the moderation process and share the validated good practice material. At each meeting teachers submit good practice material for verification. Material can now be submitted in a number of formats. Examples could be a short video showing a teacher helping a pupil learn a new skill, a presentation explaining a school topic, blogs of pupils telling what they did in school or a lesson plan. The material is then discussed at the meeting giving teachers the opportunity to critique each other's work; to debate what will be effective and to share ideas about what works in their classrooms. If the material is approved, it is then uploaded on to Hwb+ for all the participating schools to access online. Hwb+ tools such as discussions, blogs and surveys allow the network to continue working on material outside the meetings.

Using Hwb+, the CCM network has now expanded to 30 schools from all over Wales. The success of the network has attracted interest from other schools and the network is considering ways to include videoconferencing to allow participation by schools that cannot travel to meetings.

Teachers have found the CCM network very useful to their practice and an effective way to help them develop and share good practice. A key point is that the quality of discussion about which material is effective is as important as the IT. 'Despite having more work than previous meetings to verify, the process was actually quicker than using paper copies. Along with this, the ability to have instant feedback prompted more professional discussion.'

A key benefit is that all material created is now saved on the cloud and instantly accessible. A considerable library of resources which specifically relate to teaching and learning in special schools has now been collated. This is seen as an important contribution to the adoption of good practice in SEN schools. Participants explained that many teaching resources available are not suitable or appropriate for use with students with specific special educational needs.

- 5.31 Several case study schools described how increased use of digital technology is making collaboration with other schools easier, simpler and more direct. Teachers reported that they particularly value sharing of knowledge, practices and resources with other schools; both to validate their existing practices but also to hear about new ideas and find resources and approaches that have been effective elsewhere.

A secondary school in Newport has been using a learning platform provided by a commercial organisation to organise, collaborate and engage students in learning. The school has been using the platform since 2012 and has since engaged with other schools to share learning and good practice.

The school identified that achievement in English and Maths at Key Stage 3 needed to be improved. It examined student achievement throughout the first years of secondary school and identified that students were leaving primary schools and entering secondary with high attainment levels and enthusiasm for the subjects. However, attainment dropped in the first years of secondary. It decided to work with its feeder primary schools to understand how to improve transition between key stages and teaching practices in years 7 and 8.

The school is currently working with two feeder primary schools in 'Project 5, 6, 7, 8'. The objective of the project is to develop concrete schemes of work for improving teaching for years 7 and 8. The idea is to familiarise year 7 and 8 teachers with "what is taught" at primary school to minimise repetition of material, keep students interested/challenged and ensure pupils have the required building blocks for the key stage 3 curriculum. It also aims to expose the teachers to 'how it is taught', i.e. pedagogies, learning and assessment technique used in primary schools that appear to be effective with students and challenge established pedagogical methods which seem to be less successful. Teachers are currently trying out resources developed through the project.

As with any collaboration project in schools, coordinating teacher time was initially a major barrier. The project now uses cloud storage to allow teachers to work on common documents (schemes of work and resources) remotely and in their own time. This means that when teachers do come together in face-to-face meetings once every half-term, there already has been considerable progress on the project online and meetings are more productive. Participation in the project has also encouraged one of the feeder primary schools to start using documents on the cloud more widely within the school.

- 5.32 Infrastructure improvements and investments are also leading to improved access to professional development opportunities. Teachers in some rural schools have reported that improvements in broadband connectivity and provision of videoconferencing facilities have allowed them to participate in professional development sessions remotely, when they would not have otherwise been able to do so.

'I've watched some of the LiDW webinars in real time. It's a really helpful that we have this option because attending in person would mean a two hour journey each way.' Senior Manager, Secondary School, rural area

- 5.33 A few schools are using digital technologies for developmental lesson observations. These schools mentioned using a specific software tool which allows teachers to film lessons, store videos on the cloud and allow managers and peers to observe and comment without having to physically attend classes. From a developmental perspective, teachers are using videos of lessons for self-observation, to reflect on comments and to track and evidence improvements over time.

*School management and operations have improved*

- 5.34 Many schools which have adopted Hwb+ and OneDrive and other file sharing platforms across the whole school reported in case studies and telephone interviews that school management and operations have improved as a result.
- 5.35 Benefits arise from sharing documents such as school policies, calendars, timetables and standardised letters/forms across the whole school. This has led to improved internal communication and consistency of implementation and reduced duplication. It also allows for more effective work planning within departments and schools and for managers to have a better overview of what teaching staff are doing. In some schools it has also led to a reduction in printing costs.

‘We are using OneDrive across the whole school to share resources. There are no excuses for not accessing or sharing as they are all in one place.’ Senior Manager, Secondary School

‘The SENCO has found that OneDrive is making her job easier already. They have been putting all the reading and spelling ages [achievement level data] in one place, so when she is doing forms she can go onto Hwb+ [sic] and find what she needs. Before she would have to go to the classes and chase up the information that she needed. She finds it a lot quicker and easier to access in one place, both in school and home.’ Digital Champion, Primary School

A primary school in Powys has made significant use of Hwb+ as a school-wide planning and management tool. Hwb+ is viewed as a type of '**digital staff room**'. All staff use Hwb+ for their weekly planning, this has made the timetable and lesson planning processes easier for individual teachers and has helped managers monitor whole-school planning.

The school also uses Hwb+ for communication and collaboration between staff and senior management. Key documents, such as the school improvement plan and school policies, are uploaded to Hwb+ to allow quick and immediate access, as well as space and opportunity for comments on proposed changes. This allows staff to work at home easily and to better contribute to strategic and managerial processes in the school, by collaborating on key documents.

To further the use of Hwb+ as a digital staff room, a staff wiki area has been set-up which allows staff to share learning from personal development or other training sessions. The school's Digital Champion is working on encouraging colleagues to use this area more frequently.

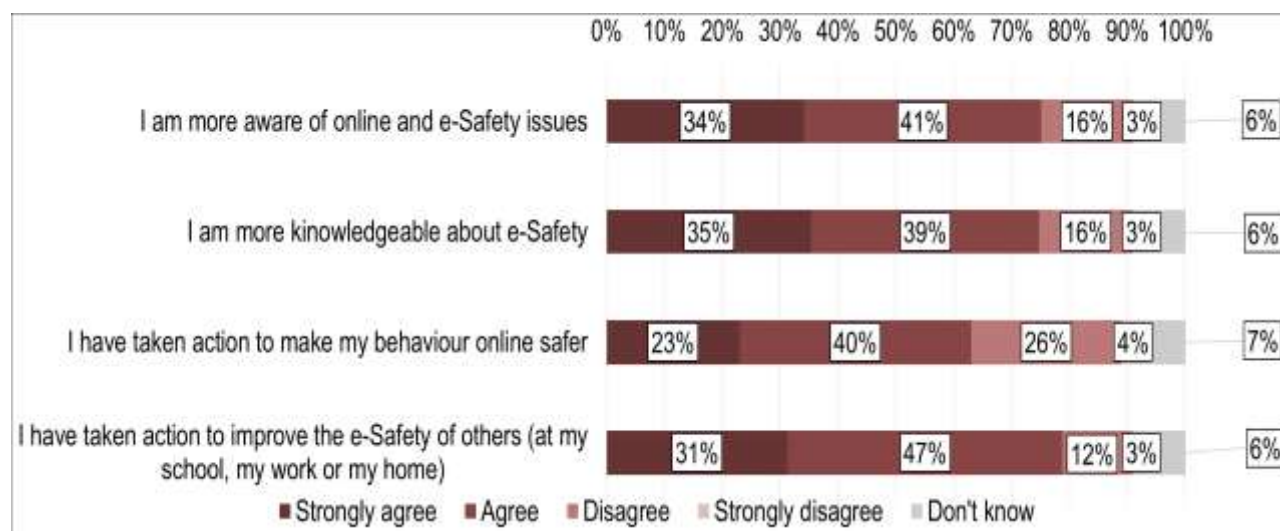
- 5.36 In relation to improving e-Safety practices of schools, teachers and school managers appear to be adopting safer behaviours online<sup>32</sup> and to take actions to improve the e-Safety of others, including pupils at school, as a direct result of LiDW activities. The survey shows that nearly eight in ten users (78 per cent) agreed/strongly agreed that they have taken action as a result of using e-Safety resources on Hwb. This is supported by evidence from DC and case study interviewees who spoke about completing the 360Degree Safe Cymru assessment and adopting e-Safety practices and policies.

