CALL Scotland
Communication, Access, Literacy and Learning

ANNUAL REPORT

April 2016 – March 2017

CALL Scotland
The University of Edinburgh

National Support for Learning
through
Assistive Technology (AT)
and
Augmentative and Alternative
Communication (AAC)

THE UNIVERSITY OF EDINBURGH

CALL Scotland's Vision

Every child / young person in Scotland with a disability or additional support needs has the curriculum materials, the Assistive Technologies and/or Augmentative and Alternative Communication tools they may need - and the support to use them effectively – in order to participate effectively and fulfil their potential through learning and achievement.

CALL Scotland's Mission

To help children and young people to overcome disability and barriers to learning created by their environment, and to fulfil their potential, CALL Scotland provides pupils and families, local authorities and professionals with -

- Strategic Leadership
- Specialist Pupil Assessment and Support
- CPD and Training
- Information and advice
- Equipment Loans and Technical Services
- Knowledge Transfer, research and development

CONTENTS

CALL Scotland's Vision 3
CALL Scotland's Mission 3
Summary 6
CALL Staff Team 2016 - 17 8
CALL Steering Group 2016 - 2017 9
Funding 9
1. Strategic Leadership and Collaboration 11
OBJECTIVES 11
OUTCOMES 12
National Improvement Framework - Raising Attainment through Assistive Technology 12
Scottish National Standardised Assessments (SNSA) 13
Scottish Government: Doran Review 13
Scottish Government: Statutory Guidance on Accessibility Strategies 14
Education Scotland and Dyslexia Scotland – Dyslexia and Inclusive Practice 14
Education Scotland – Digital Technologies 16
Education Scotland – Complex Learning Needs 16
European Agency for Special Needs and Inclusive Education: ICT for Information Accessibility in Learning (ICT4IAL) 16
Scottish Qualifications Authority 16
Augmentative Communication in Practice: Scotland (ACiP:S) 17
Communication Matters 17
Health (Tobacco, Nicotine Etc. And Care) (Scotland) Bill: Provision of Communication Equipment 18
Local authorities 18
Scottish Book Trust 18
Assistive Technology for Learning Across Scotland (ATLAS) 18
CALL Assistive Technology Community in Scotland 19
Other collaborations 19
Advisory and working group memberships 19
2. National Provision of Core Assistive Technologies 21
OBJECTIVES 21
Books for All 22
Awareness Raising and CLPL 22
Books for All Scotland Database 22
Scottish Computer Voices for Scottish schools and public sector 26
Heather and Stuart 26
Ceitidh 26
Computer Text Readers and Text-to-Speech software 26
Digital Exams and Assessments 27
Uptake of Digital Question Papers in Examinations 27
Use of technology compared to other types of support 28
Scottish National Standardised Assessments 29
WordTalk text reader. 29
3. Pupil Assessment and Support 31
OBJECTIVES 31
OUTCOMES 32
Pupils referred to CALL in 2016 - 2017 32

Assistive and Communication Technology Assessment and Support across Scotland 35
Evaluation of impact 36
Assistive Technology Impact Evaluation - staff 36
Assistive Technology Impact Evaluation - learner 37
Service evaluation and feedback 38
4. Specialist Information and Expert Advice 39
OBJECTIVES 39
OUTCOMES 40
Information and Advice 40
Web sites 40
Publications 42
Other Information Services 44
Consultation sessions 44
Feedback 45
5. Career-Long Professional Learning 47
OBJECTIVES 47
OUTCOMES 48
Career-Long Professional Learning at CALL Scotland 48
INSET Professional Learning 49
CALL Webinars 50
Conference Presentations and Talks 52
Exhibitions 52
Family Fun Technology Day 53
Post-graduate teaching 53
Online AAC modules 54
Evaluation and Feedback 54
Next steps 55
6. Assistive technology Loans and Support 57
OBJECTIVES 57
OUTCOMES 58
Technical Support 59
Evaluation and Feedback 60
7. Knowledge Transfer, Research and Development 61
OBJECTIVES 61
Books for All: provision of learning materials in accessible formats for pupils with additional support needs 62
OBJECTIVES 62
OUTCOMES 62
SQA Digital Question Papers and Assessments 65
OBJECTIVES 65
OUTCOMES 65
Talking in Exams Project 65
Digital Question Papers for Candidates who are blind or have severe sight loss 67
Online Professional Learning resources on AAC. 68
OBJECTIVES 68
OUTCOMES 68
Conference and Study Day Presentations 69
8. GLOSSARY 70

Summary

This Report describes the activities and achievements of CALL Scotland in 2016-17, working with colleagues and learners in local and national agencies across the country.

