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Scotland's Learning Partnership



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BYOD: BENEFITS, OPPORTUNITIES AND CHALLENGES

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We research what works, develop new ways of thinking and implement new approaches. Working with partners, we transform people's experiences of learning and employment. What we do benefits individuals, families, communities and the wider economy.

We bring together over 90 years of combined history and heritage from the 'National Institute of Adult Continuing Education' and the 'Centre for Economic & Social Inclusion'.

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CONTENTS

INTRODUCTION.....	5
1.1 Rationale.....	5
1.2 Scope.....	6
1.3 Methodology.....	6
DESK RESEARCH AND SURVEY ANALYSIS.....	7
2.1 The BYOD landscape.....	7
2.2 Findings.....	8
2.3 Recommendations.....	9
2.4 The survey results.....	9
2.4.1 BYOD policies.....	10
2.4.2 Current use of own devices.....	11
2.4.3 Support and services.....	12
2.4.4 Training.....	13
2.4.5 Equality of access.....	14
2.4.6 Implementing BYOD.....	14
2.6.7 Participation in forthcoming trial.....	17
3.1 Conclusion.....	18
BYOD TRIAL.....	19
4.1 Trial aims.....	19
4.1.1 Trial participants.....	19
4.2 Key barriers identified.....	19
4.3 Capturing feedback and recording progress.....	20
4.3.1 Blogs.....	20
4.3.2 Video.....	20
4.3.3 Audio.....	20
4.3.4 Screen grabs.....	20
4.4 Trial outcomes.....	20
4.5 Support.....	Error! Bookmark not defined.
CASE STUDIES.....	22

5.1 Barnsley College.....	22
5.2 Coleg Cambria.....	24
5.3 English for Action.....	27
5.4 Everyday Computers	29
5.5 Gateshead Learning Skills	31
5.6 Moulton College.....	35
CONCLUSION	39
APPENDICES	41
1.1 Barnsley College.....	41
1.2 Coleg Cambria.....	44
1.2.1 Results of ACL staff using mobile devices	44
1.2.2 Results of learners using mobile devices	49
1.3 Everyday Computers	59
1.3.1 Ground rules	59
1.3.2 BYOD questionnaire 1	60
1.3.3 BYOD questionnaire 2	62
1.4 Gateshead Learning Skills	63
1.4.1 BYOD questionnaire results	63
1.4.2 BESMARTONLINE postcards	66
1.5 Moulton College.....	67
1.5.1 Survey – mix of devices	67
1.5.2 Availability	68
1.5.3 Wi-Fi.....	69
1.5.4 Device use	69
1.5.5 OneFile.....	70

INTRODUCTION

This report sets out the findings of the project: Bring Your Own Device (BYOD): benefits, opportunities and challenges; funded by the Department for Business, Innovation and Skills (BIS) to support providers through research evidence, models of practice and resources to make more effective use of disruptive (including learner owned) technologies to improve and enhance the learner experience, including assistive technologies that improve access for learners with learning difficulties and/ or disabilities; and to equip those working in formal, non-formal and informal learning settings to effectively facilitate learners using their own devices in their learning. The project was conducted between August 2014 and March 2015.

The project consisted of evidence gathering and analysis through desk research and an online survey of providers. NIACE worked in collaboration with Adult and Community Learning providers, Community Learning Trusts and Workplace learning providers to trial existing models and/ or new approaches of BYOD use in differing learning contexts including:

- in a remote, rural location;
- in local authority provision;
- in a community building;
- for apprenticeship and/ or traineeship provision;
- with learners with learning difficulties and/ or disabilities; and
- off campus, outside the classroom, online, peer-supported, 24/7 and blended provision.

In addition NIACE set up a Jisc mail group made up of providers and Jisc experts with specialist knowledge on accessibility and inclusion, change implementation, and teaching, learning and assessment. The mail group served as an online forum of support throughout the duration of the project for questions and answers, to share resources and good practice, and to provide expertise on BYOD and disruptive technologies in Further Education and Skills.

1.1 Rationale

NIACE research and consultation with providers indicated a need for institutional policy to change with regard to the use of learners' own devices (BYOD) in line with FELTAG¹ recommendations that learners should be equipped to learn with their own devices. In informal and community adult learning, where learning can take place in any area and, in many cases, in a building run by a local authority, the position is very different. Similarly, use of BYOD in the workplace offers great potential for 24/7 anywhere anyplace learning, for example in small, medium enterprises (SMEs), in

¹ Further Education Learning Technology Action Group

supporting apprenticeships, traineeships and continuing professional development (CPD) but current use is sporadic.

Difficulties can (and do) include:

- Access to mobile phone signals.
- Access to public Wi-Fi.
- Restrictions on corporate Wi-Fi systems (including those open to the public).
- Lack of support for mobile device usage.
- Lack of guidance for staff and learners.
- Lack of policies by learning providers.
- Limited knowledge of resource requirements for multiplatform access.
- Access to suitable multiplatform enabled learning resources.
- Inclusive access to technologies for learners.

This project identified successful models of BYOD use for informal, community based and workplace learning by working in collaboration with providers by trialling models of BYOD use, supported by the provision of technologies to overcome barriers of access. Participating providers developed case studies demonstrating how BYOD has been applied to the learning environment; as well as identified barriers to use and methods of overcoming these, including approaches to ensure equality of access for all learners.

1.2 Scope

The trial of different approaches to BYOD in differing learning contexts focussed on delivering learning outside of the classroom rather than in formal, classroom-based settings. Not every approach trialled resulted in a 'successful' strategy per-se however it did help to identify possible solutions. BYOD and the use of digital technology may exclude some learners from participating therefore we looked at different scenarios and assessed the types of devices that learners use. It was also important that BIS funding was not used to support organisations to implement a whole organisational change programme as part of the trial.

1.3 Methodology

Desk research, consultation with project interfaces, and a call for information in the form of an online survey took place in August/ September 2014 which helped to identify successful models and approaches of BYOD use for informal, community based and workplace learning, as well as barriers, solutions, and recommendations. Providers that took part in the trial were identified from the desk research and survey results, an analysis of which took place in September/ October 2014.

The trial phase (November 2014 – March 2015) built on what providers are already doing around BYOD, and to share good practice. The main objective was for trial participants to identify an approach to BYOD that needed improving the most which included some of the barriers that they had identified in the survey such as: staff reluctance, cost of maintaining networks etc. Once a particular approach had been identified, each participant was tasked to come up with different solutions during the trial period such as new or improved BYOD policies; guidance for staff and/ or learners; engaging with relevant staff to overcome staff reluctance etc.

DESK RESEARCH AND SURVEY ANALYSIS

2.1 The BYOD landscape

The period of desk research for this project revealed a range of research and policy work in the area of BYOD from around the world. This also partly overlaps with wider work on Mobile Learning.

BYOD itself has origins in the world of work as *'the policy of permitting employees to bring personally owned mobile devices (laptops, tablets, and smart phones) to their workplace'*². The name and the concept have been adopted widely in Education and have given rise to both practice advice and research into the implications for teaching and learning.

The national support organisation, JISC Legal³, has published advice which effectively covers legal and safeguarding aspects of a BYOD policy and includes a policy template document which addresses this.⁴ This work is focussed on compliance and data security. It also focuses primarily on use of different devices (users own devices) to access the same resources and data that learners already use and, as such, does not address the aspiration of this project to deploy technologies 'disruptively'.

There is now a growing body of research which does explore the disruptive potential of M Learning⁵ and more recently as learning in a specific BYOD context.

Cochrane et al have suggested a mapping of pedagogies to technological changes over the last ten years and propose the model shown below as a Post Web 2.0 continuum.

Table 1. The Post Web 2.0 continuum⁶

² http://en.wikipedia.org/wiki/Bring_your_own_device

³ <http://www.claytonchristensen.com/key-concepts/>

⁴ <http://www.jisclegal.ac.uk/ManageContent/ViewDetail/ID/3070/BYOD-Legal-Toolkit-1-May-2013.aspx>

⁵ Cochrane T (2009), Mobilising learning: intentional disruption – harnessing the potential of social software tools in higher education using wireless mobile devices.

⁶ Thomas Cochran^a*, Laurent Antonczak^b, Helen Keegan^c and Vickel Narayana (2014): Riding the wave of BYOD: developing a framework for creative pedagogies. Research in Learning Technology 2014, 22: 24637 – <http://dx.doi.org/10.3402/rlt.v22.24637>.

1995	2005	2013
Web 1.0	Web 2.0	Mobile
Teacher	Student	Collaboration
LMS	eportfolio	Connectivism
Content delivery	Student generated	Student generated
PowerPoint	Content	Contexts
Pedagogy	Slideshare	Mobile social media
	Andragogy	Heutagogy
	Social learning	Creativity
	Building learning communities	Active participation in professional communities

Whilst this model was developed in Higher Education there is a clear resonance in some of the survey responses (below). Some respondents offering answers in line with the vision of mobile devices enabling and encouraging networked and connectivist learning, greater student generated content and active participation in professional communities.

In addition to the advice and guidance available on ensuring safety and compliance there are also training materials and courses emerging on how best to address BYOD including some interactive open peer to peer courses⁷.

In summary it can be said that BYOD has generated considerable discussion and has resulted in guidance literature which falls into one of two distinct categories:

1. Technical and compliance issues.
2. Pedagogical opportunities.

Provider policy statements that we reviewed were more likely to reflect the first of the above but we did find some which also managed to articulate a vision for the pedagogical opportunities as well.

2.2 Findings

- Many practitioners do share a vision that BYOD will lead to changed pedagogies and greater independent learning (disruptive effect).
- The majority of practical advice documents for practitioners focus on technical and legal aspects of BYOD and on use of own devices to access identical resource and data which would otherwise be accessed through institutional systems (sustaining and not disruptive use of technology).
- Network connections are required for many but not all BYOD functions.
- Network solutions vary greatly between providers and in some cases connectivity is confined to learners' own cell phone contracts.
- Training in classroom management, effective pedagogy and safeguarding were considered highest CPD priorities.

⁷ For example: <http://byod4learning.wordpress.com/>.

- Many (but not all) BYOD policies appear to focus wholly on practical matters of network access, data and personal security and do not address pedagogical application.
- Respondents considered that it is important to address equality of opportunity to ensure that everyone can have access to learning. They gave many examples of addressing inequality of device access but were less aware of software accessibility.
- About a third of the providers had BYOD policies in place and several more had plans to implement one soon.
- Those who did not have specific BYOD policies often felt that the necessary matters were covered by their existing IT policies.
- Patterns of difference in approach were identified which clearly mapped to the institution type and age of learners and types of courses, so typically responses from FE colleges differed from those from Adult Community learning. However, in this sample it was not possible to identify specific generic models across different types of provider.
- Although discrete models have not been identified the study did identify that providers can be located on a continuum of expectation and intervention. At the *laissez-faire* end of the continuum use of own devices is permitted with little support and little expectation of change in learning practices; at the other end of the continuum providers anticipate good technical and pedagogical support because they see significant 'disruptive' benefits to learners.

2.3 Recommendations

- Encourage providers to be as bold in their articulation of the vision for the changes that BYOD will bring to learning as they are in disseminating details of legal and technical access.
- Curate links to existing training resources which address the priorities indicated in the survey: safety, classroom management, pedagogical application.
- Provide a resource to help providers think through how they will maintain their commitment to equality of access to learning.
- 'Pilot' projects should include providers with existing proactive BYOD practices in order to learn from their experiences.
- Champion the cause of the positive disruptive effect that BYOD can have on teaching and learning and learner autonomy.
- Pilot projects should include a briefing session for all participants where the results of this desk research and survey are used to help participants focus on the value of BYOD as a force for positive 'disruptive' change.

2.4 The survey results

Preparation for the survey included a short period of desk research followed by 4 semi-structured telephone interviews with providers already proactive in the area of 'Bring Your Own Devices'. These interviews revealed an enthusiasm amongst managers to implement BYOD but recognition of the real challenges that this presents. From the interviews, the survey questions were drafted and then reviewed by NIACE staff.

The survey was available online between the 17th September and 10th October 2014.

A total of 39 responses were received and the spread of institutional types is shown below (Question 18).

Table 2. Organisations represented in the survey

General FE College	14
Adult Community Learning provider	12
Other, please specify:	3
Land-based College	3
Independent Training Provider	2
Third Sector	2
Specialist College	1
Sixth Form College	1
Specialist Designated Institution	1
Youth Community Learning provider	1
Social Housing Provider	1
University	1

Of these respondents, 19 were offering apprenticeships, 24 were delivering learning funded by the Skills Funding Agency Adult Skills budget and 19 offering Community Learning. Other funding included the European Social Fund, HEFCE, NLDC and full cost recovery.

There were no responses from Offender Learning Providers (OLASS) or Careers Service /IAG services.

The majority were providing formal and non-formal learning but we can anticipate that there is potential for that informal learning by experience (see above).

2.4.1 BYOD policies

Over a third of respondents said that they had BYOD policies for staff and a similar proportion for learners. In most cases where there was a learner policy there was also a staff policy although we did identify one institution with only a staff policy.

Table 3. BYOD policies in place

Do you have a BYOD policy in relation to learners? (Q8)

Do you have a BYOD policy in relation to staff? (Q7)

	BYOD policy for staff	BYOD policy for learners
Yes	15	14
No	19	18
Don't Know	5	7

Respondents were also asked for the advice that they would offer to others establishing a BYOD policy. A summary of the responses is shown in table 3 and a summary of their advice on establishing a BYOD policy is shown in Table 4.

Table 4. Establishing a BYOD policy

What advice would you offer to a learning provider considering establishing a BYOD policy for learners? (Q8.2)

Summary of free text answers	
<ul style="list-style-type: none"> ▪ Make it brief, simple and flexible. ▪ Undertake a survey of the devices that learners have. ▪ Keep the BYOD policy simple but clear. ▪ Only allow access to what is needed. ▪ Be clear about your support capacity; exactly how much support you can reasonably supply to users and how much you expect them to be self-reliant. 	