'The e-Safety resources are very useful, they are easy to use and provide reassurance that our school is handling the issue correctly. We have used them to develop and adopt an e-Safety policy.' Head teacher, Primary School

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<sup>32</sup> Safer online behaviours include actions such as not sharing personal information online, using different passwords across sites, using passwords with adequate levels of complexity and frequently changing passwords.

**Figure 5.7: As a result of using e-Safety resources on Hwb..., % agreement with statements**



Source: ICF Hwb User Survey, October 2015, 117 responses

### *Improving communication*

- 5.37 Teachers interviewed in case studies and DC's interviewed who use Office365 have reported that provision of Office 365 and in particular Hwbmail has led to direct improvements in their communications. This is strongly felt in schools who previously had email systems with limited storage and which could not be accessed outside school premises or on wireless devices. Greater flexibility with Hwbmail has allowed teachers in these situations to access and respond to emails in a wider range of circumstances and respond more quickly.

'The whole school is now on Hwbmail which is amazing. We can access email on mobile devices which is great compared to the old email system.'

Senior Manager, Secondary School

- 5.38 In other schools, Hwbmail has allowed pupils to have email accounts for the first time. Some schools have started using Hwb+ and other learning platforms to extend student access to school work from home.
- 5.39 Those teachers who do use online homework submission through Hwb+ or other learning platforms spoke enthusiastically about this. The teachers have found that there is a noticeable improvement in the completion of homework when it can be submitted online. Learners spoken to in case studies told us that they prefer submitting homework online because it allows them to use

the family computer or tablet device for school work. As one year 6 pupil stated:

'I really like ICT. It's probably my favourite subject and I do it all the time at home and I think it's a really good thing to learn' Pupil, Primary School.

- 5.40 For many teachers, the greatest appeal of online submission of homework is that it arrives gradually over a week or weekend allowing them longer time for marking (which is preferable to receiving a mass of exercise books for marking on a Monday morning).

A primary school in Pembrokeshire has invested significantly in ICT hardware, software and staff training in recent years. The school has identified digital learning as a priority within its School Improvement Plan. This includes a commitment to ensuring that teachers collaborate by using OneNote on Hwb+ to plan and deliver lessons.

Hwb+ is now used by teachers for planning lessons on OneNote and by pupils within lessons. Various Hwb+ tools are used in classes, including Encyclopaedia Britannica, J2e and Office 365 tools. Teachers and pupils reported that it was useful to be able to access all of these tools and programmes using a single password through the Hwb+ portal:

'We've always done a lot with ICT and digital learning but in lots of different places. Hwb has allowed us to bring it all together and gravitate to one place.' Digital Champion

'You sign in to Hwb and its all there. It's nice to have everything in one place.' Year 6 Pupil

Staff collaborate on lesson planning through Hwb+ using One Note. This reduces duplication and saves time for teachers. It also means that if a teacher is absent for any reason, another member of staff can access the lesson plan and resources that are to be used.

Similarly, if pupils leave their homework diary in school, they are able to log in and see it online. About half of all homework is now submitted online. Teachers can access it immediately after submission and provide comments from any location and at any time.

'It's the immediacy of it. You can comment and respond immediately and pupils like that. It's definitely improved communication [with pupils].' Teacher

- 5.41 There is some evidence from a few schools that Hwb+ and other digital learning platforms are being used to improve communication and engagement with parents. In most cases this relates to improving the flow of information about school activities to parents and sharing portfolios of



learners' work with parents. The example below illustrates how one school is using Hwb+ to provide parents with tools to engage with their children and promote their development.

'We've had good feedback at parents' evenings. Parents like to be able to see their child's work and the pupils can log on and do this at home. It means parents can be more engaged throughout the year. It's also great for parents who work far away to be able to stay involved.' Head teacher, Primary School

The nursery at a primary school in Neath Port Talbot has been using Hwb+ to communicate with parents and support parents to help their children improve their skills at home. Most parents are regular users of Twitter and Facebook and are very interested in seeing photos of their children at school, as well as the work they produced – building on this, the nursery uses photos as a hook to draw parents into its Hwb+ class page.

'Some [parents] don't want to try because they think 'its school' but as long as you put photographs on, they will go on because they want to see their babies...' Teacher

In addition to photos, the page is updated weekly with a number target and rhyme of the week, the weather and the weekly prayer. Parents can also listen to the rhyme which is useful for parents who struggle with their own literacy. Teachers encourage parents to use the weekly material on the Hwb+ page as prompts for conversations with young children at home, as this has been shown to be effective in developing oral communication skills of young children.

'It [Hwb+] has been helpful in getting parents to talk to their children... A lot of parents come to me and tell me [about their child] 'he doesn't say anything at home'. I say to them: 'it's all on the website, look at the story books, the rhymes, and the maths we are doing, ask them questions about that'... Parents are using it more, I can see it from the visitor figures, and they are becoming more aware of what we are doing, what our expectations are and they are not babies.' Teacher

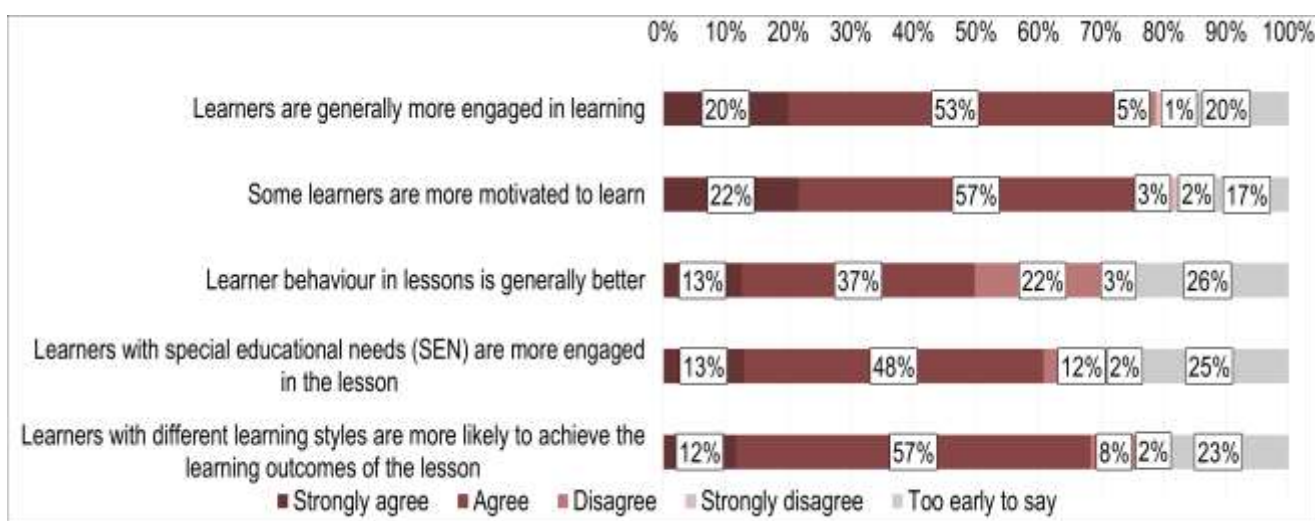
*Learners are motivated; learning meets the needs of a wider range of learners*

- 5.42 The majority of teachers interviewed in case studies and DC interviews agreed that using digital resources and technologies in learning can be effective in improving the engagement and motivation of learners. 'It really engages the children...work on Hwb+ such as Wikis and blogging makes it

more interesting, the children love it.’ Senior Manager and Teacher, Primary School.

- 5.43 This is supported by survey results. Figure 5.8 shows that most believe that by using Hwb digital resources that learners are generally more engaged in learning (73 per cent agree/strongly agree), more motivated (79 per cent) and learners with different learning styles are more likely to achieve learning outcomes (69 per cent).