CALL Scotland is funded by the Scottish Government to lead and develop the use of technologies for learners with additional support needs in Scotland. Assistive and Communication technologies have never been more effective, or cheaper, or more readily available, but it is a rapidly changing and developing field. Learners and practitioners require accurate and impartial advice, and professional learning, to make effective use of these tools.

The vision for education in Scotland described in the National Improvement Framework[1], published in January 2016, is:

> *"**Excellence through raising attainment**: ensuring that every child achieves the highest standards in literacy and numeracy, set out within Curriculum for Excellence levels, and the right range of skills, qualifications and achievements to allow them to succeed; and*
>
> ***Achieving equity**: ensuring every child has the same opportunity to succeed, with a particular focus on closing the poverty-related attainment gap."*

The National Improvement Framework has led to a range of initiatives, including for example the Scottish Attainment Challenge, Pupil Equity Funding, the introduction of National Standardised Assessments, the Doran Review and the Governance Review, which together offer opportunities to raise the attainment and achievement of children and young people with additional support needs.

By definition, learners with additional support needs are not achieveing their full educational potential – this is why they require additional support.

We know that Assistive Technology can:

> "*increase participation, enhance inclusion, develop positive identity and self confidence and raise achievement in the community of students with special educational needs. They can also enhance, extend and engage learning among all students*."
>
> Hargreaves, A. & Braun, H. (2012). Leading for all: Final report of the review of the development of essential for some, good for all: Ontario's strategy for special education reform devised by the Council of Directors of Education. p. 53, Toronto, Ontario: Council of Directors of Education.

For some learners with additional support needs, Assistive Technology is the **only** way that they can access the curriculum **independently**. For example**:**

- learners with literacy difficulties who would otherwise rely on a human reader can now access digital textbooks from the Books for All Scotland Database and Digital Question Papers, using computer readers;

[1] Scottish Government (2016) National Improvement Framework for Scottish Education - achieving excellence and equity. http://www.gov.scot/Publications/2016/01/8314

- young people with physical support needs who cannot use traditional writing implements can use a whole range of sophisticated access technologies ranging from speech recognition through to eye-gaze;
- students with communication support needs can participate and express themselves using voice output communication aids.

But technology is changing rapidly and so it is therefore essential that learners, practitioners and parents/carers across Scotland have access to timely, up to date advice and information, and to inclusive digital technologies.

Through the past year, use of CALL's free core Assistive Technologies and resources has continued to increase; partnerships with local authorities have enabled CALL to provide direct personalised support to individual learners; practitioners have benefited from CALL's professional learning opportunities in varied forms both face-to-face and online; while CALL's web sites and downloadable resources provide essential sources of information for people in Scotland and across the world.

However, access to and support for using assistive and communication technology is uneven across the country. Some learners experience excellent provision, but others do not, as evidenced by submissions to the Education and Skills Committee of the Scottish Parliament in 2017.

For example, one parent wrote that:

> *Our son has been trialling assistive technologies to help with getting his thoughts and work published. He isn't getting the support at school to try to use this due to IT issues and lack of resource. He is a bright boy and if this isn't sorted his education will be greatly impacted. We have tried to push this from a parent perspective, have involved NHS OT but still haven't had any luck 6 months down the line. There is no funding for the device itself either. In his previous school, we were told there was enough technology in the school to support his needs, even though his needs had not been assessed. Trying to use resources such as the CALL centre were not permitted as there was no funding.*
>
> Additional Support Needs Submissions Pack, p.103, http://www.parliament.scot/S5_Education/General%20Documents/20170222ESASNSubmissions.pdf

The National Commissioning Group for Education Provision for children and young people with complex additional support needs, formed as part of the Doran Review, is currently drafting a Strategy for the next ten years.