Table 5. Support for use outside of the classroom

Do you have a policy to support learners in using their own devices to learn outside of the classroom? (Q6)

	Totals
Yes	4
No	28
Don't know	7

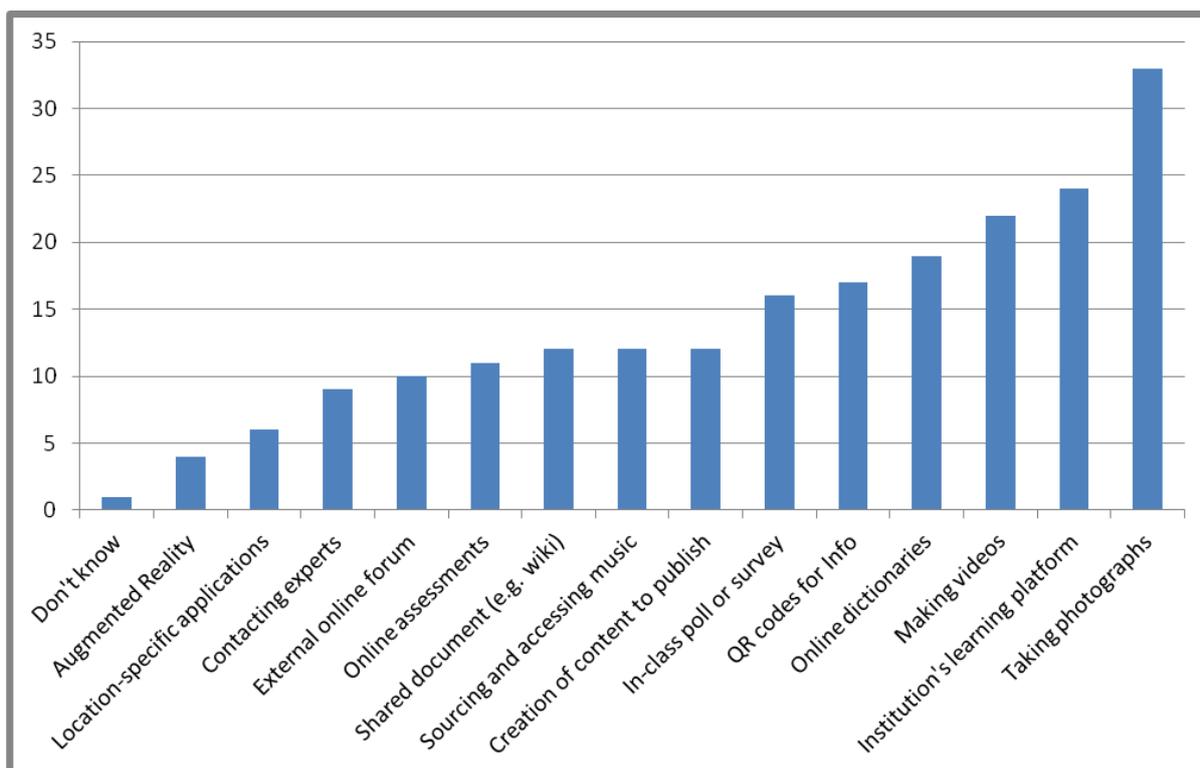
Whilst the research literature points to significant disruptive benefits of learners' own devices coming through independent learning outside of the classroom this result suggests that providers are not yet fully recognising this as their responsibility.

2.4.2 Current use of own devices

The survey also collected data on current use by students of their own devices and these results are shown in Chart 1 below.

Chart 1. Current use of devices

In which of the following ways, if any, do your learners use their own mobile devices? (Q1)



Respondents also added these uses:

- Shopping, email to friends, Skype.
- Making class notes.
- Learning how to use their devices.
- Translation Apps – English/Welsh and Welsh/English.
- Using Accessibility Apps and features.

This suggests that many of the activities associated with connectivist learning (e.g. contacting experts and use of external forums) are relatively under developed and that in user-created content development video making is the most popular.

2.4.3 Support and services

We asked providers about the services and support that they offer for BYOD.

Table 6. Supporting BYOD

In which of the following ways, if any, does your organisation support the use of BYOD? (Q2)

	Totals
Offers secure and separate Wi-Fi networks	27
Requires users to adhere to an Acceptable Use Policy	22
Communicates a clear statement of how your organisation supports BYOD	14
Other	3
My organisation doesn't specifically support BYOD – it just allows it to happen	7

This table shows that providers are much more likely to offer Wi-Fi access than to offer a clear statement of how BYOD is supported. A significant number (7 out of 39) take a totally laissez-faire approach allowing learners to use their own devices with no technological or pedagogical support.

Table 7. Services for BYOD

Which of these services, if any, do you offer to your learners? (Q 3)

	Totals
Wi-Fi Internet access	35
Institutional email	23
Mobile access to a learning platform	26
Access to working desktop with applications (e.g. Microsoft Office)	20
Allow learners to make use of their own connectivity (e.g. phone 3G /4G)	26
None of the above	1

Of the two largest groups of providers represented, nearly all General FE colleges offered Wi-Fi internet access but only two thirds of Adult Learning providers made this available.

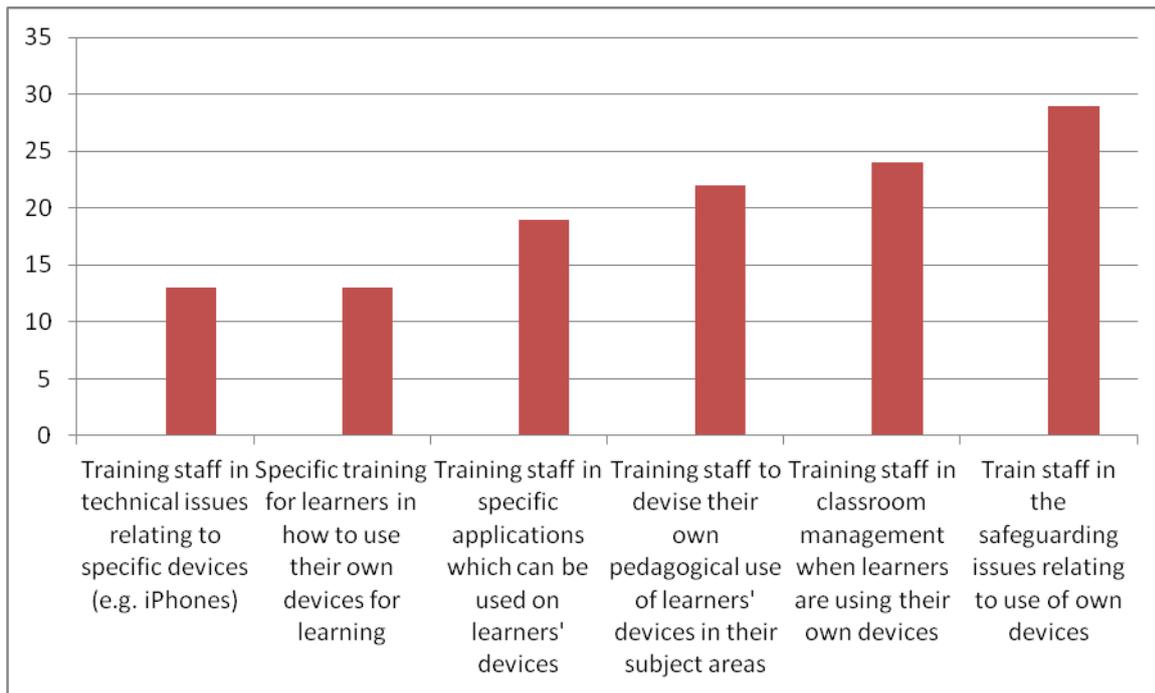
2.4.4 Training

All respondents identified some forms of training as important or very important for staff.

The statistical results, along with the free text answers, reveal that safeguarding, classroom management and pedagogical application of BYOD are of higher priority to respondents than technical training for staff.

Chart 2. Training priorities

How important do you consider each of these types of training in supporting the use of BYOD? (Q4) Graphs shows responses for 'very important'



Indeed some free text answers to question 5 stressed that teachers needed to learn not to be technical experts and encourage learners to know their own devices. However, the view was mixed and a smaller number did articulate a need for familiarity in different operating systems.

2.4.5 Equality of access

The free text answers to the question about ensuring equality of opportunity⁸ were quite extensive and indicated that, there is a 'mixed economy' in many college classes with some learners using their own devices and others using a tablet loaned by the institution. Some cases were cited where a handheld device was a course requirement.

The answers to this question centred largely on equality of access to a physical device and respondents described use of strategies such as pair work and group work as ways of managing situations where not all students had their own device.

Broader issues of equality of access through accessible content and ability to take learning seamlessly in and out of the classroom were not much addressed.

2.4.6 Implementing BYOD

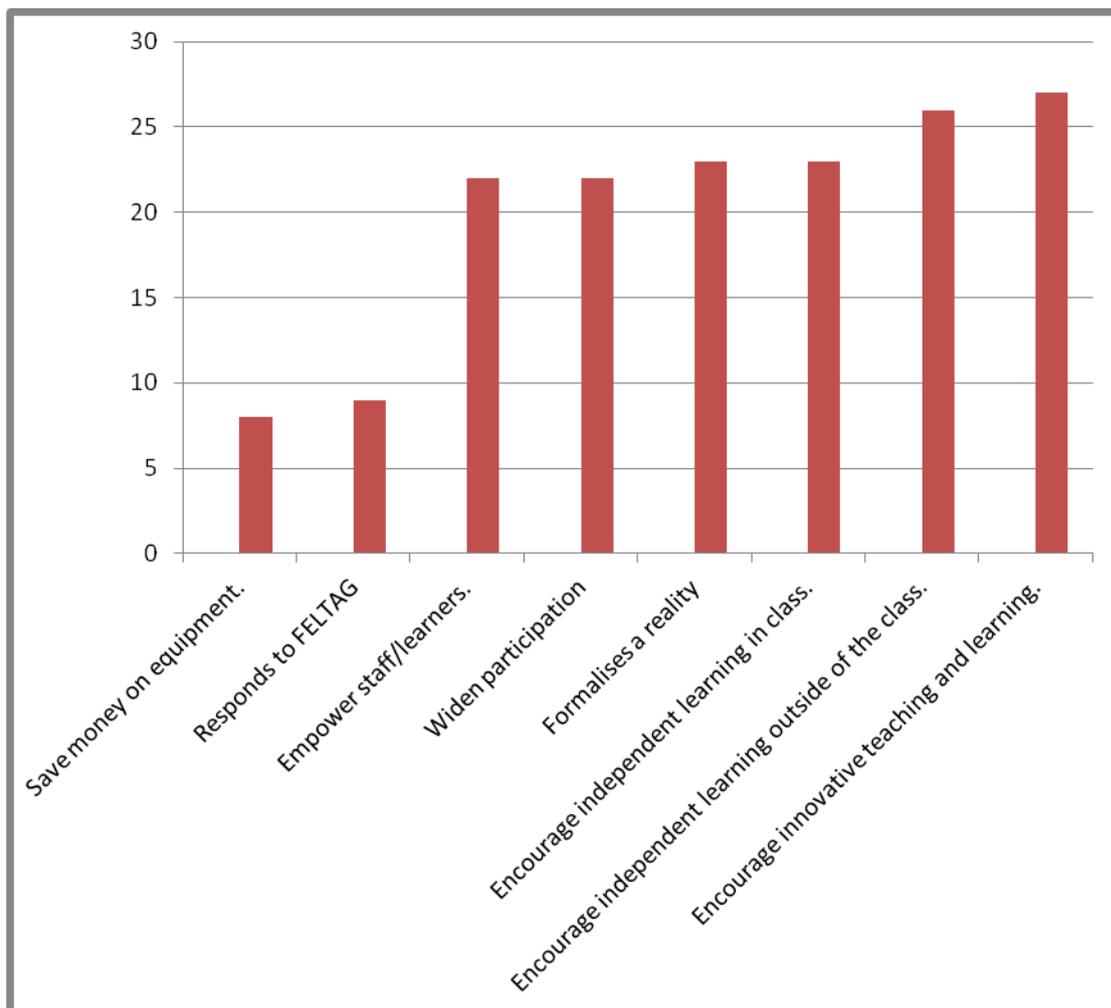
Respondents were asked a number of questions relating to reasons for establishing a BYOD policy and the drivers and barriers for effective implementation.

⁸ In what ways have you ensured equality of access to learning in a BYOD environment?

When asked the most important reasons for implementing BYOD policy the largest number of responses suggested that it will encourage innovative teaching and independent learning in and out of the classroom. A saving on organisational IT costs was only considered very important by 8 of the 39 participants. This suggests that the vision of many practitioners at least is that BYOD can have a positively disruptive effect on learning and they anticipate change.

Chart 3. Reasons for having a BYOD policy

In your opinion, how important are each of these reasons for providers to have a BYOD policy? Chart shows those who responded 'very important'



A summary of the responses to questions⁹ on advice that would be offered to providers considering establishing a BYOD policy are shown in the table below.

Table 8. Advice in establishing a BYOD policy

¹ Q 7.2 What advice would you offer to a learning provider considering establishing a BYOD policy?

Summary of responses

Make it brief, simple and flexible and don't expect it to be understood or read in full.

Ensure you know what has access to what.

Flexible approach that matches learner needs.

Be clear about your support capacity; exactly how much support you can reasonably supply to users and how much you expect them to be self-reliant.

'Same policy for everyone – staff and learners. Ensure everyone knows about it. Offer staff training. Ask JISC legal to check it before implemented'.

Explain carefully to staff what it means.

Our BYOD policy forms part of the staff handbook and relates to all use of IT such as social media use, remote access etc. This way staff have one simple document to understand policy that covers all use of IT.

That the tutor is fully aware of safeguarding and health and safety requirements. Enable tech support for initial sessions as some learners have irregular Internet providers.

Table 9. BYOD and organisational effectiveness

Do you think a BYOD policy has or would improve the effectiveness of your organisation? (Q)

	Totals
Yes	23
No	6
Don't know	10

The benefits as well as the dilemmas were illustrated in this free text answer:

'...it would bring IT in as there is just no money to invest in modern equipment when there isn't enough money for staff and paper usually! It provides a solution to the problem of keeping as up to date as possible in an IT world that is constantly changing – 5 years ago there wouldn't even have been tablets and now a majority of learners have either a smartphone or tablet and traditional skills... BOYD is really the only way forward, but my concern is that it leaves a bigger gap still for those who can't afford technology and puts them even further behind other learners so they need to be supported too instead of excluded.'