**Figure 5.8: As a result of using Hwb Digital Resources..., % agreement with statements**



Source: ICF Hwb Users Survey, October 2015, 240 unique responses

- 5.44 Some teachers reported that using digital resources enables them to deliver learning that meets the needs of a wider range of learners. These teachers often said that using digital learning can be particularly effective for students with SEN and lower abilities. On several case study visits, researchers observed lessons where lower performing pupils worked effectively on computers or other devices. Teachers said that infrastructure improvements have allowed investment in tablets which are specifically used in SEN units.

‘We are using resources on Hwb more and more... I keep an eye out for resources highlighted on Dysg and pick them up if they are useful to us. They are very good for engaging and stimulating our pupils.’ Senior Manager, Pupil Referral Unit

‘We are seeing that weaker pupils who might dislike writing tasks normally now suddenly become keen and confident when writing on the Hwb+ discussion boards... Because of this even the most computer-phobic teachers have now got into discussion boards.’ Senior Manager, Primary School

This sentiment was also shared by pupils. One Year 6 pupil noted that:

‘Sometimes you can do stuff a lot easier and faster instead of writing it. You can do stuff like speak into the iPad and it will record it’. Pupil, Primary School.

- 5.45 A Welsh-medium secondary school in Gwynedd is located in an area of high deprivation with 40 per cent of pupils living in Communities First wards. Digital learning has been embedded within the School Improvement Plan and teaching plan. All teachers have been provided with an iPad and have received training on using digital learning, Office365 is used throughout the school and Hwb+ is used in more and more classes. The school’s vision is for all teaching and learning to involve the use of digital resources. The school also aims to ‘normalise’ the use of Welsh in digital communications by encouraging pupils to use the language on blogs etc.

‘These pupils speak Welsh to each other at school and at home, but online they’re using English because that’s what they’re used to seeing on Facebook and Twitter. We’re trying to encourage them to use Welsh online as well.’ Teacher

- 5.46 As an example, teachers and Year 8 pupils reported that the use of Hwb+ blogs in Welsh lessons to review books had led directly to an increase in the number of books read by pupils. Both teachers and pupils also reported that pupils who previously read few books were now reading far more and were more engaged in classroom discussions. Teachers reported they believed that literacy had improved among this group of pupils although it was too soon to be able to provide evidence of this or attribute it to the use of the blogs within lessons.
- 5.47 There is also an appetite to use digital technologies to facilitate and improve student ownership of technology.

A primary school in Central South Wales has fully embraced Hwb and Hwb+ and received funding to be a Hwb Centre for Excellence. Children now access Hwb+ two or three times a day both at school and at home. Pupils use the platform to complete homework, create blogs, share news, collaborate on live documents using Office 365 and communicate ideas with each other through Hwbmail and on message boards.

The success of the implementation of Hwb+ comes as a result of pupil ownership of this platform. Initially staff received training on how to use the platform though ultimately what has made the use of Hwb+ so successful in this school has been empowering the pupils to take ownership of this digital space. This ownership was as a result of training delivered directly to students who are able to design and use their own class pages and add content freely.

'Hwb+ provides a safe secure environment for pupils, parents and teachers- it is far more collaborative and everything is in one place'

The success of the school has been shared with others and pupils are now collaborating with another school where children share work and communicate through Hwb+. Collaborating with Welsh medium schools has been particularly helpful in improving their Welsh language skills.

'Hwb+ has created an ethos of sharing and a sense of community, children have even made new friendships as a result of using it'

The schools success has been noted by Microsoft and Encyclopaedia Britannica who have showcased their innovative approaches to using these resources within school.

#### *More opportunities for digital learning through the medium of Welsh*

- 5.48 The bilingual nature of the Hwb website and provision of digital resources in the medium of Welsh has helped teachers access and utilise these in their lessons. In the Hwb survey, Figure 5.6 shows how survey respondents agreed or strongly agreed that Hwb made it easier to access Welsh language resources (41 per cent against 20 per cent who disagreed/strongly disagreed). More respondents also agreed that the Hwb website has helped them integrate Welsh medium resources into their lesson plans (40 per cent against 25 per cent who disagreed/strongly disagreed).
- 5.49 There is also evidence from case studies and qualitative interviews that providing Hwb+ in the Welsh language has allowed schools to build on the appeal of digital technologies to encourage students to make greater use of the medium of Welsh both inside and outside the classroom. Case studies

have demonstrated how schools are using the wiki and discussion forums to encourage students to practise Welsh writing skills.

A Welsh-medium primary school in Torfaen has only recently started implementing the platform during the autumn term of 2015/16. All teachers and pupils have Hwb+ login details and a page has been set up for each year group. The school is primarily trialling the platform with Year 4 and 5 pupils, but staff are also using some features with other year groups.

Early implementation is showing that students are enthused by Hwb+ the discussion boards and resources that are available through the platform. For example, students are using the class discussion board and practising their Welsh writing skills online. One teacher reported that some pupils are posting discussion board comments in Welsh at home, thus effectively encouraging use of Welsh in a non-Welsh speaking area.

'We had around 200 class discussions through the medium of Welsh between September and March. And none of the pupils at the school come from a Welsh-speaking household.'

The school digital champion is also using discussion boards for assessment and planning of teaching interventions. By observing pupil's common spelling mistakes, the DC was able to plan short informal activities to improve the pupils' spelling of particular words.

'I'll take a look at what they're saying on the discussion and if I see they've misspelt a word, then I can make a note and then do a quick spelling activity the next day to focus on that.'

## **Assessment and Conclusions**

### *Intermediate Outcomes*

- LiDW infrastructure improvements in broadband and connectivity have allowed better and more effective use of existing technologies in schools. They have also allowed some schools to invest in new technologies. Both have led to an increase in the use of digital technologies in Welsh schools for teaching and learning.
- Growing usage figures and evidence from the qualitative research suggest that LiDW products and promotion activities have led to an increase in the use of digital technologies across schools in Wales.
- In January 2016, there were a total of 210,368 logins to Hwb. Hwb usage has increased steadily over the 2015/2016 autumn term and is considerably higher than usage in the summer term of 2014/2015.
- In November 2015, there were a total of 150,500 logins to Hwb+ which dropped to 124,779 in January 2016. Overall however, Hwb+ usage has

increased steadily over the 2015/2016 autumn term and is approaching the peak usage recorded in June 2015 (164,000 logins).

- Fifty seven per cent of schools in Wales registered 11 or more logins to Hwb or Hwb+ while around 73 per cent registered 1 or more login to Hwb in January 2016.
- A higher proportion of secondary schools (around 80 per cent) logged into Hwb or Hwb+ at least once in November 2015 compared to primary schools (68 per cent).
- There is considerable variation in usage by schools across LAs (ranging from 96 per cent to 22 per cent) and there is considerably higher adoption LAs located in the South West Wales REC. Activities and resources of LAs to promote LiDW, participation in the broadband upgrades and historical use of other VLEs are factors which could explain the vary high differences in adoption.
- LiDW training activities have led to increases in participants' knowledge and awareness of Hwb+ and digital tools. The effect was higher among participants based in primary schools compared to those in secondary schools.
- Support from Digital Leaders and Hwb+ Accredited Trainers (LAs/RECs/CoEs) boosted teachers' confidence and commitment to take actions to promote digital learning to others in their school, this appears to have a greater impact than participation in training.
- Head teachers and senior management support is a key factor influencing implementation in schools. Evidence from the July 2015 Hwb Training survey found that a smaller proportion of teachers in secondary schools compared to primary schools describe school leaders as their school as knowledgeable or having a positive attitude towards digital resources. LiDW funding has supported activities to improve awareness of school leaders.

#### *Emerging Key Outcomes*

- Teachers interviewed reported how digital resources and tools, including Hwb and Hwb+, are providing them with more options for producing and delivering lesson plans and this can lead to better teaching.