CALL Scotland is therefore developing plans and proposals for building capacity to ensure that **all** children with complex additional support needs have equal opportunities to access the curriculum and to participate using assistive technology.

Paul Nisbet, Director.

CALL Staff Team 2016 - 17

Paul Nisbet (1.0 FTE)	Director; Engineer and Educational Technologist
Sandra O'Neill (0.4 FTE)	Specialist Teacher (until 31.8.16)
Joanna Courtney (0.6 FTE)	Specialist Speech and Language Therapist
Claire Harrison (1.0 FTE)	Development Officer, Assistive Technology & Complex Needs (from 9.1.17)
Shirley Lawson (1.0 FTE)	Development Officer & Professional Learning Coordinator
Gillian McNeill (0.8 FTE)	Specialist Speech and Language Therapist
Craig Mill (1.0 FTE)	Assistive Technology Specialist (0.6 FTE until 18.5.16)
Robert Stewart (1.0 FTE)	Technology Resources, web designer/manager
Allan Wilson (1.0 FTE)	Information Coordinator (General Enquiries)
Sarah Marjoribanks (0.8 FTE)	Office Manager
Rebecca Gow (0.9 FTE)	Resource Developer/Assistant Administrator

Former staff members, Sally Millar and Stuart Aitken, continue to provide occasional consultancy for CALL Scotland.

CALL Steering Group 2016 - 2017

Dr. Mike Gibson	Chair of Steering Group
Deborah Walker	Support and Wellbeing Unit, The Scottish Government
Jean Alexander	AAC Operational Improvement Lead, The Scottish Government (from 08/16)
Mary Berrill	Senior Education Officer, Inclusion, Education Scotland (from 08/16)
Cheryl Burnett	National Parent Forum of Scotland
Joanne Dryburgh	Scottish Borders Council (ASLO representative)
Joan McKay	Principal Teacher, Eildon Support Centre, Scottish Borders Council
Professor Sheila Riddell	Moray House School of Education, University of Edinburgh
Jackie Swan	ASN Service Manager, East Dunbartonshire Council (from 08/16)
Barry Syme	Principal Psychologist, Glasgow (ASPEP representative)
Martin Vallely	Professional Services Manager: Children & Families, City of Edinburgh Council (ADES representative)

Funding

CALL is funded entirely through grants and contracts. The bulk of CALL's funding is provided by the Scottish Government Learning Directorate with a broad remit to help learners, practitioners and parents and carers get the most from Assistive and Communication Technology to access the curriculum, and for communication. We also have a small annual grant from the Scottish Government Care, Support and Rights Division that funds information, advice and equipment loans for adults. SQA funds our partnership and development work around digital examinations and assessments, while assessment and support of individual pupils in schools is undertaken via partnership agreements with local authorities. Lastly, we generate income through delivery of professional learning in Edinburgh and on site in schools.

However, our core grant from Scottish Government has remained static since 2011, while inflation has exceeded 11% to 2016. Consequently, CALL is under considerable pressure to generate the additional income required to maintain the successful national services evidenced in this report.

1 Strategic Leadership & Collaboration

Funded by: Scottish Government Core Grant

OBJECTIVES

Development and delivery of effective policy and good practice in the use of AT and AAC for pupils with additional support needs or disabilities in Scotland through:

- collaboration with colleagues in The Scottish Government, Doran Project Board, Education Scotland, Scotland, SQA, local authorities and voluntary organisations;
- collaboration with AAC Leads in NHS Health boards and their partners and with SCTCI;
- collaboration with parents, particularly through the National Parent Forum of Scotland;
- participation in UK and international committees and working groups;
- submissions to legislation and policy-making bodies;
- development of new initiatives & pilot schemes.