Table 10. Barriers to internal use

What is the greatest barrier to learners using their own devices in class? (Q13)

	Totals
Learning content which cannot be accessed by multiple devices	3
Unresolved security issues	5
Learners' unwillingness	3
Staff reluctance	15
Other, please specify:	13

Table 11. Barriers to external use of own devices

What is the greatest barrier to learners using their own devices outside of the classroom? (Q14)

	Totals
Learning content which cannot be accessed by multiple devices	6
Unresolved security issues	3
Learners' unwillingness	8
Staff reluctance	8
Other, please specify:	14

Table 12. Barriers to implementation

What have been/could be the barriers to the effective implementation of BYOD in your organisation? (Q 15)

	Totals
Data security	11
Learner safeguarding	11
Cost of maintaining networks	15
Perceived removal of 'expert role' from staff	9
Learner exclusion if not implemented inclusively	15
Other, please specify:	8

2.6.7 Participation in trials

Table 13. Interest in taking part in NIACE's forthcoming trial of approaches to BYOD in different learning contexts

Of the 39 respondents 26 indicated a willingness to participate in the trial; the number of offers in each category of provider are shown below:

General FE College	ACL provider	VI Form College	Land-based College	Independent Training Provider	Third Sector	Specialist College	Other	Specialist Designated Institution
10	6	1	3	1	2	0	2	1

3.1 Conclusion

The ownership and deployment of mobile electronic devices can be expected to continue to grow and to change rapidly. It is likely that learners will continue to arrive at learning in larger numbers with their own devices – exactly what those devices will be and what they can do for learning may change, but this study shows that, in seeking solutions, learning providers are developing piecemeal solutions and that there is a role for some national leadership to help to articulate the vision for BYOD as well as pointing towards necessary practical steps which need to be taken.

BYOD TRIAL

4.1 Trial aims

Six BYOD trial participants were asked to build on what they are already doing around BYOD. As a starting point for the trial they were asked to:

- Identify an approach to BYOD that they felt needed improving/ developing the most;
- Produce a statement outlining what they were going to do;
- Identify key barriers/ issues within that approach;
- Come up with different strategies/ solutions;
- Engage with different stakeholders (staff, learners, IT department etc);
- Use a variety of methods to capture/ record stakeholder feedback, issues raised, how they're addressed, and progress made.
- Think about what the end result might be and ideas for taking the work forward after the trial; and
- Think about the journey in-between – how they were going to get from A – B.

4.1.1 Trial participants

Name	Sector
Barnsley College	General FE College
Coleg Cambria	General FE College
Gateshead Council Learning & Skills	Adult Community Learning Provider
Everyday Computers	Third Sector
Moulton College	Land-based College
English for Action	Third Sector/ ACL

4.2 Key barriers identified

Initial barriers that had been identified by the trial participants themselves included:

- Unresolved security issues.
- Staff reluctance.
- Data security.
- Learner safeguarding.
- Perceived removal of 'expert role' from staff.
- Availability of devices to learners in highly deprived areas.
- Cost of maintaining networks.
- Learner exclusion if not implemented inclusively.

- Learners' unwillingness.
- Staff unwillingness/ capabilities to produce content that is accessible from multiple formats.
- Lack of confidence.
- Concerns about learners' devices.
- Developing a culture of commitment to working outside of the classroom.

4.3 Capturing feedback and recording progress

For the trial, participants were asked to think about how to capture staff and learner feedback using a number of different methods:

- Blogs to review progress, provide updates, record feedback on a monthly basis. Blogs can also be used as case studies.
- Multimedia recordings/ videos to capture stakeholder feedback, including the learner voice, at the start and end of the trial.
- Through the collection of staff and learner quotes.
- Through telephone interviews (conducted by NIACE at the end of the trial).
- Through webinars (conducted by NIACE).

4.3.1 Video

- YouTube (<https://www.youtube.com/>).
- Vine / Instagram (Chrome Apps).

4.3.2 Audio

- AudioBoo (<http://www.audioboo.com/>).
- AudioBoom for Education (<http://audioboom.com/about/education>).
- Mixcloud (<http://www.mixcloud.com/>).

4.3.3 Screen grabs

- TeamViewer (<http://www.teamviewer.com/>).

4.4 Trial outcomes

Expected internal outcomes (within the trial participants' organisation) included:

- Updated BYOD policy(ies).
- Review of/ improvements to staff training around BYOD.
- Review of/ improvements to BYOD infrastructure.
- Improved comms and sharing of information between departments (IT and teaching).

External outcomes from the trial and BYOD project included:

- Guidance for providers delivering learning outside the classroom.
- The sharing and promotion of best practice in the use of BYOD with the learning community.
- Suitable learning resources identified for BYOD use.
- Guidance and exemplars of effective BYOD use.
- The dissemination of guidance through networks and web publication.

'Adult learning providers across the FE and Skills sector are more prepared to identify, develop and implement appropriate, successful and inclusive strategies to integrate the use of learners' own devices in their service delivery.'

CASE STUDIES

5.1 Barnsley College

Barnsley College aimed to overcome barriers to BYOD; share good practice; promote BYOD and provide information, advice and guidance to learners and staff; provide training; make available charging points and ensure Wi-Fi is robust and covers all areas.

Name: Barnsley College

Organisation Type: General FE College

Introduction

Over the last year Barnsley College has carried out both the promotion and investment of the infrastructure for the progression of the Bring Your Own Device (BYOD) model. The college, which was judged as outstanding in all areas and was recently endorsed as outstanding in all areas by an external audit, would like to further develop the use of learner owned devices within and outside of the classroom for learning development.

Use of technology within the classroom has been a major driver for the college over the last 3 years. The college provided the technology either as part of a 1-1 course loan scheme or as a daily loan however it is important for the college to make the change from providing devices, to learners' own devices being used.

A BYOD survey looked at the different types of devices learners currently own, as well as identified learners who would be willing to bring and use their own device within the college to further develop their learning.

Key barriers/ issues identified and overcome

A number of barriers were identified:

- a) 57% responded that they had security concerns and did not want their device to be damaged or stolen.
- b) 30% responded that they had issues and concerns with the infrastructure and network.
- c) 48% responded that they had had little use for a device within class.
- d) 6% responded that their parents would not allow them to bring their device to college.

The college actioned a number of these concerns in different ways:

- a) Promote the secure storage already available within the social areas of the college.
- b) Promote both the procedure for Wi-Fi connectivity and the IT support service – this will include an eLearning package as part of the induction process to

inform procedures.

- c) Provide ongoing CPD training to all teaching staff on ePedagogy for all devices to be used within classrooms in capturing and developing learning knowledge e.g. OneNote, Near Pod, Office 365 etc.
- d) Address any equity issues for any learners who do not own a device.

Strategies/ solutions

The BYOD Survey was presented to the senior management team for discussion; one of the actions was to produce a roadmap/ action plan that identifies where we need to be and actions to be delivered. This was developed by the Information Learning Technology team which sits within the teaching and learning department and the IT services team.

This roadmap/ action plan has been produced and presented to the SMT lead and will be presented to ILT strategy group for further discussion / development. (*April 16th 2015*).

Key stakeholders involved in the trial

The main stakeholders are

- Head of Information learning technology.
- Director of teaching and learning department.
- Head of IT services.
- SMT lead.

Capturing feedback, recording progress

The college produced a BYOD survey which was presented to learners The survey comprised of 11 questions and received 529 responses from the following departments:

- 6 Form College.
- Art & Design.
- Business and management.
- Catering.
- Construction.
- Early years and Care.
- Engineering.
- Hair & Beauty.
- Land Based Industries.
- Learning for living and work.
- Media.
- Sport & Public services.
- Travel & Tourism.
- HE Courses.

End result

The BYOD project does not have an end result as such, more of an ongoing roadmap/ action plan (see appendices) that has identified where we need to be to ensure that everyone is able to use technology so that it not only benefits learning, but also allows for the college to develop a whole-organisation approach and infrastructure that is capable of supporting staff and students in their use of

technology.

Conclusion

The BYOD roadmap/ action plan will be developed in consultation with all parties, and key actions will be delegated to persons concerned. This will help to ensure that all users of BYOD have a positive experience in using their own devices rather than having to rely on devices provided by the college.

We will monitor the following and present the information to our SMT:

- Provide staff CPD training on OneNote, Near Pod, and Office 365 etc during staff development week;
- Produce an eLearning package on the use of BYOD for all learners to complete as part of their induction;
- BYOD device data traffic connecting to our Wi-Fi;
- Any areas with limited availability of Wi-Fi to be reviewed and actioned;
- Observe (walkthroughs and lesson observation) staff and student use of OneNote, Near Pod, and Office 365 etc;
- Ongoing staff CPD training on OneNote, Near Pod, and Office 365 and any new innovative learning technology for staff and student use.

5.2 Coleg Cambria

Coleg Cambria aimed to share the results of the trial to improve embedding mobile devices in teaching sessions, especially with ACL tutors; improve and strengthen Adult Learning Digital Literacy provision; continue to develop formal/ informal courses using mobile devices; and promote using mobile devices in community venues.

Name: Coleg Cambria

Organisation Type: General FE College

Introduction

The BYOD journey was to:

- Evaluate and improve formal courses that enable adult learners to use iPads confidently in class and independently at home.
- Capture the distant travelled by a group of new learners, at the start of their learning journey and their progress at the end of their learning journey.
- Review the progress of learners who have completed formal iPad courses both in the main college and in the community.
- Investigate how effectively mobile devices are being used in Adult Community Learning teaching sessions.

Key barriers, issues and solutions identified

The barriers at the start of the project: ensuring good levels of participation by stakeholders to complete surveys within a given time frame. **Solution:** Google forms were used to create the survey questionnaires; these were emailed to Adult

Community Learning tutors via their college email addresses. Results were collated anonymously via a Google spreadsheet document.

Past learners who had completed formal iPad courses; the **solution** to achieving a high rate of return via the questionnaire proved time consuming. All learners had to be contacted individually to explain the project and ask for personal email addresses. However, this proved to be beneficial because the rate of return was very high.

An ILT expert attended the first and last sessions of the course with new learners, to video the learners and their personal journeys. The video was taken using an iPad and the camera App!

Key stakeholders involved in the trial

Working with community partners to improve the quality of Wi-Fi in community venues, however cost will be a barrier.

Capturing feedback, recording progress

- The learning journey of new learners was captured with a video at the start of their course and a final video at the end of their course.
- Details from surveys captured by a spreadsheet document and were displayed in chart format.
- Weekly blogs have been shared; these outlined the experiences of learners who have completed formal iPad courses at Level 1, Level 2 and mobile learning outside the classroom.

End result

Results have been shared with managers and will be shared with all ACL tutors via Google Communities. The following positive outcomes have been identified:

Tutors

1. A wide variety of mobile devices are being used by many ACL tutors to support their teaching session.
2. ACL tutors are using mobile devices in a variety of ways from internet research to BKSb testing.
3. Two Welsh ACL tutors are using iPads innovatively to help adult learners learn Welsh as a second language. Learners can purchase an App which follows their WJEC course to use in class and at home. The App is the same price as their text book – £15. This has been successfully used with visually impaired learners who can enlarge the text on their iPad screen. At home learners can use the audio facility to record their language skills and listen to their pronunciation. Other Apps used:
 - a. Learning Bot App – deals with verbs and grammar.
 - b. Say Something in Welsh App – a free App – allows learners to listen to audio assignments.
 - c. Quizlet App – used for formative assessment and to test vocabulary learnt.
 - d. One tutor uses the iPad instead of flash cards with pictures downloaded from Google images into the Picture App.

- e. The recorder App is used for reading tasks, and used for self-assessment and peer assessment.
 - f. The camera App is used for videoing and role playing set topics.
4. A few tutors are using Near Pod App for consolidation quiz and summative assessments.

Learners

1. A wide variety of Apps are being used by learners to help them with their formal iPad courses. Following the course many learners go on to purchase iPads/tablet computers and then use them at home for a variety of tasks. Examples stated by learners: searching the internet to find information; shopping online; taking photographs and videos; downloading new Apps; emailing family and friends; recording appointments via the calendar App; writing notes on Notes App; reading the news and checking the weather (BBC Apps); playing games to stay mentally active and using iPlayer to watch missed TV programmes.
2. Taster sessions have been run during Adult Learners Week, these have always been popular, and following the taster courses many learners have progressed to fully formal iPad courses.
3. The survey results have highlighted a social return on investment and improved confidence. Many learners outlined the benefits of using a tablet computer in their everyday life, examples quoted were ease of emailing and Face timing with family and friends, more convenient than using a desktop computer, light and convenient to carry everywhere, easy to carry on holiday to stay in touch with home, helping children with their homework, helped with my OU Future Learning course.

The following areas of concern have been identified:

1. There are still some tutors not using mobile devices in their teaching sessions. The following have been identified as barriers to prevent mobile devices being used effectively: lack of training, not being confident to use mobile devices with learners, and not knowing how to access the college mobile devices.
2. No Wi-Fi in all community teaching venues.
3. No appropriate Apps for specific teaching subject.
4. No air printers to support printing assessment evidence from iPads/ tablets.

Conclusion

As a result of this trial we will:

- Offer training and workshops to tutors to share best practice and improve digital literacy.
- Work with ACL partnerships to identify opportunities to improve facilities – installing and strengthening WiFi.
- Work with IT systems to strengthen network to allow air printers to be installed on the college network.

5.3 English for Action

English for Action aimed to experiment with ways of working with BYOD that are more systematic; find out at what point a device is most conducive to learning; design a trial in which devices are used in different ways; provide staff training to encourage teachers to experiment with BYOD; and encourage more use of ICT as a teaching tool.

Name: English for Action

Organisation Type: Third Sector/ ACL

Introduction

We are an adult education charity delivering ESOL classes across 15 community locations in London. Most of our classrooms have limited access to interactive whiteboards and computers. As such, we are motivated to learn how we can make use of smartphones, tablets and laptops to improve our practice.

We explored six types of device use:

1. Cameras (smart phones).
2. YouTube video (laptop).
3. Internet searching (tablets).
4. Translation (smart phones).
5. Voice recording (smart phone).
6. Listening (laptop).