- Teachers reported that digital resources and tools, including those on Hwb+ and the cloud storage in Office365, have allowed more standardised and streamlined assessments, such as through online assessment and the collection of portfolios of evidence.
- Hwb Networks are providing a useful platform for collaboration and communication between teachers within and across schools. There are also instances where teachers have used Hwb+ tools to create communities of practice. These are leading to greater opportunities for the professional development of teachers.
- There is evidence that school management and operations have improved as a result of the adoption of digital technologies such as Hwb+ and OneDrive. Benefits arise from sharing documents, calendars, timetables etc. leading to more streamlining of processes and practices across schools.
- LiDW e-Safety resources and training appear to have led teachers to adopt safer behaviours online and to take actions to improve the e-Safety of others, including pupils at school.
- Digital resources have led to improvements in communication between teachers and pupils, such as through Hwbmail and homework submission on Hwb+, and in some schools between parents and schools.
- Use of digital resources in the classroom are strongly perceived by teachers to help engage learners and improve their motivation. The case studies and interviews provide many examples where teachers are using LiDW products to effectively engage a wider range of learners, especially those in lower ability groups and SEN students.
- Bilingual provision on the Hwb website and of Hwb+ offer schools more opportunities for to enhance learning through the medium of Welsh and the development of Welsh language skills.

## 6. Conclusions and Recommendations

- 6.1 This section draws together the conclusions from each of the previous three sections which assess performance against the indicators in the evaluation framework, in order to assess the key questions for the evaluation. This leads to some lessons learned and some recommendations for the future development of the LiDW programme to increase the benefits of the investments made for teaching and learning in schools.

### **How far has the LiDW programme achieved its aims and objectives?**

- 6.2 The LiDW programme so far, appears to be regarded as having made an important contribution towards achieving its overarching aim of supporting, facilitating and encouraging the use of digital resources in schools across Wales. More specifically, the programme has delivered the following to meet the high level targets set by the Minister:

- **Through the Hwb website, delivered an NDCR through the creation of the Hwb website.** Hwb was launched on 12 December 2012 meeting the Ministerial target. Hwb has since been substantially upgraded with improved design, new functions (such as the Playlist and Hwb Networks) and additional content (such as the e-Safety resources). As of November 2015, 70 per cent of schools recorded at least one instance of login to Hwb and 46 per cent recorded 11 or more logins;
- **Through Hwb+, delivered a learning platform or VLE which is centrally funded for all maintained schools in Wales.** Hwb+ meets the objectives for the VLE which were specified, including a single user log on for all teachers and learners, ability to be accessed anywhere at any time from any device, and tools and content, most notably access to Office365, purchased through a 'buy once for Wales' approach. The programme achieved provisioning to all schools which provided MIS data by July 2014, thus partly meeting the Ministerial target. However, unanticipated delays with MIS provisioning meant that there was a delay in provisioning some schools until these issues had been resolved. As of November 2015, all schools had been provided with Hwb+ usernames and passwords with the exception of a handful of PRUs and schools that were undergoing a process of consultation on closure. As of November 2015,



70 per cent of schools recorded at least one instance of login to Hwb and 49 per cent recorded 11 or more logins;

- Delivered upgraded broadband connections to 97 per cent of schools within programme scope by November 2015, partly achieving the Ministerial target to upgrade all schools by July 2014. Delays in implementation were attributed to the need for excess construction works for school sites not served by existing fibre connections, delays by BT Openreach to meet performance requirements and delays in planning approvals and power connections.

6.3 Additionally, the LiDW programme has delivered the following which contributed towards achieving its aims and objectives, specifically contributing to increasing awareness, knowledge and competences of teachers and other stakeholders and reducing the infrastructure barriers:

- An extensive programme of training of teachers and support to schools through a team of Digital Leaders. This initially was a two-day training programme for nominated teachers to become 'Digital Champions' that were then required to cascade training to other teachers at their school which reached teachers in 89 per cent of schools. More recently a programme of training modules and training sessions has been developed, alongside support from Digital Leaders at school sites supporting RECs to deliver coordinated interventions for those schools with the lowest engagement in digital technologies.
- A considerable and varied programme of awareness raising, engagement and training activities addressing teachers, school leaders and other relevant stakeholders. These include (among others) the annual NDLE conference and awards, the programme of HwbMeets events, e-Safety briefings and CPD webinars.
- Provided direct funding to RECs, LAs and 18 schools which were selected to be Hwb Centres of Excellence to enable them to undertake activities to support the programme's aims. Funding has been used to upskill staff (to Hwb+ Accredited Trainers) to support schools directly, to deliver training and awareness events such as conferences for teachers and, in some cases for IT upgrades.

- Provided direct funding to LAs towards infrastructure improvements in schools to ensure that schools had the right equipment to benefit from improved broadband: typically for the purchase of broadband routers and Wi-Fi equipment.

6.4 It is clear too that the LiDW programme has delivered activities towards fulfilling the vision of the Digital Classroom Teaching and Task Group by:

- Establishing a system for creating, storing and sharing digital learning resources, through the resources section on the Hwb website.
- Encouraging teachers to share resources and to operate in a digital environment, through the provision of Hwb Networks on the Hwb website and cloud storage areas on the Office365 OneDrive and delivering of a variety of training and awareness raising activities.
- Supporting, encouraging and preparing teachers to operate in a digital environment, by delivering and supporting the implementation of a learning platform for all Welsh schools (Hwb+), providing national access to software (Office365, J2e, Encyclopaedia Britannica) and delivering a range of training and awareness raising activities.
- Contributed to reducing technical infrastructure challenges faced by schools by delivering broadband and Wi-Fi connectivity improvements.

6.5 Usage data on Hwb and Hwb+ and evidence from surveys and qualitative feedback seems to indicate that LiDW products and activities (including infrastructure improvements) have had a positive effect on increasing the use of digital resources in schools. Training, support and awareness raising activities also appear to have contributed to increases in the use of digital resources and to improving the confidence and awareness of teachers and school managers.

6.6 Nonetheless, it is clear that take-up could be significantly improved in many schools if they are to take advantage of what is in place for teaching and learning, school management and parental engagement, and more work is needed to encourage and enable the majority of teachers to use digital resources as part of their teaching approach.

## **How well has the programme been implemented? What has worked effectively?**

- 6.7 Overall, the LiDW programme has been well-executed. It is evident from those implementing the programme, the documentary material, contractors and other delivery agents and a wide range of stakeholders in schools and LAs when set against good practice that:
- The Welsh Government staff implementing LiDW adopted appropriate and effective operational management and commissioning arrangements. The team put in place suitable processes and arrangements to plan, develop, test and oversee each element of the project. The performance of contractors was reviewed regularly and challenged appropriately.
  - The team exercised flexibility when challenges arose and worked with contractors and other stakeholders to identify and implement solutions that met programme aims and ensured value for money, for example in relation to infrastructure excess construction costs and in adapting the role of Digital Leaders in the 2015/16 academic year.
  - The NDLC provided advice and guidance which has benefitted the implementation of the programme. Additionally, the programme gathered formal and informal feedback through a wide range of user and stakeholder forums and groups to pilot, test, develop and adjust products and deliverables.
- 6.8 The programme achieved most of the targets set at the outset, as described in section 6.1. Delays in achieving the ambitious infrastructure improvements were caused by external factors that could not be controlled by the LiDW team. The LiDW team appears to have taken appropriate actions to resolve challenges and work towards completion of targets as speedily as possible. Better scoping of the feasibility and understanding of the potential challenges could have better informed the setting of these targets since these external factors should have been 'known risks'.
- 6.9 As to the quality and effectiveness of LiDW products and activities, the evidence drawn from users indicates that the products and activities delivered by LiDW meet user needs albeit partially in some cases. More specifically:

- With Hwb, interviewees and survey respondents have mixed views about the usefulness of the website and the resources available. E-safety resources and Hwb Networks are the features considered to be most useful by users. Improving the categorisation of resources, improving the search function and ensuring that Hwb resources appear in Google search results would make Hwb more useful for users.
- With Hwb+, many interviewees and survey respondents are using Hwb, Hwb+, Office365, J2e or Encyclopaedia Britannica regularly (i.e. they have incorporated them in their day-to-day practice) and report that these have been very useful for their work. Office365 and J2e are particularly highly rated by users. Simplifying the username and password formats, improving the loading speed and stability of Hwb+ and improving access to Office365 for Apple devices would improve the user experience for Hwb+ products.
- With the training delivered by or funded by LiDW, most survey respondents and interviewees were very satisfied with the organisation of training and the quality of learning resources. Most agreed that the content was useful and relevant to their jobs. Feedback on the initial training offer indicated that this may have not equipped teachers without basic knowledge of digital technologies and digital literacy with sufficient confidence to take further action and that it could have been better tailored for secondary school users. However, the model of cascading training through DCs was not very effective in training the majority of teachers in Wales and helping all schools to adopt Hwb+. DCs and schools which appear to have made most progress were already either early adopters or enthusiasts of technologies or have received additional support from DLs or others.
- Considering LiDW events and communication, feedback from participants of teacher-focused events such as HwbMeets and the NDLE has been overwhelmingly positive with many rating these events as very useful in our survey. Feedback from follow-up interviews with DCs suggest that more opportunities for sharing experiences with other teachers would be welcome. Most partners (LAs, RECs, contractors) were satisfied with communication and support received by the LiDW team. Sharing data on

school take-up with LAs and RECs has improved the quality of collaboration between these and LiDW and is leading to more focused conversations and coordinated actions to target schools and provide support for using the resources available.