OUTCOMES

National Improvement Framework - Raising Attainment through Assistive Technology

The vision for education in Scotland described in the National Improvement Framework[2], published in January 2016, is:

> *"**Excellence through raising attainment**: ensuring that every child achieves the highest standards in literacy and numeracy, set out within Curriculum for Excellence levels, and the right range of skills, qualifications and achievements to allow them to succeed; and*
>
> ***Achieving equity**: ensuring every child has the same opportunity to succeed, with a particular focus on closing the poverty-related attainment gap."*

Professor Andy Hargreaves, a member of the International Council of Education Advisers advising the Scottish Government on the National Improvement Framework, writes that:

> "*The use of assistive technology to support the needs of special education students has been a revelation and has begun a small revolution in student achievement, so that many students are now able to access, develop and display what they know in ways that have never been possible for them before.*
>
> *Assistive technologies, the results of this study show, can increase participation, enhance inclusion, develop positive identity and self-confidence and raise achievement in the community of students with special educational needs. They can also enhance, extend and engage learning among all students.*"[3] (p. 53)

However, Professor Hargreaves also notes that technology without investment in skills is insufficient:

> "*Assistive technology is not simply a device such as a laptop or a piece of software. Nor is it a single investment in time and resources. It is as an interconnected system that encompasses planning, professional development, personnel, and equipment.*"

Throughout 2016-17, CALL has been stimulated by both the vision of the National Improvement Framework, and the potential of assistive technology to raise attainment and achieve equity. We have drawn attention to this research at presentations; in a series of blogs; and in discussion of the role of assistive technology in raising attainment when supporting individual learners in schools, and delivering Professional Learning.

---

[2] Scottish Government (2016) National Improvement Framework for Scottish Education - achieving excellence and equity. http://www.gov.scot/Publications/2016/01/8314

[3] Hargreaves, A. *et al.* (2012) *Leading for All Executive Summary: A research report of the development, design, implementation and impact of Ontario's 'Essential for Some, Good for All' initiative*. Ontario. Available at: http://www.ontariodirectors.ca/downloads/Essential_ExecSummary_Final.pdf (Accessed: 23 August 2017).

Scottish National Standardised Assessments (SNSA)

In December 2015 CALL responded to the draft National Improvement Framework. Our response considered matters of policy related to inclusion of learners who are disabled or have additional support needs, particularly in the assessment process. We also offered technical detail on the specification required to meet legal requirements on accessibility for the proposed standardised Assessments.

CALL met with officials from Scottish Government and Paul Nisbet contributed papers and advice to meetings of the Inclusion / Additional Support Needs User Assurance Group between January and July 2017, as the assessments were being developed. We are encouraged that ACER, the organisation developing the SNSA, has committed to ensuring that the assessments are technically accessible, although one important accessibility facility (changing screen colours) has not been implemented as yet. We were particularly pleased to hear Scottish Government emphasise that the assessments are intended to be used by learners with ASN, and that supports routinely used in class could also be used by learners when using the assessments.

When the assessments are available in August 2017, CALL will assess accessibility and develop guidance and resources to support schools and learners with additional support needs to access the resources.

Scottish Government: Doran Review

Dr Stuart Aitken retired in April 2016 but we are pleased that he has continued to represent CALL, SSC and Enquire on the Doran Project Board on a consultancy basis, while Paul Nisbet is a member of the National Commissioning Group for Education Provision for Children and Young People with Complex Additional Support Needs. The group is chaired by Margaret Orr and had its first meeting in October 2015. A draft 10 year Strategy was developed by the group and CALL contributed substantially to the second draft which was put out for consultation in June 2017. CALL's response focussed on the need for national planning and national services related to Assistive Technology and AAC, and the impact of Assistive Technology and related services upon the education and wellbeing of children and young people with complex additional support needs, drawing on international best practice[4] [5] [6].

[4] Turner-Cmuchal M & Aitken S (2016) ICT as a tool for supporting inclusive learning opportunities. In Implementing Inclusive Education: Issues in bridging the policy-practice gap. Edited by Amanda Watkins and Cor Meijer – European Agency for Special Needs and Inclusive Education. www.emeraldinsight.com/doi/10.1108/S1479-363620160000008010

[5] Universal Design for Learning, http://www.udlcenter.org/

[6] European Agency for Special Needs and inclusive Education ICT for Inclusion, https://www.european-agency.org/agency-projects/ict4i

Scottish Government: Statutory Guidance on Accessibility Strategies

Last year, we reported the results of a survey which indicated that learners in many parts of Scotland still do not have access to core essential assistive technologies such as computer text readers and the Scottish computer voices, and/or face obstacles to using school computers because of access to the Ease of Access Control Panels, which is required to make adjustments to accessibility settings, is restricted. This practice contravenes guidance from Scottish government on Planning improvements for disabled pupils' access to education.