Six teachers took a device use each to experiment with during one or two classes. We asked the following research questions:

- How did you use the device?
- What worked well?
- What didn't work so well?
- What did the learners say about the class?
- How effective was device sharing? Would you repeat this device use? If so, what changes would you make?

Key barriers, issues and solutions identified

Firstly, in many venues we were unsure of wireless internet access. We got round that by using students' 3G internet access. We also found that we could load material at home and then play recordings from YouTube without connecting. This was good to know.

Another major barrier was that not all students had smartphones or access to the internet. So, we made sure that all activities worked well in pairs or threes if necessary. This was fine and involved good peer-teaching.

Another thing we decided was that sometimes you need a plan b. One thing preventing teachers from using devices in class is the fear that it might not work. This fear is reduced if you have an alternative.

In addition to the solutions outlined above, we found that participation in the

problem increased the teamwork between teachers. We were sharing expertise, planning lessons together and learning from each other's lessons.

Key stakeholders involved in the trial

All six of the teachers currently in our teaching pool participated in the project. We used our project blog to feedback. This in itself familiarised some of our staff with blogging and how to use our Wordpress blog: <https://efalondon.wordpress.com>.

In addition to reading about each other's work we organised a team meeting to feed back. It was helpful to be able to ask questions about the experiments and draw conclusions in order to develop a device use policy. Our trustees (board of six) are behind this.

Our learners also benefitted from the sessions and the positive changes in our practice as a result.

Capturing feedback, recording progress

As I mentioned above, our teachers used a Wordpress blog to feedback and record their progress. In addition to this we started a staff WhatsApp group to share stories. This has been an excellent innovation for us and has dramatically improved our internal communications. It serves also as a useful resource for writing reports for funders.

Students made comments to teachers that were recorded on the blog. Some students made comments directly onto a blog after and during their class. We also conducted video testimonies with some learners.

End result

Firstly, we have six members of staff who have learnt new skills. They are implementing these on a daily basis.

The blog exists as a permanent resource for our staff. We have also shared it widely and in March we had 45 views from 19 different people.

We have also decided to produce a policy on device use that we will add to our staff handbook.

As mentioned above, we have innovated our internal communications. The WhatsApp group will replace the costly (in terms of staff time) and less useful internal newsletter.

Conclusion

The next immediate step will be to draw up the BYOD policy and we will do this in the next few weeks.

We will continue to use the WhatsApp group to share our classroom experiences.

We will continue to experiment with device use and teachers will borrow each others' lessons and feedback to each other.

5.4 Everyday Computers

Everyday Computers aimed to develop ground rules on the use of BYOD; gain a shared understanding of the tutor and learners' roles and responsibilities with regards to BYOD; and develop a BYOD policy.

Name: Everyday Computers

Organisation Type: Third Sector

Introduction

When learners bring their own device to a computer group there can be a lack of clarity over who is responsible for the safekeeping of the device and for the outcome of any activities performed using the device in class.

We set out to develop some ground rules to protect both learners and tutors and to ensure that the learners' expectations are realistic. The ground rules should not discourage learners from bringing in their devices.

Key barriers, issues and solutions identified

We work in the community and in very sheltered housing, generally with older learners some of whom have no experience of using a computer. Although the learners appreciated the opportunity to use their own device:

1. Some of the learners felt the tutor was responsible for their device when they brought it to a class but were not taking the basic steps required to maintain their computer – for example virus protection/ security and system updates.
2. Advice from family or computer sales people encouraged some learners to acquire software which was unfamiliar to the tutors or no word processing software at all. There was, however, an expectation to be able to complete the course.
3. Some learners had unrealistic expectations of the tutor's knowledge of their own device.
4. There was an expectation that the tutor could resolve problems with their device.

To summarise, the learners wanted to use their own devices but were unaware of the additional demands this was placing on their tutors and how their own actions could be putting their computer at risk. As tutors, we felt the learners should take some responsibility for their own device and ensure that updates were installed and their device had virus protection/ internet security software in place. We also felt the roles of tutor and IT technician were becoming confused and needed to be clarified.

We improved/ developed our approach further and were able to overcome the barriers/ issues identified in the following ways:

- We held an initial discussion with the learners on BYOD roles and responsibilities, explaining our view as tutors and listening to the learners' point of view about bringing their own devices.
- Used a short questionnaire for further information.

- Used tea and coffee breaks in all computer classes to encourage learner self-efficacy and exchange ideas on BYOD.
- Discussed and highlighted to the learners the importance of virus protection, internet security software and system and security updates.
- Drafted BYOD Ground Rules and Policy and discussed them with the learners.
- Edited Ground Rules and Policy accordingly.
- Carried out audio recorded interviews with the learners and completed the Ground Rules.

Key stakeholders involved in the trial

- Older learners taking up basic computing at a library in the North East.
- ICT Tutors.

Capturing feedback, recording progress

- Initial Discussion.
- Short Questionnaire completed.
- Notes on discussions during the tea/ coffee break.
- Learner comments on Draft Ground Rules and Policy.
- Final Discussion and Audio Recorded Interviews.

End result and conclusion

- Everyday Computers now has Ground Rules and Organisational Policy for BYOD, developed in co-operation with learners.
- Tutors and learners have a better understanding of each other's views and expectations for BYOD.
- Tutors realised how highly the learners value the opportunity to bring their own device.
- Learners have started to take responsibility for their own devices and to recognise the need for internet security and computer updates.
- Learners have become more confident with their devices.
- Some learners bought an additional device.
- Learners have realised that tutors may not be familiar with their device and while tutors can provide some technical support, the learners will need a technical specialist for more complex problems.
- Tutors will continue to develop their own knowledge of learners' devices and software, within the limits of reasonable demands and expectations.
- The Ground Rules and BYOD policy will continue to be part of organisational culture and practice when the trial has finished.
- Learners and their devices will change and the Ground Rules will be used when new learner groups come forward.
- New learners will have an opportunity to make a contribution to our approach to BYOD policy and practice.
- Policy and practice will continue to be developed to ensure that they remain up to date and relevant.

5.5 Gateshead Learning Skills

Gateshead Learning Skills aimed to undertake a comprehensive analysis of the trial which will lead to a realistic and robust implementation of BYOD throughout the organisation; development of guidance and internal policy; a change in culture and attitude i.e. venues, staff, learners, guidance; make learners aware of the benefits of an online life; and deliver a high quality Wi-Fi connection.

Name: Gateshead Learning Skills

Organisation Type: Adult Community Learning Provider

Introduction

Our aim was to make it easy for learners to come to our programmes with their own device:

- By changing culture i.e. venues, staff, learners, guidance.
- By making learners aware of the benefits of an online life.
- By delivering a high quality Wi-Fi connection.

Key barriers, issues and solutions identified

1. Learners do not think it is normal to bring devices to class, however there is not the financial capacity to continue to provide everyone with their own device.
 - Stakeholder tutors had and continue to have access to an online presentation to show and discuss the benefits to learners on using their own device in the session. The online presentation can be found at <https://youtu.be/9KER6gP0CSQ>. Some of the information contained within the video was based around a report that was published by Age-UK and this can be found at <http://www.ageuk.org.uk/Documents/EN-GB/For-professionals/Research/Age%20UK%20Digital%20Inclusion%20Evidence%20Review%202013.pdf?dtrk=true>.
2. Capacity and confidence of staff to support a range of different devices. Identifying the essential knowledge that staff need to have, to provide a practical and useful service.
 - Stakeholder tutors were given support by an assigned ICT Tutor, as well as help sheets for common devices at these sessions that could be accessed in the centres on the trial.
3. Some learners do not recognise the cost benefits of being online or recognise that many services are or will become digital by default i.e. Universal Credit, GP booking systems. They may have tried ICT when it was more complex. We have lower than the national take-up of connectivity, we need to change attitudes.
 - The benefits for the learners having access to the cost benefits were identified in the online video, which showed access to these digital services.
4. Local Authority Wi-Fi often has firewalls that are so restrictive it reduces the

pleasure of the online experience; Wi-Fi management often involves password input every time the computer goes to sleep which causes problems for everyone but particularly those with least ability; community centres do not always recognise that Wi-Fi is as important as electricity, and as such we will reduce our hiring of venues without Wi-Fi.

- Trial survey results showed that learners were frustrated with having to input a password on every visit to the centre. The identified centre changed their access to the Wi-Fi so that learners did not have to keep inputting a password every time they visited the centre. This was done at the end of the trial. Results from the survey showed that all learners found the Wi-Fi login help sheet useful.

5. E-safety: safeguarding learners against the access of undesirable/ inappropriate web-based information; awareness of the pitfalls of using social media in terms of cyber bullying, grooming and so on.

- The learners on the trial were given an e-safety postcard about BESMARTONLINE (see appendices). The results from the survey showed that all the learners surveyed found the e-safety postcard useful.
- Learners in centres which do not log in to the Wi-Fi through a login screen will have to agree the Terms and Conditions on which free wireless internet access is provided. This will be displayed on the back of the learners' agreement enrolment form.
- Centres that provided open Wi-Fi were asked to apply web filtering to their Wi-Fi router through their service provider (free Service) to give added protection for internet access to ensure a safe, non-abusive on-line service.

Strategies/ solutions

Improve the marketing of BYOD; increase the expectation that ICT devices will not be provided (tutor led/ part of IA/ SMART target); change the programme information sheet; use smartphone technology as it is a device that many people already bring.

- Learning Skills management have requested posters to be developed to promote BYOD throughout all the training centres (this is to be developed). Stakeholder tutors on the trial carried out an Initial Assessment with learners to identify who had access to devices prior to the trial. The results showed that:

None	2
Laptop	16
iPad	13
Tablet	8
Phone	13
iPad provided by LS	4

Staff training programme. Expectation that this is not optional.

- ICT Support in the form of access to an ICT tutor and help sheets was provided to the tutors on the trial.

Review policy and guidance.

- BYOD Guidelines were produced and presented in the online video; these guidelines will need to be incorporated into the Learning Skills e-safety policy when reviewed.

Promote the cost benefits of it and make workshops available before classes (trial group).

- Due to time constraints and trial tutors' work constraints within the BYOD project timescale, workshops could not be made available to the trial tutors.

Work with our council ICT departments, giving venues without Wi-Fi notice that we can no longer provide courses there.

- There are very few venues that do not provide Wi-Fi access. But venues outside of this trial that do not have Wi-Fi access have been asked to provide access as soon as possible.
- The council health and safety department agreed to allow learners to charge their devices in centres without them being PAT tested, but tutors would need to check leads prior to plugging it into any power supply.

Key stakeholders involved in the trial

- Gateshead Council ICT department.
- Learning venues – Bensham Grove/ Barmoor Hub.
- 4 programmes (tbc) + 40 learners minimum (inclusion to be considered in terms of providing devices).

Capturing feedback, recording progress

A forum was set up by the project lead Tammy Aucott on VLE (moodle) for learners and tutors to discuss progress, benefits and problems of using learners' devices within the session.

- BYOD document and video presentation and support documents were put on Moodle for access by tutors and learners (accessible from the Internet).
- We have been working with 7 other local authorities on another project called NETPass and they were very interested in the BYOD trial as part of the NetPass programme, so we provided open access to them.

Video Capture of learners using, and tutors supporting, the use of devices within the session.

- Photographs and video of learners using their devices were taken as evidence.

Learners and staff quotes.

- These can be found at the end of the survey results (see appendices).

An online questionnaire at the end of trial to evaluate the effectiveness of the

training provided by the organisation to support the learners and tutors, as well as evaluating the overall experiences of the learners and tutors whilst using their devices in the sessions.

- The survey results can be found in the appendices.

End result and conclusion

A comprehensive analysis of the trial will lead to a realistic and robust implementation of BYOD throughout the organisation. The survey results showed that learners being able to use their own device had improved their learning experience. It also identified that:

- 15 out of the 26 learners felt they required further training to use their device.
- 17 out of the 26 learners felt confident in using their device in sessions.

When asked if they would like to attend a course on how to use their device, most responded that it was not high on their list of priorities to learn how to use their device.

Results from the survey showed that all learners found the Wi-Fi login help sheet and BESMART ONLINE Postcard useful.

Guidance and internal policy

- BYOD Guidelines were produced and presented in the online video; these guidelines will need to be incorporated into the Learning Skills e-safety policy when reviewed.

A change in culture and attitude.

- All learners surveyed felt that being able to use your device in the session has improved their learning experience.

It is unsustainable for us to try and provide all learners with IT equipment therefore implementation of BYOD is essential for the future development of the provision of courses across all subjects.

The ongoing use and development of learners of our Virtual Learning Environment (and the increase of online learning) relies heavily on BYOD; the VLE will inform and direct learners and tutors in development as well as provide a forum for discussion.

It is planned at this stage to roll out the idea to all courses wherever appropriate before the end of the 15/16 academic year. There will be inbuilt evaluation and training in this as capacity allows.

Results from the BOYD trial will be presented to Management and an implementation program developed.

A Digital Curators course is being piloted as part of the NETPass project; the programme will give tutor(s) the skills and confidence to define and use digital literacy, and how to create relevant, inspirational content. Tutors will learn how to

integrate this into their teaching and learning practice.

This course will start at the end of April and within the content of the 10 week course the tutors will be encouraged to use their own devices (and different devices) to give them the confidence to support learners to use their own devices within the tutored sessions. This is a 10 week trial course, but may be rolled out throughout the organisation as a mandatory course depending on the success of the trial.

5.6 Moulton College

Moulton College aimed to explore the use of BYOD with work based learning (WBL) learners through the use of an app that links to the college's e-portfolio system; explore how this supports and progresses learning; identify any training requirements; and look at any support and development needed to secure a robust culture change.

Name: Gateshead Learning Skills

Organisation Type: Adult Community Learning Provider

Introduction

This project sought to explore the students' willingness of using BYOD in a work based scenario utilising the college's e-portfolio system. The Onefile e-portfolio used at Moulton also has a free app, "Nomad", used by both assessor and learner. We explored the students' perception of how this type of mobile enabled solution supports and progresses their learning. We launched the study with a new cohort of learners who started in November 2014, then additional groups in February and March 2015. They all received a comprehensive induction supporting their access to the College's Wi-Fi network, downloading the app and accessing the e-portfolio. We were keen to explore the requirements in training, support and development needs to secure a robust culture change with both staff and students.