**What are the current challenges to achievement of longer term programme objectives?**

- 6.10 Despite the success of the LiDW programme to date, there is still considerable progress required to reach a state where all learners benefit from the effective use of digital resources at their schools. As shown by usage statistics, nearly a third of schools did not register any logins on Hwb or Hwb+ in November 2015 while just under a half registered 11+ or more logins. This varies considerably between LA areas. It is clear that awareness and usage is increasing over time as products are improved and teachers become more convinced and confident about using Hwb and Hwb+. However, it is also clear that considerably more logins than 11 every month would be required to indicate that LiDW products are used well and regularly in a school and those schools are using them not just for teaching and learning but also school management and administration.
- 6.11 The evidence and assessment in sections 4 and 5 indicates that the following challenges affect achievement of LiDW programme objectives:
- **Moving from awareness to whole-school implementation:** LiDW activities have clearly been successful in raising awareness of digital resources and Hwb products among schools and teachers and improving the skills of some teachers who have attended training. This has not necessarily progressed to whole school take-up of Hwb+ and adoption and regular use of digital resources by a majority of teachers. Effective implementation requires a mix of ingredients, including the existence of an action plan, support from leadership, dedication and commitment by teachers, appropriate time and resources and external support (Digital Leaders and RECs/LAs) and external pressure (Donaldson, Estyn, parents). This mix must be recognised in communication, training and support by the Welsh Government and must also be understood by RECs/LAs.

- **Limited resources for external, expert support:** It is clear that Digital Leaders and other external support can help a school progress with adoption and implementation. As the Digital Leader team has reduced in size, support must now be delivered through the range of knowledgeable individuals trained as Hwb+ Accredited Trainers in RECs, LAs and schools. Coordinating, targeting and monitoring of activities of this wider support network needs to be a national and regional focus.
- **Persistent and pre-existing views of Hwb+ and the mixed economy of learning platforms:** Feedback from early users' (pilot schools) experience of Hwb+ continues to circulate among the teacher community. As a result there is a persistent view that Hwb+ is challenging to use and slow to load. There also appears to be a perception that it is not suitable for secondary schools, however this is not supported by the current data on take-up among secondary schools and case studies. There is clearly scope for the Welsh Government to consider and improve how Hwb+ is perceived by teachers. On the technical side, there is clearly scope for greater investment and improvements in User Experience Design (UXD) for Hwb+. There is also scope to continue working with LAs and schools to ensure that internet connectivity and hardware devices are configured in a way that improve the Hwb+ user experience.
- **Mixed economy of learning platforms and digital resource sources:** schools in Wales are using other learning platforms such as Google Apps, Moodle and Edmodo. Teachers also use digital resources from a variety of sources, including commercial operators. There is scope for Welsh Government and RECs to further recognise the mixed economy of learning platforms and ensure that existing users of other systems participate in peer-learning and networking. There is also scope for curriculum leads within Welsh Government and RECs to provide guidance for digital resources which could include resources outside the Hwb family.
- **Lack of awareness and knowledge about the benefits of learning platforms and other digital tools:** Interviews suggested that many teachers and head teachers (and a few LAs) remain unconvinced about the benefits of adopting Hwb+ and other digital resources and many cannot perceive the benefits from the experience of other schools.

Evidence from the research literature and that collected by this study demonstrate immediate and obvious benefits from the adoption of learning platforms may arise from improvements in: teaching organisation, school efficiency and management, teaching practices (and teacher professional developments) and learner engagement. The appeal of time saving to teachers should not be underestimated. The impact of learning platforms to learner attainment (compared to the benefits of digital resources) is less clear and cannot necessarily be (easily) evidenced, especially in the short and medium term.

- **Teacher confidence and competence:** There was a sense amongst interviewees that across Wales, there are some teachers who do not have sufficient, basic ICT skills. This in turn affects their confidence to trial the use of digital learning. In some schools, head teachers and other school managers are included in this category. This was reported even in schools with high levels of engagement and take-up of digital technologies, and among teachers who received Digital Champion training. To achieve whole-school implementation, there is a need to consider how to ensure minimum levels of digital competence for the entire teaching and teaching support workforce.
- **Availability and access to suitable hardware and connectivity:** Many schools reported investments in IT infrastructure over the course of the LiDW programme. It is not always clear that schools have had plans in place to make good use of these purchases. Other schools are still lacking suitable hardware. Lack of access to appropriate devices continues to be reported as a barrier to take-up of LiDW products by many schools. Teachers also report dissatisfaction with broadband and Wi-Fi availability at their schools. Further work is needed to ensure that hardware and other infrastructure on school estates meet the needs of teachers for digital learning.

### **What is working in schools to increase effective implementation of digital teaching and learning?**

- 6.12 The evidence from the interviews, surveys and case studies when set against the wider literature on digital learning in schools indicate that the following are necessary for effective implementation.

### *Strategic leadership and planning*

- 6.13 Case study schools that have progressed further with whole-school adoption have in place strategic plans or policies for digital learning and effective support and commitment from school leaders. These plans include adoption of Hwb+ or other learning platforms, along with plans for using digital learning, teacher training, investments and student digital competence levels.
- 6.14 This evidence supports findings in the existing literature. For example, Jewitt et al. (2010) identified that, to be effective, digital technology needs to be deployed strategically by school management and leadership. Ofsted (2009) also found that learning providers with the better VLEs had clear guidance and support from senior managers, some of whom had extensive experience of VLEs. Condie and Munro (2007) also found that a critical factor in the effective use of ICT is the existence of a school-level e-strategy that addresses future development and sustainability and includes some means of monitoring progress against identified milestones. Innovations require a whole-school commitment if they are to become embedded in the daily experience of learners. Likewise, survey findings reported by SchoolNet (2013) suggest that there is a strong case for developing strategies concerning the use of ICT in teaching and learning.
- 6.15 Features of effective strategic deployment in place in case study schools include:
- clear vision about what the school wants to achieve
  - links between the digital learning plan and the school improvement plan, identifying how digital technologies will help the school be more effective
  - identification of steps required to achieve the vision, and a timeline
  - setting of targets and processes monitoring achievement towards these
  - lines of responsibility, including ownership of the plan for the whole and plans for leaders/champions in specific departments or year groups
  - processes for review and adaptation of the plan.

‘I haven’t started using Hwb+ but it’s now in my performance targets to get the English department to start using it. I am going to pilot it in that department first, train pupils to use and then plan to roll it out to other departments.’ Senior Manager, Secondary School



A primary school in Flintshire is implementing a strategic approach to adoption of digital technologies at the school. Implementation is led by school's Business Manager and the Deputy Head Teacher. It is actively supported by the entire School Management Team who have committed budget and allowed staff time to enable implementation.

The school has an 'ICT Development Plan' in place for 2015-17. The plan considers: hardware, software, hardware training, software training, timetable for deployment of hardware, curriculum mapping, an eCadet programme (student champions), school website and VLE (Hwb+). For each aspect, the plan identifies: tasks, responsible person, INSET requirements, costing, completion dates and success criteria. The ICT plan sits within the School Improvement Plan which identifies 'continuing to improve access to and standards in ICT, and further develop staff skills' as one of its whole-school targets.