In addition to the above we conducted a survey on the college's VLE which asked questions to the wider student body. This sought to identify the type of equipment the learners used, if they subscribed to a data plan, if they used the College Wi-Fi and the way the devices are utilised for learning.

Key barriers, issues and solutions identified

We initially thought the culture of gathering evidence, at point of occurrence, would be our primary focus, with specific relevance to both assessors and candidates alike. We were also mindful of what reaction we would receive from employers when their employees, and our assessing staff, used mobile technologies on-site. We'll discuss this further in solutions as many things of interest transpired as the project progressed.

There were also significant concerns for equality based issues, in particular the issue of technology wealth amongst the students. To mitigate against this we had made provision with an in-house bursary but data collected from students proved this not to be necessary. Of 278 learners inducted and enrolled onto the e-portfolio ALL had smartphones, with only two having windows-based phones for which the app was

not available! To support this still further the student survey indicated similar findings with only 2% indicating they did not have a smartphone, laptop or tablet.

Utilisation and the access to individual data contracts/ allowances was also identified as an initial risk, additional fears that learners would resent the use of the prepaid or contract bandwidth existed within the delivery teams. This again proved not to be the case with data in the survey showing 78% had access to a mobile data plan and feedback during induction to indicate no barriers were present to using it for learning.

Additionally, 65% of learners took advantage of using the college Wi-Fi to connect their BYOD devices to whilst on-site.

Strategies/ solutions

The change in culture needed to move away from paper based portfolios and onto e-portfolios is the first of the topics that needed addressing and it was imperative this was successfully completed. This essentially formed the foundation from which to introduce the app/ mobile technology/ BYOD. It is worthy of note at this point that the introduction of the e-portfolio did not introduce extra work for either the assessor or the candidates but rather the workflow and time demands was decreased for both when compared to traditional portfolio production.

Mobilising for this project involved the training of approximately 40 assessors; some took to the new system very quickly and enthusiastically whereas others found the transition a little more painful. This highlights one of the points raised in the FELTAG report around the up-skilling of staff.

To support the culture change we structured initiatives at different levels.

- Firstly, we issued a strategic statement, informing everybody that all new apprenticeships would move completely over to the new system, setting the expectation at Senior Leadership level.
- Secondly, a programme of training staff was embarked upon. Group sessions in academic breaks, twilight and lunchtimes.
- Third, frequent short surgeries were scheduled, which enabled staff to bring individual issues to be solved.
- Lastly, staff were able to drop in for 'open office' type support for both themselves or occasionally they brought students for support also.

We were also impressed to see that a several, very welcome, side effect type problems presented themselves.

During the study we experienced the expected staff migration, staff either leaving or gaining promotions meaning they were no longer actively involved. The first side-effect manifested itself here, when covering staff were not able to respond to system interactions swiftly enough, as they rapidly up-skilled, students pushed more senior members of the area to resolve the issue promptly. This indicated that learners were wanting to progress and had appeared to have taken control of their learning pace.

The second side-effect showed that a strong support mechanism had established

itself at peer levels. This occurred within both staff and student bodies, with a couple of staff naturally falling into the roles of 'area champions', reminiscent of the old 'Beta ILT Champions' and students helping each other within the class to complete particular tasks in the system, for example uploading a case study.

Key stakeholders involved in the trial

- IT Department maintain and support the infrastructure that the Wi-Fi users depend upon. Learners certainly benefited from this being as robust as it was.
- Library support staff have supported the learners with access to MC-BYOD which is the student Wi-Fi access.
- Lecturing staff and assessors taking part in this project have been equipped with short/ medium and long term loan galaxy tab 4's.
- Learning Technologies and Materials staff have been heavily involved in the training, culture shift methodologies, system maintenance and material conversion.
- Employers, selected employers now have access to their employees' portfolios so that they may monitor progress. To support this, training has been provided in the form of helpful 'how-to' documents.

Capturing feedback, recording progress

Qualitative feedback was caught in part verbally from learners who have used the system with their BYOD devices. We also used the survey on Moodle to provide us with some quantitative data to support some of the decisions needed to progress the systems and investments further.

Additionally the system itself provided excellent dashboard reports of student progress. It identified to us where students were on/ behind target enabling us to keep a very careful watch on timely completion progress (see appendices).

End result

This project has provided us with the evidence to substantiate further investment into the e-portfolio system. What started as a small pilot doubled in size as it was quickly recognised to benefit the learners' progress and to simplify processes. Furthermore, it has made us mindful of another of the FELTAG 'headlines', namely investment. Clearly if we can improve the Wi-Fi facilities still further, the demands on capital to provide large, and expensive, computer rooms will be reduced. This has benefits to estate requirements including the environmental benefits of not having to air condition rooms to the same level, if at all.

Conclusion

We were totally amazed by the percentage of the learners who had data enabled BYOD available to them – we expected the figure to be in the area of 80% but to be within a couple of percent of the entire cohort was extremely impressive.

Furthermore, to have this confirmed with similar results from the entire college survey indicated to us that BYOD is a force worthy of harnessing. These facts support, in this case at least, that the argument of equality of access is not valid; obviously the data is limited to our college so is therefore very specific.

Whilst we have made a very strong start at embedding the use of e-portfolios into

the curriculum at Moulton, the journey is in no way complete. It must not be underestimated how much constant re-enforcement is required to change a historically established process such as paper based portfolio assessment. This is symbiotically linked to the issue of training. Training needs did indeed prove a challenge, presenting as logarithmic in style, a steep, short learning curve for both parties that was overcome with intense support and training.

As a very positive outcome of this BYOD project, linked to our ongoing FELTAG initiatives, it has been recognised at senior levels how the shape and make-up of our network must change to cope with the future needs of our learners.

CONCLUSION

Building on L&W previous research and consultation on BYOD, this project, further supports the view that institutional policy still needs to change with regard to the use of learners' own devices, in line with FELTAG recommendations that learners should be equipped to learn with their own devices. A significant challenge remains: changing cultures and attitudes, and the survey data, trial approaches and case studies in this report provide key examples of how those steps are being taken, in many instances through trial and error, but the benefits are clear.

By taking small steps, and building on and utilising on what is already in place around BYOD, it is clear that a consultative approach – gathering feedback and listening to staff and learners, often results in solutions to the barriers identified including key issues such as cost implications, training, access and security.

The desire to 'learn beyond the classroom' can be utilised through mobile technology in different ways that is not costly to the provider, although there is of course an initial cost of training both staff and learners to ensure a positive impact. Building soft skills such as confidence and self esteem can pay dividends in learners taking ownership of their device/s as well as staff that are able to harness the power of technology both inside and outside of classroom settings to the benefit of their learners, which will in turn lead to the use of more and different devices being utilised more effectively and proactively in education as a whole.

An analysis of which devices are being used and for what, is a good starting point which will also help to influence the development or adaptation of IT/ Technology/ BYOD policies that may be in place. This will help to identify any gaps in infrastructure as well as learner and staff needs to ensure a positive experience going forward with BYOD.

As our trial participants discovered, there is also added value to using mobile devices/ disruptive technologies, particularly with regards to impact: for example using and experimenting with a variety of technologies for learners and staff to feed back, record progress and share stories is not just innovative in some instances, but can also dramatically improve internal communications, as well as prove to be a useful resource and evidence base for funders.

Overall, results from the survey and outcomes from the trial demonstrate the use of BYOD continues to improve the learner experience overall; that for many providers it is unsustainable to provide all learners with IT equipment, therefore implementation of BYOD is essential for the future development of learning provision; and as such BYOD is worthy of further investment and experimentation.

APPENDICES

1.1 Barnsley College

Barnsley College Action Plan



College Action Plan title: Bring your own device (BYOD(/ Independent learning

Goals of BYOD Action Plan

1. Increase staff knowledge, understanding and use in all curricular subject areas by harnessing the power of technology in the classroom
2. Enhance the skills students need to live successfully in the 21st century
3. Optimise the advantage of students' ownership and readiness to use of personal technology devices to learn, communicate and collaborate within and external to the College
4. Increase all learners' desire to learn beyond the classroom
5. Increase learners' responsibilities and appropriate use of technology

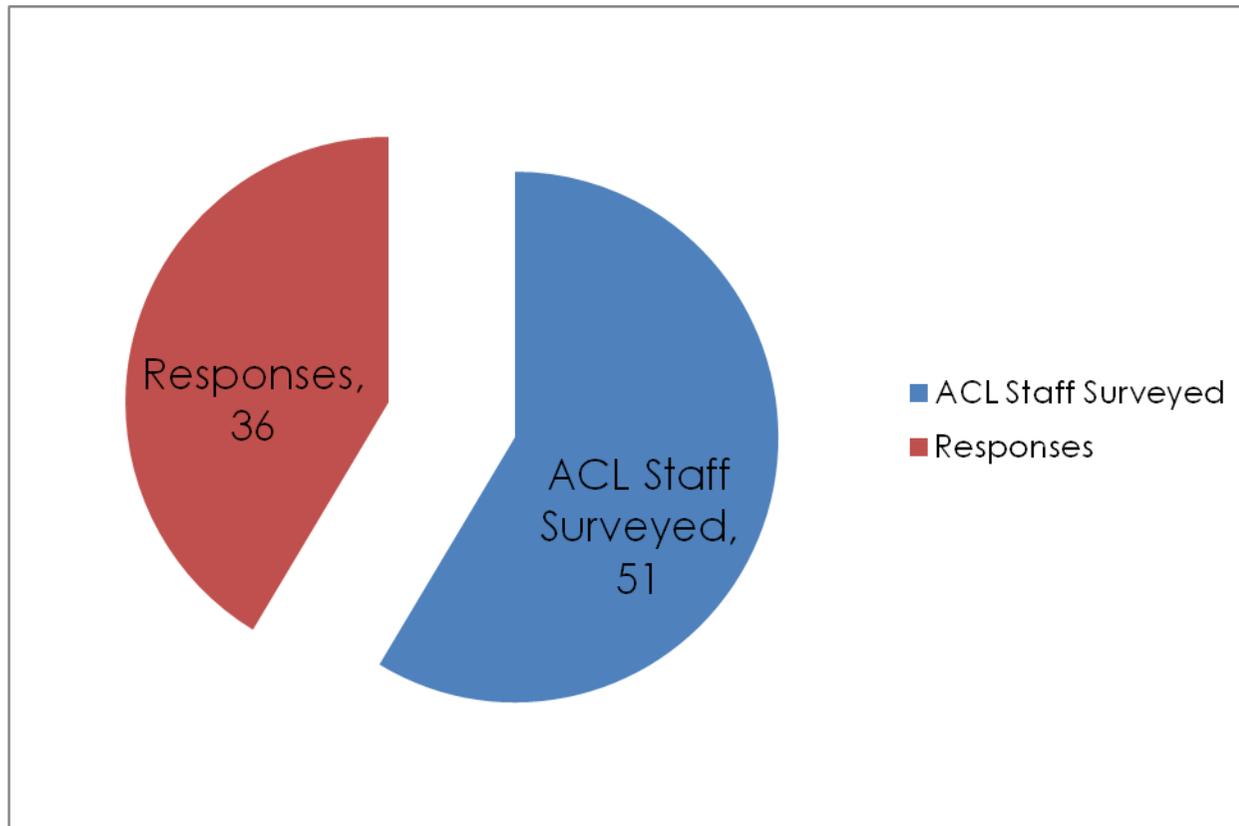
Area for improvement / development	Action (1)	Deadline (2)	Success Criteria (3)	Action by	Progress Update
Identify and apply a sound ePedagogy that underpins and utilises the principles of BYOD.	ePedagogy promoted and applied to all BYOD related activities.	Jul 16	Teachers to know the ePedagogy and know how it is to be used within their context.		
Develop a User Owned Devices policy.	Outlining the responsibilities for both the user and the College in terms of	May 16	User Owned Devices policy developed in consultation with all parties concerned		

Area for improvement / development	Action (1)	Deadline (2)	Success Criteria (3)	Action by	Progress Update
	Acceptable use Devices supported Boundaries in use Security risks and liabilities of devices				
Promotion of intent to significantly increase the use of learner owned devices within College, this includes managed classroom activities, to all HOD's and teaching staff.	Provide information to all stakeholders of the purpose and benefits in the increasing use of learner owned devices.	July 16	Promotion to all stakeholders of the benefits in the use of learner owned devices.		
Ensure all teaching staff have the skills and capability in using and presenting learning information that can be further developed on any learner owned devices.	Provide training to all classroom delivery staff on OneNote, Near Pod, Office 365 etc.	July 16	Provide training to all classroom delivery staff in teachers' fair week on OneNote, Near Pod, and Office 365.	LTU ITS	
Address Equity issues for any learners who do not have a device.	Staff to ensure that no individual is placed at a disadvantage to others.	Ongoing	No Learners should report any non-equity concerns		
Ensure the WiFi infrastructure has the scale and scope for all users to use.	Review WiFi infrastructure capabilities on all sites to ensure fitness for purpose.	July 16	Any areas with limited availability of WiFi to be reviewed and actioned.	MK	
Promote to learners benefits in the use of OneNote, Near Pod, Office 365 etc.	Develop eLearning packages on OneNote, Near Pod and Office 365 for learners at College induction.	August 2016	75% of all learners to have completed the eLearning packages September 16	LTU	
User will have no limiting experience in	Review scope of permissions	Ongoing	All users will have the same	ITS	

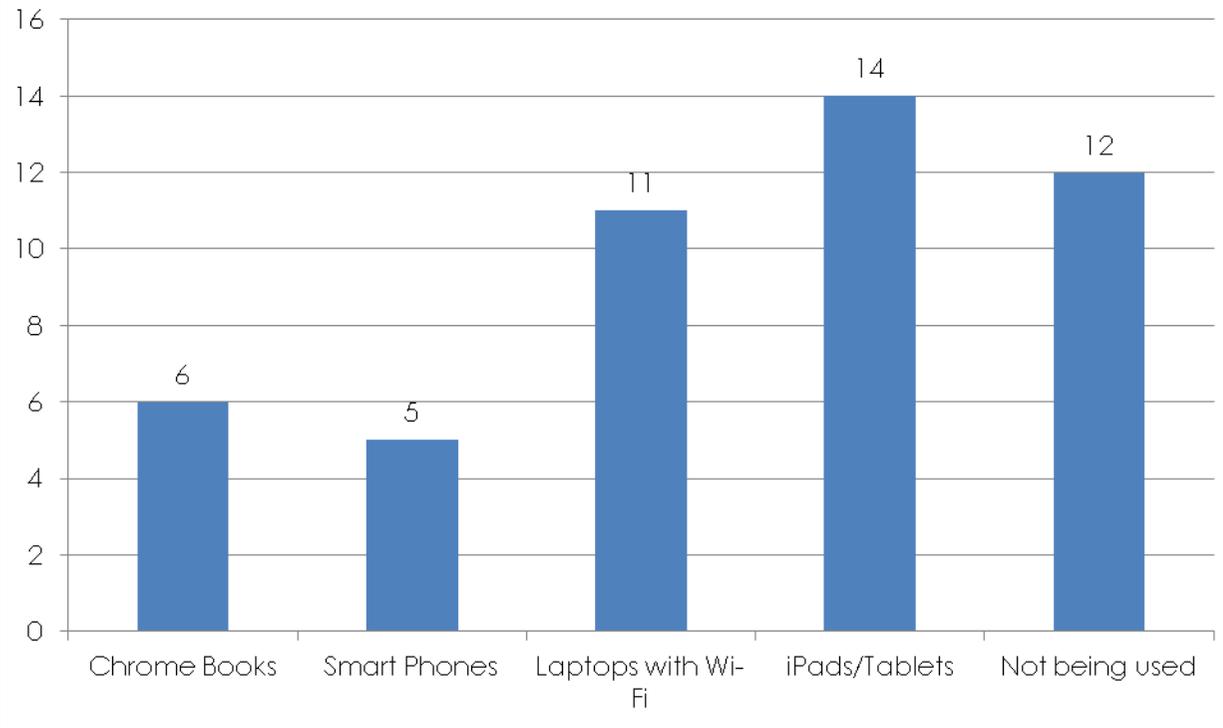
Area for improvement / development	Action (1)	Deadline (2)	Success Criteria (3)	Action by	Progress Update
using own device within the boundaries of the User Owned Devices policy.	of WiFi to ensure all users can use as required.		user experience as expected, as outlined within the User Owned Devices policy.		
Monitoring of traffic requests of user owned devices	Monitoring of incoming and outgoing data traffic of all users using the WiFi.	Ongoing	Reporting mechanism set up and monitoring taking place.	ITS	
Action any traffic requests deemed unacceptable	Present any unacceptable traffic requests by user to HOD's for action.	Ongoing	Report mechanism set up and weekly reports sent to all HOD's.	ITS	
Monitor classroom activity of BYOD	Monitor classroom activity of BYOD via lesson observations and lesson walkthroughs	Ongoing	Monitor of BYOD activity via lesson observations and lesson walkthroughs and reports sent to SMT.	KT	

1.2 Coleg Cambria

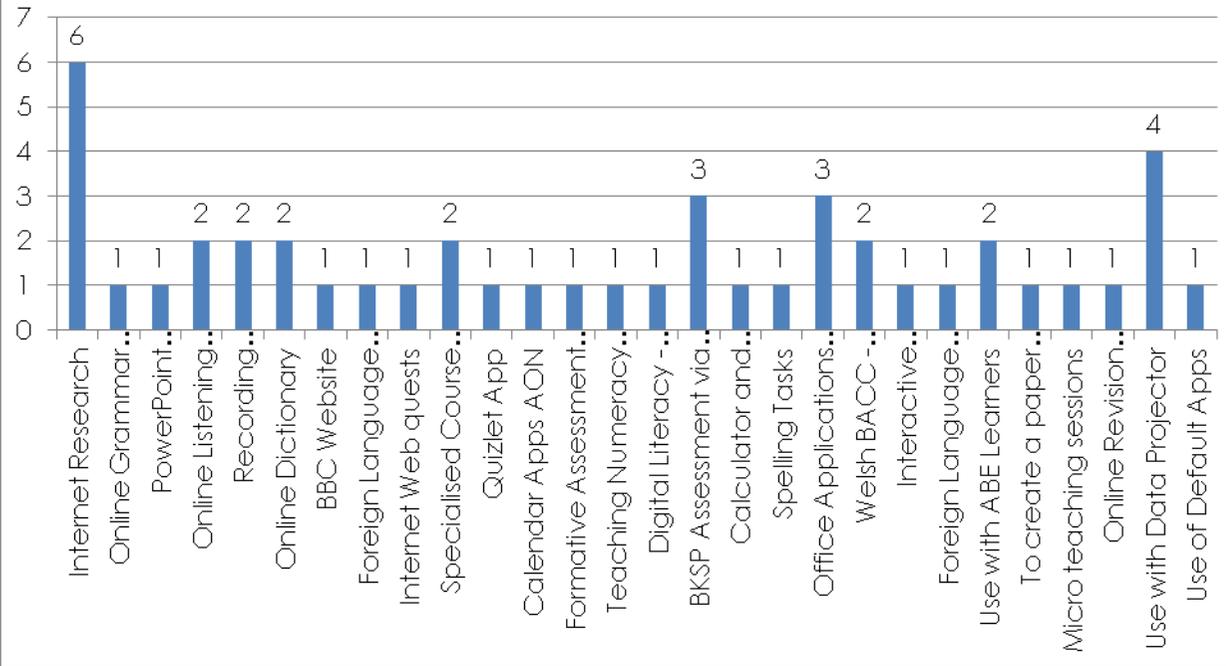
1.2.1 Results of ACL staff using mobile devices



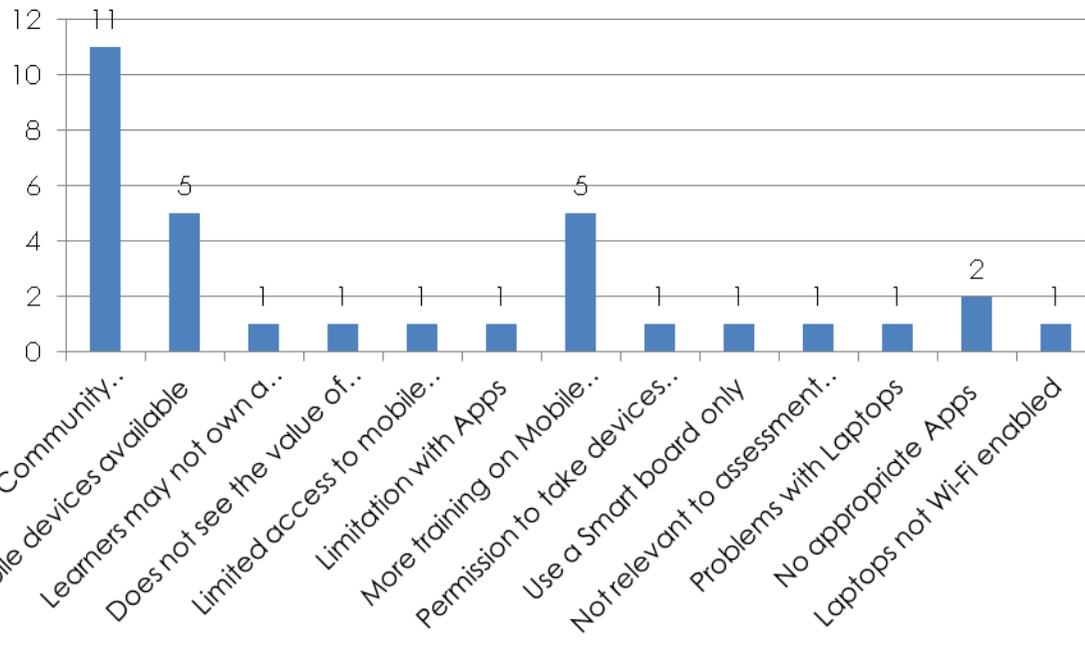
Mobile Devices being used with Learners



Uses of Mobile Devices in Teaching Sessions



Barriers Preventing Staff Using Mobile Devices



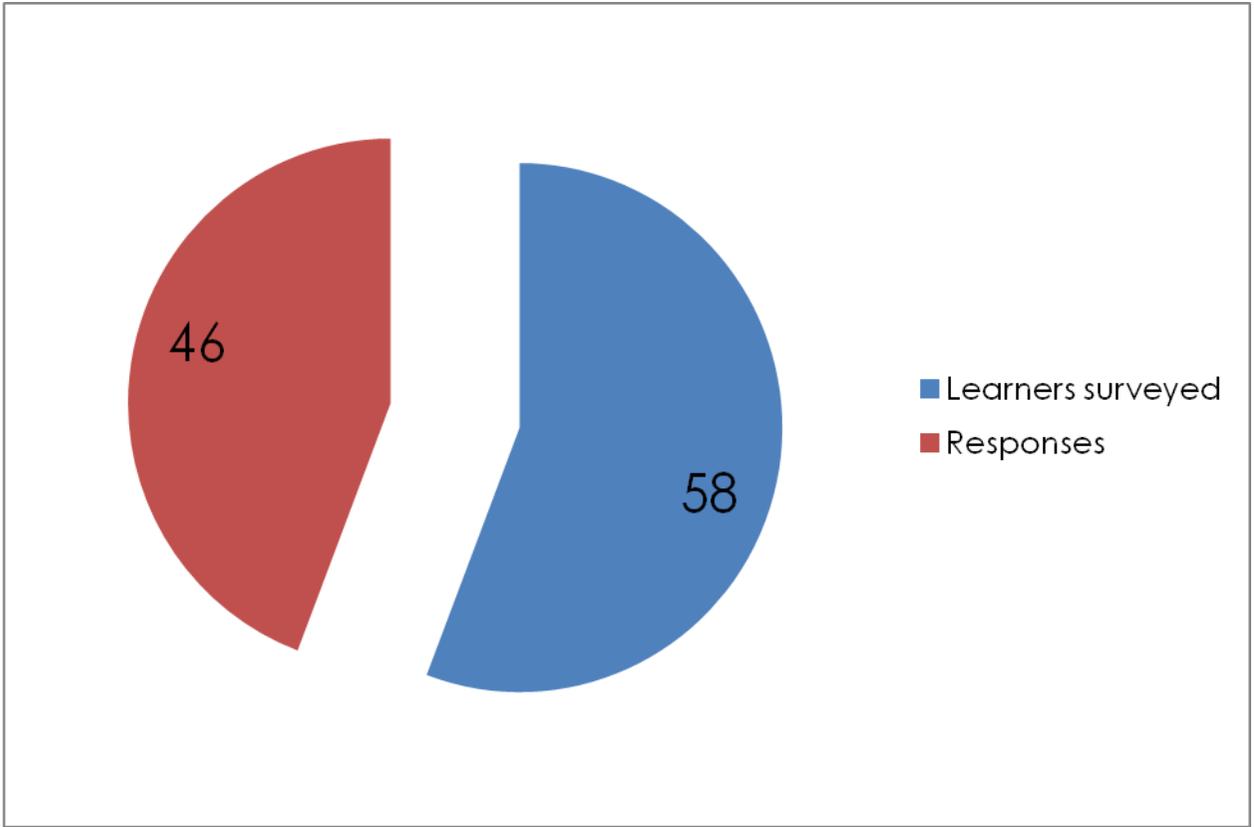
Survey data

ACL Staff Surveyed	51
Responses	36
Devices being used during teaching sessions:	
Chrome Books	6
Smart Phones	5

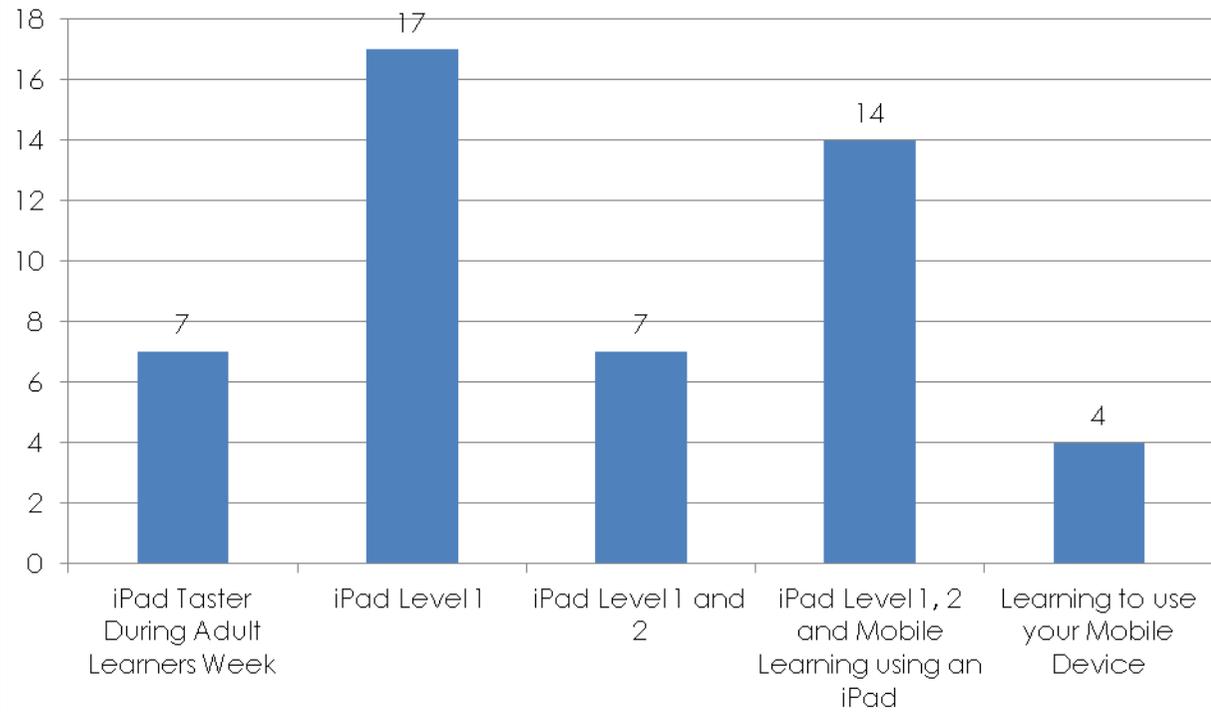
Laptops with Wi-Fi	11
iPads/Tablets	14
Not being used	12
How are mobile devices being used during teaching sessions:	
Internet Research	6
Online Grammar Practice	1
PowerPoint Presentations	1
Online Listening Practice	2
Recording Pronunciation	2
Online Dictionary	2
BBC Website	1
Foreign Language Listening and Recording Assessments	1
Internet Web quests	1
Specialised Course Apps - Welsh	2
Quizlet App	1
Calendar Apps AON	1
Formative Assessment Tool	1
Teaching Numeracy and Literacy	1
Digital Literacy - Keynote App	1
BKSP Assessment via Internet	3
Calculator and Dictionary Searches	1
Spelling Tasks	1
Office Applications via Laptops	3
Welsh BACC - Assessment Evidence	2
Interactive Games/Activities	1
Foreign Language Dictionaries	1
Use with ABE Learners	2
To create a paper free course	1