*Improving teacher confidence and basic skills*

- 6.16 Teacher reluctance to engage with digital learning and change teaching practice was recognised to some degree by all case study schools. Schools further ahead in whole-school implementation have taken a number of actions to gradually build basic skills across the whole workforce and boost teacher confidence. Examples include:

- **Piloting, trialling and 'taster' sessions:** case study schools typically explained how they trialled out features with one or two classes and departments and fixed glitches before rolling out to the whole school. Many case studies also explained how they arranged informal 'taster' sessions to ensure that teachers were familiar with the devices and the software before rolling out formal plans requiring or expecting teachers to use IT. For example, one school arranged for demonstrations of Chromebooks and tablets in the staff room and allowed teachers to trial them prior to committing to purchasing equipment.
- **Mandating use of ICT for non-pedagogical purposes:** a few schools now require all teachers to use online document sharing (OneNote, OneDrive, Google Drives) for submission of lesson plans and have moved to online calendars, timetables and other administrative arrangements. This has required even the most reluctant teachers to use ICT in their day-to-day activities. This is expected to boost confidence in ICT in general and teachers to incorporate digital learning when engaging with learners.

- **Pairing and mentoring schemes:** one school is supporting the roll-out of Hwb+ in every classroom by ensuring that reluctant teachers are always paired with a more confident teacher. Nearly all case study schools spoke about formal and informal arrangements for more confident colleagues to support those less confident; some secondary schools have adopted a 'department champion' scheme.
- **Student Digital Leader schemes:** these have been set-up in a number of case study schools. Selected pupils nominated as 'Digital Leaders' are given responsibility to support teachers and other peers with ICT issues and champion digital learning. Such schemes are reported to be effective in supporting teachers with IT frustrations, encouraging more teachers to use IT as well as developing leadership and communication skills in participating pupils.

#### *Appropriate planning for infrastructure*

- 6.17 School investments in additional hardware (laptops, tablets, internet and Wi-Fi connectivity) was reported widely in our interviews with schools and LAs. In particular, purchases of iPads were frequently mentioned by Digital Champions as evidence of their schools' commitment to digital learning. However, it was not always evident that schools had clear plans on how to best deploy additional devices effectively and strategically.
- 6.18 Case study visits identified that the schools further ahead in adoption of digital learning have all considered school infrastructure and made strategic decisions about upgrades and purchasing of additional equipment. This in turn has allowed schools to ensure access to an appropriate range of devices which has encouraged teachers to use them in their lessons and classroom management.
- 6.19 Such schools described undertaking a process which included the following steps:
- reviewing existing hardware and connectivity
  - consulting widely with teaching staff to assess whether there are specific needs in certain curriculum areas

- identifying what further hardware is needed in order to achieve the school's digital learning aims (what is missing)
- identifying sources of funding for investment
- purchase a range of devices (often ensuring access to a number of operating systems)
- developing a plan for management of devices (safety, appropriate use, logins, cloud storage etc)
- supporting teachers and teaching staff to use devices in their lessons.

6.20 In addition to devices, some schools also made investments for connectivity improvements (for example purchasing their own Wi-Fi routers) and some moved away from LA internet provision and managed their own networks because they felt that these better met their needs.

*Networking and sharing of best practice with other schools*

6.21 Networking, peer-learning and sharing of practices and experiences have been shown to be effective in encouraging teachers to adopt new pedagogical approaches and techniques in all areas of learning. It is clear from the case studies and feedback from Digital Champions and participants in LiDW events that these activities can also be effective in supporting teachers to adopt digital learning.

6.22 Teachers we spoke to in case study visits and during telephone interviews were motivated by opportunities offered to share their experience with other schools. Schools spoke enthusiastically about being recognised externally, either by commercial providers (Microsoft, Google etc.), through LiDW/REC activities (Hwb+ CoEs or being asked to present in regional conferences) or other Welsh Government activities (such as the Digital Pioneers scheme).

6.23 Similarly, teachers who participate in the Hwb Networks community gave enthusiastic feedback about potential benefits from participation in this network, in both interviews and in the Hwb User Survey.

**What can be done to further increase the impact of LiDW investment?**

6.24 The challenges in Wales and the solutions which are addressing them indicate that the following would further increase the impact of LiDW investment:

- Improved understanding and awareness among all teachers in Wales of digital resources, their benefits, how these can be used in school organisation, communication and learning and specifically of LiDW products.
- Improved understanding and awareness among head teachers and other school leaders of digital resources and their benefits, specifically around school organisation and meeting Estyn requirements.
- Continued direct support for teachers leading the implementation of digital strategies in schools.
- Continued direct support and guidance for all teachers adopting or trying to adopt digital resources in their practices.
- Improved awareness and understanding of digital resources among parents and the general public.
- Effective active promotion of LiDW aims by RECs and all LAs.
- Continued technical improvements and upgrades of Hwb and Hwb+.
- Further improvements to school estate hardware and connectivity.
- Collect further evidence of benefits of using digital resources for schools, teachers and learners.

*Recommendations for the Welsh Government*

6.25 The Welsh Government should consider the following:

**Communication to teachers**

6.26 Develop a communication strategy and launch a communication campaign targeted at all teachers in Welsh schools. This should include:

- Changing existing perceptions of Hwb+ and confusion between Hwb and Hwb+. The campaign could attempt to communicate clearly what each product is and what it intended to do, and that they are different.
- Providing information about Hwb+ performance (loading speeds) and uptake (particularly in secondary schools) could help refute persistent views currently circulating the teaching community.
- Focusing on benefits that can be easily evidenced and understood by teachers. 'Time saving' is particularly appealing and well understood. 'Learner engagement' is also appealing. Effects on attainment are least tangible and hardest to prove and therefore hardest to communicate;

focusing on these may be overpromising and lead to subsequent disappointment and disengagement.

- Focusing on the most popular ‘hooks’ for teachers. Office365 and the Playlist function are easily understood and communicated. J2e and Encyclopaedia Britannica are well received in primary and nursery schools, special schools and SEN units within secondary schools.
- Promoting the infrastructure investment success story. Create a direct link to what the Welsh Government has offered to each school to an expectation that teachers and head teachers should use the offer to its maximum potential for the benefit of teachers (‘time saving’) and learners (‘digital competences’).
- Supporting a mixed economy of learning platforms to ensure that schools and others who choose other systems participate in sharing and peer-learning with other schools.

#### **Communication to head teachers and other school leaders**

6.27 School managers and budget holders influence the extent and speed with which schools will take up the digital resources available. This should include:

- Developing specific messages for school managers and considering how to best communicating these to them. ‘Better monitoring’ and ‘standardisation’ appears to be of interest to this audience, as is preparing the school and its workforce to meet ‘Donaldson’ recommendations and Estyn inspection criteria.
- Promoting the requirement for schools to develop a Digital Learning School Plan and Implementation Framework; and supporting this by providing example Action Plans on the Hwb website.
- Supporting a mixed economy of learning platforms and other digital tools. As well as consider how school leaders of schools who are using other software can participate in the conversation about how to best adopt and use digital resources in schools in Wales.

### **Supporting teachers leading the implementation of digital strategies**

- 6.28 There remains a need to support teachers who are leading the implementation of digital learning strategies at their school, who may or may not be designated digital champions. Actions to support these could include
- Setting a Welsh Government expectation for every school to have Digital Learning School Plan.
  - Setting a Welsh Government expectation that every school should have at least one named individual with responsibility for implementing this plan.
  - Considering how the best practice from Hwb+ CoEs and other effective schools can be showcased, including online and through regular 'roadshows'.
  - Providing practical support on the Hwb website such as example Action Plans, ICT infrastructure plans, 'how-to' guides and videos.
  - Supporting a mixed economy of platforms and ensure that schools that are adopting platforms other than Hwb+ participate in activities.

### **Supporting teachers to adopt digital learning**

- 6.29 There is also a need to support all teachers to adopt digital learning. Actions to support teachers in general could include
- Setting Welsh Government expectations for all teachers to frequently incorporate digital learning in their lessons.
  - Setting a Welsh Government expectation for all schools to support teachers to develop their digital competences and to use digital technologies in their teaching and lesson planning.
  - Continuing to provide and support the Hwb Networks space; celebrating and promoting examples of active and effective networks; providing online 'how to' support for users who wish to start their own Hwb Network; and improving how existing Networks are categorised on the Hwb website.
  - Promoting and celebrating other cross-school collaboration activities which use digital technologies, such as through Hwb+ and OneDrive.
  - Considering how the best practice in the use of digital resources can be showcased, including online and through events.