Micro teaching sessions	1
Online Revision Activities	1
Use with Data Projector	4
Use of Default Apps	1
Barriers Preventing Staff from using Mobile Devices with Learners	
No Wi-Fi in Community Teaching Venue	11
No mobile devices available	5
Learners may not own a mobile device	1
Does not see the value of mobile devices as a teaching aid	1
Limited access to mobile devices	1
Limitation with Apps	1
More training on Mobile Devices and Apps	5
Permission to take devices off site	1
Use a Smart board only	1
Not relevant to assessment tasks	1
Problems with Laptops	1
No appropriate Apps	2
Laptops not Wi-Fi enabled	1

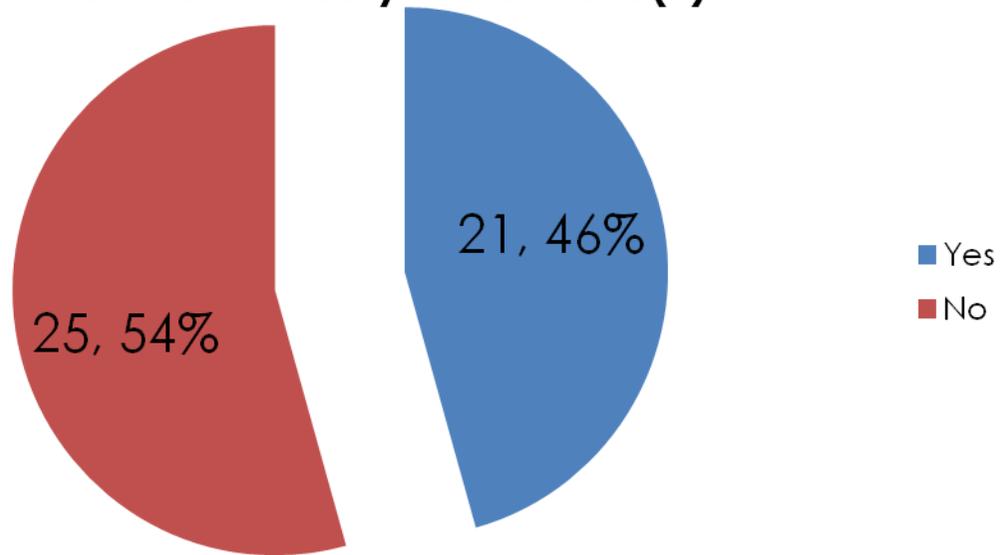
1.2.2 Results of learners using mobile devices



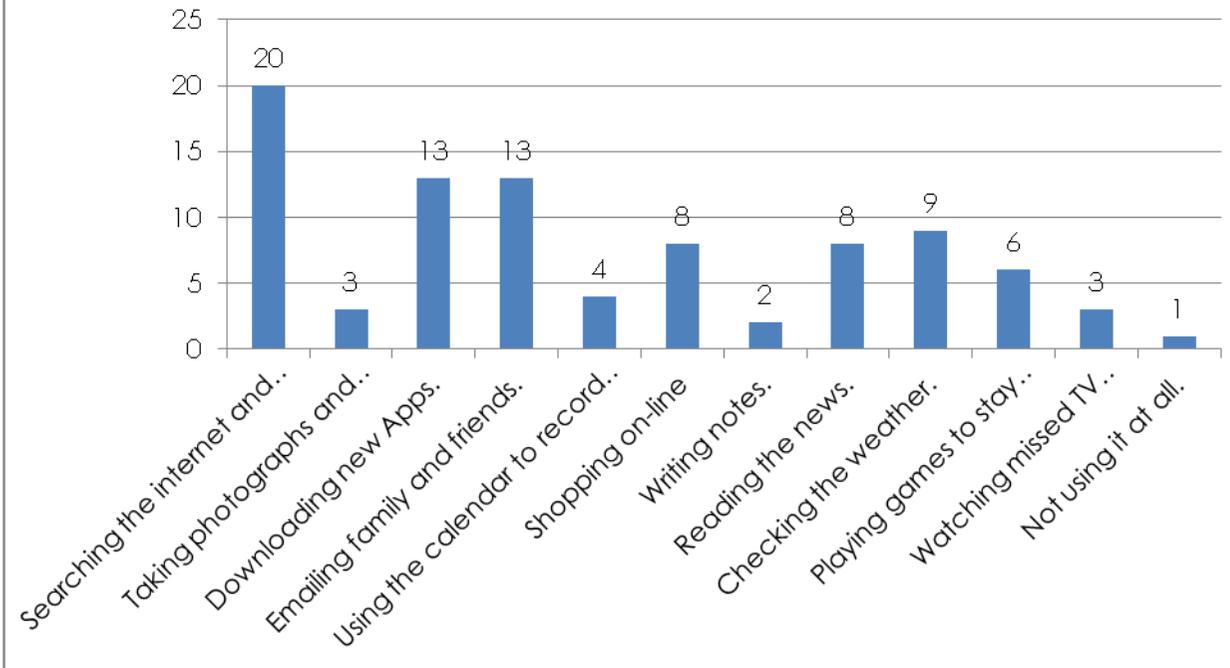
Formal Courses Taken



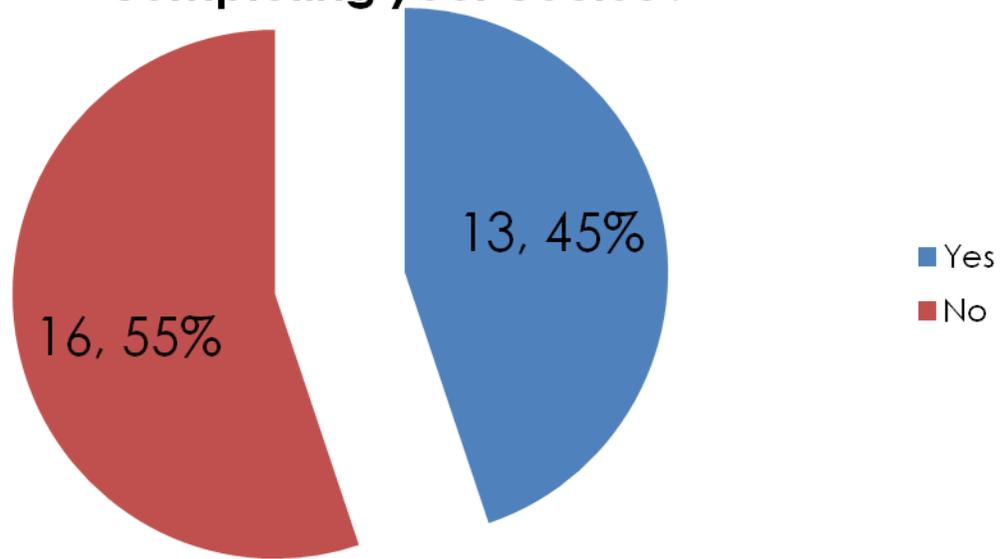
Did you have own or have access to a tablet before your course(s)?



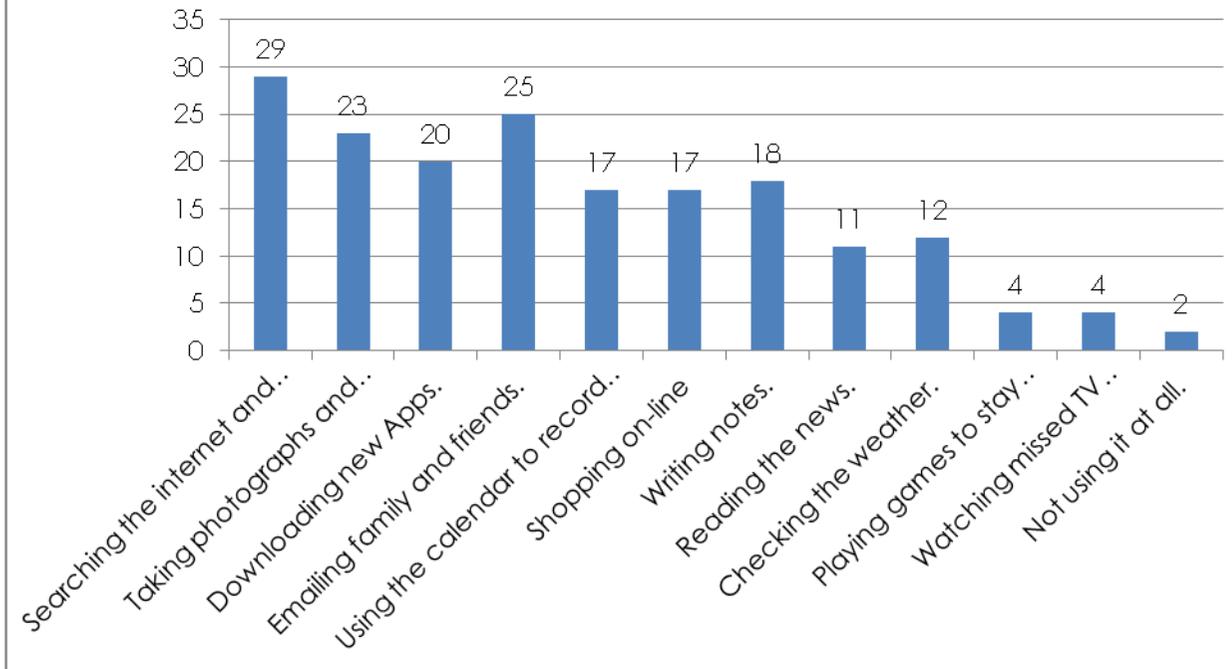
How were you using your tablet before your course?



Have you purchased a tablet since completing your course?



Following your course(s) how are you using your tablet computer today?



Survey data

Learners surveyed	58
Responses	46
Courses Taken	
iPad Taster During Adult Learners Week	7
iPad Level 1	17

iPad Level 1 and 2	7
iPad Level 1, 2 and Mobile Learning using an iPad	14
Learning to use your Mobile Device	4
Did you have access to or own a tablet before the course?	
Yes	21
No	25
If yes, how were you using your table computer?	
Searching the internet and accessing websites.	20
Taking photographs and videos.	3
Downloading new Apps.	13
Emailing family and friends.	13
Using the calendar to record appointments.	4
Shopping on-line	8
Writing notes.	2
Reading the news.	8
Checking the weather.	9
Playing games to stay mentally active.	6
Watching missed TV Programmes.	3
Not using it at all.	1
Have you purchased a tablet since completing your course?	
Yes	13
No	16
Following your course how are you using your tablet computer today?	
Searching the internet and accessing websites.	29
Taking photographs and videos.	23
Downloading new Apps.	20

Emailing family and friends.	25
Using the calendar to record appointments.	17
Shopping on-line	17
Writing notes.	18
Reading the news.	11
Checking the weather.	12
Playing games to stay mentally active.	4
Watching missed TV Programmes.	4
Not using it at all.	2

1.3 Everyday Computers

1.3.1 Ground rules

Trialling different approaches to BYOD Everyday Computers

Agreed Ground Rules for learners bringing their own device to basic computer classes.

If you bring your own device (laptop, iPad, or tablet) to a computer group, we will help you to use it successfully and ask you to observe the following ground rules:

- 1. The device and any leads should be in good working order.**
- 2. The device should be brought to the computer class in a suitable case.**
- 3. Laptops should have a power lead with them or be fully charged to last for the duration of the class.**
- 4. The device must have up to date virus protection / internet security software.**
- 5. Security and system updates are designed to keep your device safe and should be installed regularly and before the class. (It is good practice to check for these regularly.)**
- 6. Unless the course only involves the internet, Microsoft Office or equivalent should be installed on the device.**
- 7. Avoid activities and websites that might put your device at risk.**
- 8. Although the tutor may be able to help with a minor problem, significant technical problems with your device should be referred to a technical specialist.**

NB Work on this will continue after the project finishes.

1.3.2 BYOD questionnaire 1

[REDACTED] [REDACTED] 27.1.2015

Everyday Computers
Bring your own device project

Do you or would you like to bring your own computer or tablet to a computer class?
YES. BRING OWN COMPUTER

If so, how do you think it would help?
All computers are different
best to learn on my own.

Do you think there are any problems with bringing your own computer or tablet?
NO

If yes, what do you think the problems might be?

1.3.3 BYOD questionnaire 2

Everyday Computers
Bring your own device project

Do you or would you like to bring your own computer or tablet to a computer class?

Yes.....

If so, how do you think it would help?

Because it's what you would use all the time but if they are all different, different things come up. I'd be lost if I wasn't using my own.....

Do you think there are any problems with bringing your own computer or tablet?

None whatsoever.....

If yes, what do you think the problems might be?

.....
.....

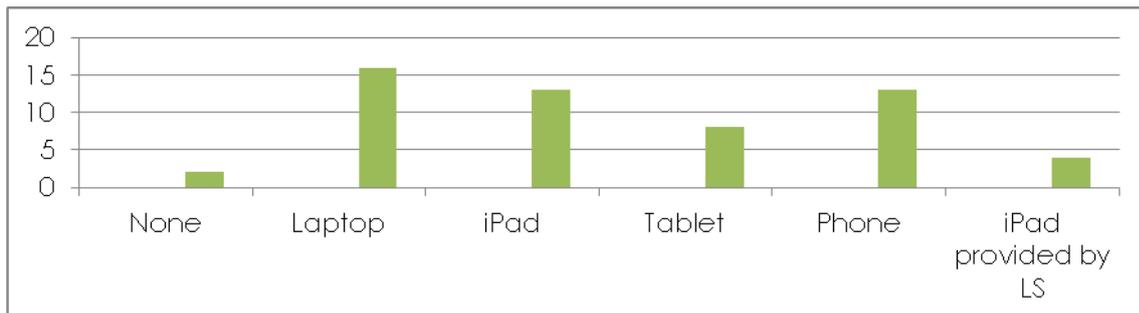
Dictated by a participant. 27-1-15.

1.4 Gateshead Learning Skills

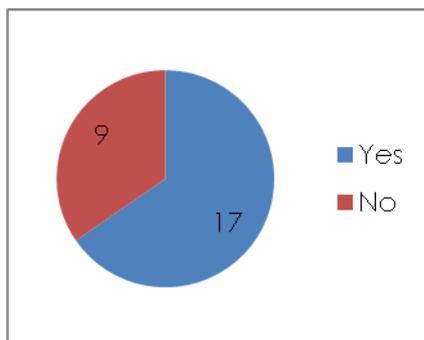
1.4.1 BYOD questionnaire results

Total number of returned questionnaires: 26

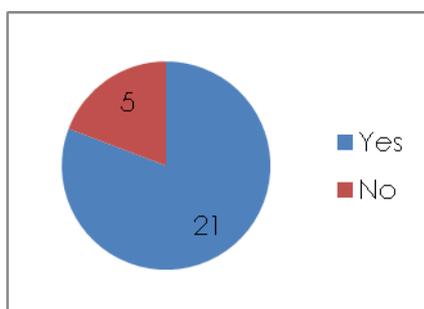
1. Devices available to learners



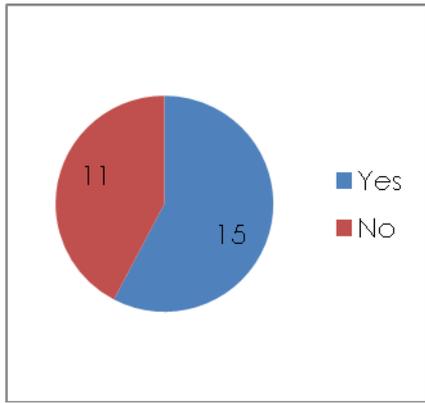
2. Do you use your device in your session?



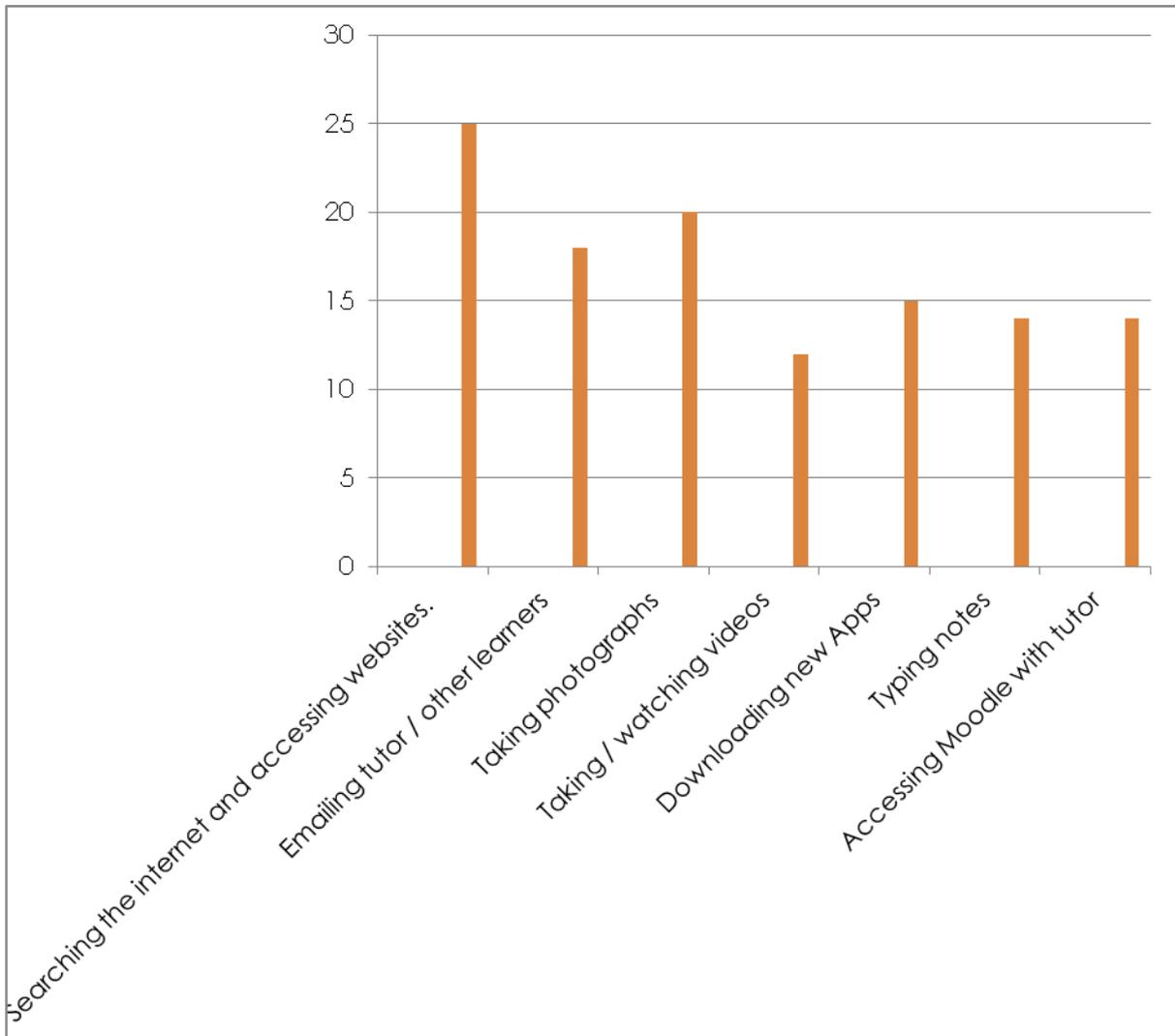
3. Are you confident in using your device?



4. Do you think you need further training in using your device?



5. How do you use your device in your session?



6. Did you find the e-safety postcard information useful?

Yes	23
No	

7. Did you find the Wi-Fi login help sheets, for different devices useful?

Yes	23
No	

8. Do you think that being able to use your device in the session has improved your learning experience?

Yes	23
No	

9. Learners Comments:

Prefers to do research about subject area at home.
Would like to see e-safety card with pictures on.
Sometimes find it difficult to access the Wi-Fi in Bensham Grove Hall.
Bensham Grove - takes time to access Wi-Fi at the beginning of every session.
Found it difficult to access Moodle.
Access to printer in Hall at Bensham Grove would be useful for Art class.
Use own device outside of session to improve learning
Don't bring own laptop to session as it's too much to carry with other equipment for session
Bringing my device is good and helpful
Moodle access very frustrating
I'm not confident in using my device to bring it to session
I have a device at home but it's not high on my list of priorities to learn how to use it

1.4.2 BESMARTONLINE postcards

- B** Bullying - Tell an adult if someone makes inappropriate suggestions to you or makes you feel uncomfortable or worried online.
- E** Ensure you don't reuse the same password for multiple accounts and renew your password regularly.
- S** Safe -Don't post any personal information publicly online, such as your address, email address, mobile number, bank details , PIN number and passwords.
- M** Media - Be careful about which photos and videos you share on social media sites - avoid photos of your home, work or places you're associated with.
- A** Anti-virus software should be installed on your device and be careful what you download or install on your device.
- R** Reliability of information online - is it accurate and reliable?
- T** Think about using a nickname instead of your real name if you're signing up to a chat rooms .
- O** Online Passwords - Choose a password with at least eight characters, a combination of upper and lower case letters, numbers and keyboard symbols such as @ # \$ % ^ & * () _ +.
- N** Needed -Don't give out information online simply because it's asked for - think whether whoever is asking for it, really needs it.
- L** Limit privacy and security settings on social media sites so that only friends and family can see your pages.
- I** Incoming calls - Do not trust unwanted phone calls, if you feel something is suspicious , hang up, wait ten minutes to clear the line, or where possible use a different phone line.
- N** Never agree to meet anyone from a chatroom / forum on your own.
- E** E- mail - be vigilant about emails from unknown addresses. Ensure spam filters are always switched on to minimise the risks. Always log out when you have finished emailing.

www.gateshead.gov.uk/learningskills

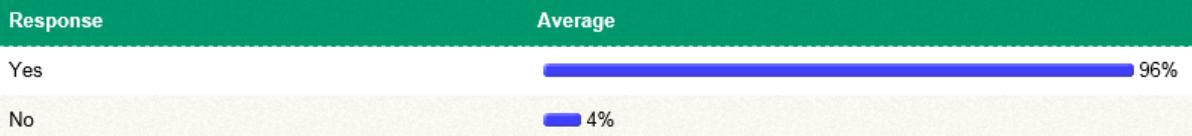
1.5 Moulton College

1.5.1 Survey – mix of devices

Response	Average
Apple - iPhone 4 / 4s	 10%
Apple - iPhone 5 / 5c / 5s	 15%
Apple – Ipad 1/2/3/4/Air	 6%
Apple - Ipad Mini	 5%
Samsung Phone - Galaxy III / Galaxy IV / Note II / Note III	 5%
Samsung Phone – Other	 3%
Samsung Tablet – Galaxy 10, Note 10	 1%
Samsung Tablet – Galaxy 7, Note 7	 3%
Samsung Tablet – Other	 2%
Kindle Fire	 4%
Hudl	 1%
HTC – One / X	 1%
HTC - Other	 6%
Google Nexus	 1%
Android Phone – Other	 5%
Android Tablet - Other	 4%
Nokia Phone (Windows)	 3%
Blackberry	 3%
Windows 7 Laptop	 11%
Windows 8 Laptop	 7%
Windows 8 Tablet	 1%

1.5.2 Availability

Do you bring your Smartphone to College with you?



1.5.3 Wi-Fi

Do you connect your Smartphone to the College's Wi-Fi?

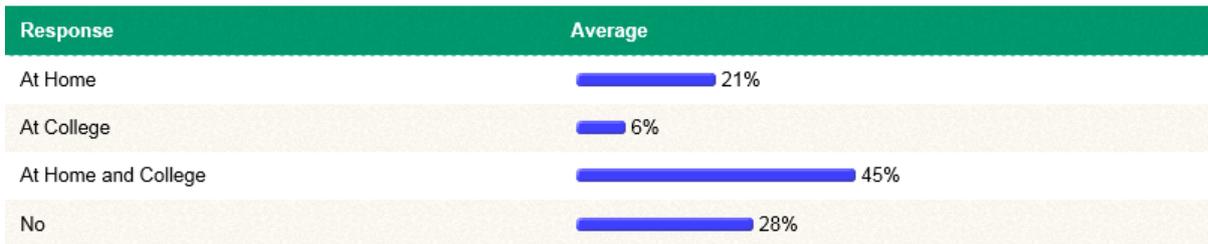


1.5.4 Device use

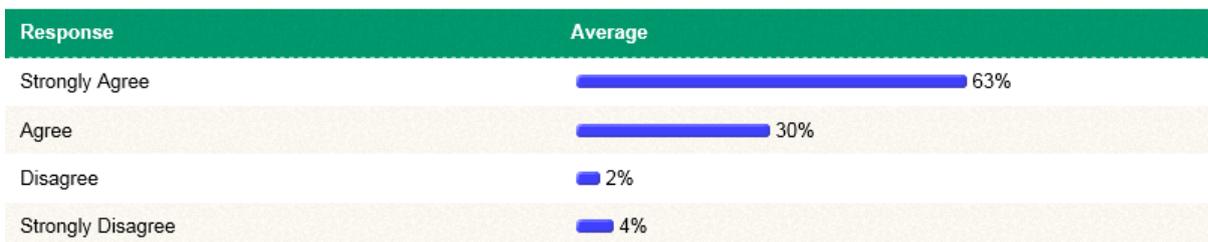
Do you use your Smartphone to help with your College work?



Do you use your Laptop/Tablet to help with your College work?



If the College were to introduce more ways in which you could use your Smartphone/Laptop/Tablet within lessons would you be inclined to your device so you can participate?



1.5.5 OneFile

- Selected for its BYOD relevance
- App allows for offline working
- Upload when signal allows

Description	Folder	Document Type	Size (KB)	Used in Assessments	Date Created	Date Last Modified	Options
Additional information as requested - importance of H&S training compared to other training within the organisation.USED	No folder	Microsoft Word Open XML Document	13		24/03/2014 08:55	23/10/2014 10:03	  
Clerk of Works report for meeting 28/8/2014	No folder	Microsoft Word Open XML Document	18	[WP2]	29/08/2014 10:14	29/08/2014 10:14	 
Continuation of Quality Audit form.	No folder	Portable Document Format File	169	[WP1]	27/01/2014 10:16	27/01/2014 10:16	 
Developing working relationships Unit 3: 1.1,1.2,1.3,1.4 USED	No folder	Microsoft Word Open XML Document	17	[RA7]	22/10/2014 14:31	23/10/2014 10:10	 
discussion for unit 1, 4.1 and 4.2	No folder	WAVE Audio File	4058	[PD1]	28/01/2015 08:53	28/01/2015 08:53	 
H	No folder	WAVE Audio File	4676	[PD2]	04/02/2015 09:02	04/02/2015 09:02	 
H&S organisational chart, roles and responsibilities.	No folder	Microsoft Word Open XML Document	35	[WQ1]	03/03/2014 16:09	03/03/2014 16:09	 
Quality Audit report. In the form of a handover report and snagging list.	No folder	Portable Document Format File	68	[WP2]	27/01/2014 10:15	27/01/2014 10:15	 
Risk Assessment of employee (H&S)	No folder	Word Document	366	[WQ1]	03/03/2014 16:13	03/03/2014 16:13	 
Unit 23.1	No folder	Microsoft Word Open XML Document	14	[WP2]	29/08/2014 10:14	29/08/2014 10:14	 
Unit 23.2	No folder	Microsoft Word Open XML Document	14	[WP2]	29/08/2014 10:10	29/08/2014 10:13	 
Unit 8 quality audits, 1.1,1.2,1.3	No folder	Microsoft Word Open XML Document	17	[KNQ2]	22/10/2014 15:29	22/10/2014 15:29	 

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