## **Working with RECs and LAs**

- 6.30 Over the course of this evaluation, the REC's ability and capacity to deliver activities to support the aims of LiDW (as is their remit) has changed with RECs taking a more active role. LiDW staff are now increasingly moving away from delivery into providing information (data on take-up by school) and collaborating with REC and LA staff to coordinate deployment of support resources.
- 6.31 Going forward the Welsh Government should consider
- Setting targets for adoption and usage rates of Hwb and Hwb+ in schools for each LA and monitor progress towards these targets.
  - Providing challenge to RECs about their own progress in implementing digital learning strategies and to LAs about their actions in promoting take-up in schools.
  - Continuing to work with RECs and LAs on targeting resources to helping those schools that are not engaging with digital learning.
  - Ensuring that key messages about LiDW, Hwb+ and Hwb are also communicated to RECs and LAs.
  - Providing support material for RECs and LAs to communicate and disseminate these messages to schools.
  - Ensuring that RECs and LAs have direct contact with teachers leading on implementation of Digital Learning strategies.
  - Ensuring that RECs and LAs support these teachers with direct support (resources) and guidance, including through setting up clusters or local networks for these lead teachers to collaborate, network and share practice with other schools.
  - Engaging more intensely with other staff in RECs and LAs, such as curriculum leads and school improvement leads, to highlight how Hwb and Hwb+ can support educational objectives in these areas such as through Hwb Networks.
  - Continue support for RECs and LAs to adopt digital technology and tools in their internal organisational activities and thus to 'lead by example'.

## Parents and the general public

- 6.32 The Welsh Government has made a considerable investment in young people's education through the LiDW programme. The investment has included tangible outcomes that parents and the general public can comprehend. Providing every student in Wales with Office365 access and ensuring that every school has broadband and Wi-Fi are both accomplishments that parents and the general public can appreciate.
- 6.33 To date, the LiDW programme has focused on communication within the teaching community. There is potentially scope to aim communications at parents, with the overall objective of harnessing Pushy Parent Power to drive change in schools and encourage teachers to adopt new practices. For example, parents could be encouraged to ask teachers why they have their child has not been allocated a Hwbmail username and password yet or how often their child has used digital devices in school.

A primary school in Powys located in a rural area with high social deprivation used Hwb+ to provide resources and activities for pupils over the summer school holidays. During the preceding academic year, the school ran an after-school computer club for pupils in the younger age groups. The club aims to give children an opportunity to learn and practice basic computer and technology skills which, at that age, also aims to develop and improve fine motor skills such as through using tablet track pads. By the end of the year, the children were able to competently access Hwb+ and execute specified activities. To ensure that the learning was not lost over the school break, the school set-up a dedicated space on Hwb+ with resources and activities for children to access at home, assisted by their parents. The school sent out a letter to parents, reminding them of usernames and passwords and asking them to use the site with their children over the holidays. Teachers involved report that this initiative was well received by parents and is expected to be repeated in future holiday periods.

'Parents were very receptive of the Hwb+ site... They really liked the idea that their children had something to do over the holidays...because of our location, it's hard to access activities... so it can be challenging for parents to keep them occupied and stimulated over the long break.' Teacher, primary school

- 6.34 In the future, there is also potential to encourage involvement of parents with the Hwb website and to encourage schools to use Hwb+ to improve communication and engagement between parents and schools. The e-Safety resources could be further promoted to parents. The scope of Hwb could be



extended to providing resources for after-school parental support and home schooling.

### **Technical investment and improvements**

- 6.35 The Welsh Government should continue funding technical improvements and upgrading of Hwb and Hwb+.
- 6.36 A substantial number of schools have now adopted Hwb+ despite initial reservations about sustainability of funding. Abandoning the project would severe disappoint and alienate teachers who are enthusiastic about further take-up of digital learning and have invested their considerable time and effort setting up Hwb+ school sites and promoting it to colleagues at their school.
- 6.37 The LiDW team should continue to work with contractors and technology providers to
- Improve the user experience of Hwb+ and in particular to fix common complaints such as control over usernames/passwords, loading speeds, freezing/crashes and steps required to edit pages.
  - Continue working with Microsoft to further improve the user experience of Office365 and particularly for users accessing this on Apple devices.
  - On Hwb, improve the organisation of resources and search function on the Hwb website and ensure that resources appear in Google searches.

### **Connectivity and Hardware**

- 6.38 The Welsh Government should continue working with LA school estate management (IT) staff to
- Ensure that schools can actually connect at broadband speeds funded by LiDWG and blockages and bottlenecks are eliminated.
  - Reduce and eliminate barriers to connectivity such as filtering and firewalls that inhibit the effective use of digital resources in some schools.
  - Support schools to adopt strategic approaches to the purchasing and management of devices and allow schools to have responsibility for these.
  - Support development and implementation of plans towards achieving the aspirational 2020 connectivity targets.

## **Future evaluation**

- 6.39 For future evaluation of the LiDW programme the following should be actioned
- Consider commissioning representative surveys of teachers and/or managers to provide a more robust baseline (from this point) which can be used to assess the effectiveness of future actions such as a communication campaign.
  - Consider funding further studies that can provide robust evidence of the impact of use of LiDW products on schools, teachers and learners.
  - Ensure that consent for participation in further research and communication is sought at event registration (e.g. through Eventbrite).
  - Ensure that consent for sharing end of grant reports is included in the terms of provision of grants.
  - Develop Grant Report Templates that clearly require beneficiaries to list tangible outputs in a format that can be aggregated (consider using Excel pro-forma).

### *Recommendations for RECs and LAs*

#### **RECs and LAs education or school improvement support staff should consider the following**

- Taking actions to ensure that all teachers and non-teaching staff are aware of LiDW products and other digital resources, for example consider how these can be promoted in their own communication with schools and teachers.
- Ensuring that their own staff and particularly school improvement officers are aware of LiDW products and other digital resources, how they can be used in schools and expected benefits.
- Using digital technologies and resources in their own communication and engagement with schools, such as establishing Hwb Networks for existing regional or local communities of practice and OneDrive shared spaces for sharing of documents.
- Encouraging head teachers and school leaders to develop a Digital Learning Action Plan and to embed this in other school improvement plans.

- Engaging and directly supporting teachers in every school who have responsibility in implementing Digital Learning Action plans.
- Developing and providing resources and guidance specifically for these teachers, which include practical examples and 'how to' guides.
- Creating communities where teachers share learning and experiences on a regional or local basis, supported by a Hwb Network group.
- Promoting and sharing successes and best practice including through events and training activities.
- Encouraging schools to engage with parents through digital resources and technologies.
- Collecting evidence of how digital resources are benefiting schools, teachers and learners and sharing these.

**LA IT infrastructure departments should consider the following**

- Ensuring that schools can actually connect at broadband speeds funded by LiDWG and blockages and bottlenecks are eliminated.
- Reducing and eliminating barriers to connectivity such as filtering and firewalls that inhibit the effective use of digital resources in some schools.
- Supporting schools to adopt strategic approaches to the purchasing and management of devices and allow schools to have responsibility for these.
- Supporting development and implementation of plans towards achieving the aspirational 2020 connectivity targets.

*Recommendations for schools*

6.40 Schools should consider the following

- Developing a Digital Learning Plan and align this with School Improvement Plans.
- Identifying a specific individual with responsibility for implementing and monitoring achievement towards the Digital Learning Plan and ensure that this person has sufficient time to do so.
- Ensuring that all teachers and non-teaching staff are aware of Hwb, Hwb+ and other digital resources and know how to start using them.
- Participating in the sharing of learning and best practice with other schools in the local area and more widely through CPD, networking, other events and Hwb Networks.

- Using Hwbmail and Hwb+ to communicate with parents and share learners' work with them.
- Undertaking an audit of IT infrastructure on their school, identifying current and future needs and developing a plan to address these.
- Collecting and sharing examples of how using digital resources has led to benefits for the school, teachers and learners.

## Annex A: Evaluation Framework

**Figure A1.1: LiDW Evaluation Framework**

Evaluation Indicators	Qualitative Interviews							E-surveys				
	Doc Review	MI	LiDW Staff	Con	NDLC / Other Stakeholders	LA ICT Staff	REC + LA Edu Staff	Digital Champions	Digital Champions	Teachers	Hwb Users	Case Studies
Initial design, planning and development of the programme												
Welsh Government programme design matches identified need / solves problem	x		x	x	x	x	x					
Welsh Government and contractors identifies and allocates sufficient resources	x	x	x	x	x	x	x					
Welsh Government put appropriate commissioning and delivery arrangements in place	x		x	x	x	x	x					
Welsh Government sets measurable and realistic targets set (including expressed in contracts / grants)	x		x	x	x	x	x					
Welsh Government / contractors set appropriate and realistic timelines	x	x	x	x	x							
Welsh Government ensures ongoing review arrangements in place	x	x	x	x	x							
Welsh Government and contractors effectively respond to problems, barriers, delays	x		x	x	x	x	x					
Programme activities respond to user feedback (process, products , training)	x		x	x	x	x	x					
NDLC oversee and contribute to programme delivery effectively			x		x							
NDLC promote LiDW activities to networks					x							
LAs and RECs are aware of LiDW aims and activities					x	x	x					
LAs and REC engage with LiDW and deliver actions (e.g. PSBA, MIS transfer)					x	x	x					
LAs and RECs promote and support LiDW to schools and teachers					x	x	x					
School and teacher awareness of								x	x	x	x	x

Evaluation Indicators	Qualitative Interviews						E-surveys					
	Doc Review	MI	LiDW Staff	Con	NDLC / Other Stakeholders	LA ICT Staff	REC + LA Edu Staff	Digital Champions	Digital Champions	Teachers	Hwb Users	Case Studies
LiDW and activities												
Stakeholder engage with LiDW and promote/support activities	x		x		x							
Outputs												
An assessment of achievement against target: Hwb+ schools provisioned, Hwb resources, no's trained, no of support sessions held, no of schools broadband upgraded	x	x	x	x	x							
Assessment of outputs delivered by REC and LA grantees (LiDWG and CPD grant)	x		x			x	x					
Awareness of connectivity (broadband/Wi-Fi) improvements in school						x	x	x	x	x	x	x
Awareness of Hwb and Hwb resources							x	x	x	x	x	x
Users' views of quality of Hwb and Hwb resources (easy to use, find)								x	x	x	x	x
Users' views of usefulness/fit of Hwb resources (range, curriculum priorities, learner type e.g. SEN, Welsh)								x	x	x	x	x
Awareness of Hwb+ and tools						x	x	x	x	x	x	x
Users views of quality of Hwb+ resources (reliable, easy to use)								x	x	x	x	x
Users views of usefulness of Hwb+ resources (curriculum, LNF, organisation, comms, assessment)								x	x	x	x	x
Use and views of e-Safety tools / resources								x	x	x	x	x
Awareness of training and support offers (champions, leaders, REC/LA, other)							x	x	x	x	x	x
Satisfaction with training and support							x	x	x	x	x	x
Intermediate Outcomes												
Use of Hwb resources								x	x	x	x	x

Evaluation Indicators	Qualitative Interviews							E-surveys				
	Doc Review	MI	LiDW Staff	Con	NDLC / Other Stakeholders	LA ICT Staff	REC + LA Edu Staff	Digital Champions	Digital Champions	Teachers	Hwb Users	Case Studies
Use of Hwb+ tools and resources								x	x	x	x	x
Use of 365 e-Safety Cymru and Access Agreement								x	x	x	x	x
Teachers have improved levels of digital skills, competencies and knowledge					x		x	x	x	x	x	x
Teachers are confident and committed to using digital resources in the classroom					x		x	x	x	x	x	x
Teachers are confident and committed to using digital resources for communication (learners, other teachers, parents)					x		x	x	x	x	x	x
School leaders are confident and committed in using digital resources for management and communication					x		x	x	x	x	x	x
Teachers and school leaders can use digital resources strategically (within school plan)					x		x	x	x	x	x	x
Teachers and school leaders can train or inform other teachers about digital resources					x		x	x	x	x	x	x
Teachers and school leaders are aware and recognise e-Safety risks				x	x		x	x	x	x	x	x
Teachers and school leaders deliver e-Safety messages in the classroom					x		x	x	x	x	x	x
LA and school staff do not use blanket filtering / blocking of social media / other sources				x	x	x	x	x	x	x	x	x
Teachers use LiDW activities (Hwb+ tools, Hwb networks, Hwb meets) for sharing and professional development					x		x	x	x	x	x	x
Young people and parents are more aware of e-Safety risks					x		x	x	x	x	x	x
Key Outcomes												
Teachers changed their practice (for teaching, other guided learning and assessment)					x		x	x	x	x	x	x
Teachers create resources for					x		x	x	x	x	x	x

Evaluation Indicators	Qualitative Interviews						E-surveys		
	Doc Review	MI	LiDW Staff	Con	NDLC / Other Stakeholders	LA ICT Staff	REC + LA Edu Staff	Digital Champions	Digital Champions
Hwb and shares ideas and methods									
School management and operations have improved					x		x	x	x
Improved internal communications in schools					x	x	x	x	x
Improved external communications (with parents, others)					x		x	x	x
Wider deeper learning					x		x	x	x
Learners are more engaged and motivated in learning					x		x	x	x
More opportunities for personalised and independent learning					x		x	x	x
Learning is more inclusive and meets needs of wider range of learners					x		x	x	x
Schools, teachers and young people adopt safe online practices and behaviours					x		x	x	x
Effects on financial savings / costs (e.g. teaching time)					x	x	x	x	x



## **Annex B: Recommended national action**

### **Encouraging, supporting and preparing teachers to operate in a digital environment and to share their digital practice**

The Group identified that teachers need to be able to deliver technology-enhanced teaching and promote digital learning resources, as well as create resources and share them with other teachers. The Group believed that it was important to develop teachers' and learners' digital competencies, including

- Digital technologies: how technologies can be used innovatively and effectively to enhance learning.
- Information literacy: how to search effectively, how to organise content found, how to evaluate online content, how to reference or attribute an online source, how to source 'legal-to-use' media.
- Digital citizenship: an understanding of the potential risks of digital technologies and how to manage them.

Such competencies could be developed through initial teacher training and continuing professional development (CPD) or supported by 'e-Coordination'. Teachers and learners would be expected to be able to

- Share their own digital resources with others and recommending new resources.
- Respond online to existing resources, for example by rating their quality and utility.
- Join and contribute from their experience to online communities of practice.

### **Establishing and developing a system and a national collection for creating, storing and sharing digital learning resources**

The Group recommended that a national collection should reflect new ways of learning and teaching rather than being simply a repository of didactic information. Resources should be interactive and participative and involve online sharing, reaction, feedback, rating and tagging, by teachers and learners.

It envisaged that resources created, licensed or commissioned by the Welsh Government, those it purchases (from commercial educational digital

resources) or obtains freely from trusted sources (i.e. public and third sector bodies) and those created by teachers and learners themselves (i.e. peer-to-peer sharing) would be placed in the collection. Resources could include e-books, teaching packages, moving image and sound resources, software tools and apps, learning materials including primary sources, and professional help for teachers including e-periodicals and research material. The collection should be freely accessible at school or home, authoritative and of high quality, bilingual (as far as is practicable), cleared for intellectual property rights, and maintained and updated so that they continue to be relevant.

The report also spelt out the requirement that the technical infrastructure would have to be sufficient to provide access to and use of the collection by schools, such as connections to the internet at sufficient speeds and flexible to use a variety of hardware or web resources. The Group expected that the collection would contribute to better educational outcomes by

- Spreading good practice in digital-based learning and supporting new ways of learning and teaching.
- Increasing substantially the number and range of learning resources available.
- Making more efficient use of the funds available in Wales for learning resources.
- Encouraging media and methods that suit the learning preferences of contemporary learners.
- Promoting interactivity and reflection in learning in place of 'chalk and talk'.
- Ensuring high quality and reliability in resources, and legality in their use.

Within three months of the report the Minister set out a response<sup>33</sup> (June 2012) which broadly adopted the Group's recommendations for action. Delivering these recommendations and Ministerial commitments was the starting point and main objective of the LiDW programme.

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<sup>33</sup> <http://learning.gov.wales/docs/learningwales/news/121119hwbwalesupdateen.pdf>