In 2016-17, CALL continued to raise this issue when working directly with practitioners and learners in local authorities and when delivering training courses and presentations. Two new posters were also created to summarise the guidance, for teachers, practitioners and parents. The posters on Are You Meeting Your Legal Requirements for Computer Accessibility? and Inclusive Learning Resources are available for free download from the CALL Scotland website, and have proved extremely popular at professional learning events, conferences and exhibitions.

Figure 1: 'Reasonable adjustment' posters for schools

The issue has also been explored through presentations to the Education Scotland National Technologies Network (7/9/16) and the ADES ASN Network (16/2/17), and at meetings of the Scottish National Standardised Inclusion / Additional Support Needs User Assurance Group. It would be most unfortunate if learners with additional support needs were unable to access the National Assessments because the computers in their schools were not accessible.

Education Scotland and Dyslexia Scotland – Dyslexia and Inclusive Practice

In December 2015, Fran Ranaldi was appointed Development Officer (Dyslexia and Inclusive Practice Inclusion and Equalities) to take forward recommendations in the *Making Sense: Education for Children and Young People with Dyslexia in Scotland* report[7]. Since then, CALL has contributed to this programme at conversation events and Paul Nisbet is a member of the Addressing Dyslexia Toolkit working group. The Addressing Dyslexia Toolkit was originally created

[7] Education Scotland (2014) Making Sense: Education for Children and Young People with Dyslexia in Scotland. https://education.gov.scot/improvement/inc37making-sense

in 2010 and throughout 2016-17, the working group updated the content and the resource itself was transferred to a brand new, more modern and accessible web site.

CALL created a section on technology to support aspects of literacy and numeracy, constructed around a series of case studies.

Figure 2: the new Addressing Dyslexia Toolkit

On 8 March 2016, CALL were honoured to host the launch of the new toolkit by Sir Jackie Stewart and John Swinney.

Figure 3: John Swinney and Sir Jackie Stewart launch the Toolkit

In addition to the toolkit, Fran Ranaldi and the working group have created a free online course offering an Introduction to Dyslexia and Inclusive Practice. The course is available on the Open University's OpenLearn platform. In 2017-18, the introductory course will be enhanced by two further modules at a more advanced level.

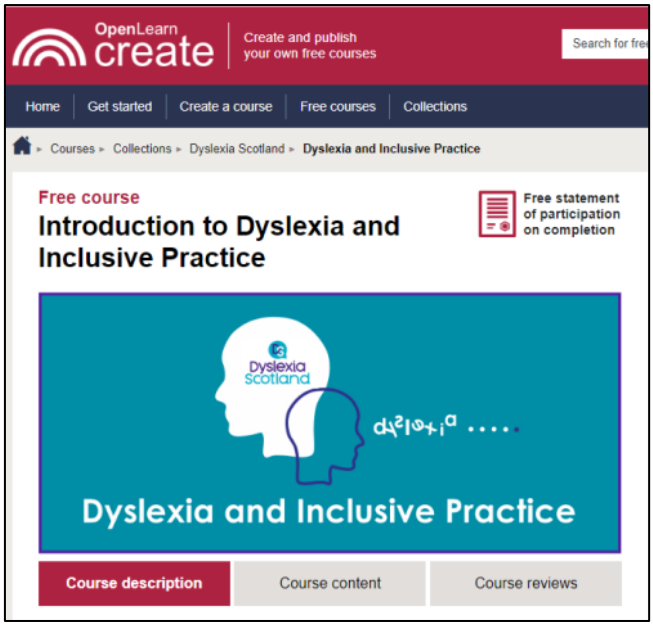


Figure 4: The new Dyslexia and Inclusive Practice Online Learning course

Education Scotland – Digital Technologies

Paul was invited to present a session on Inclusive Digital Learning at the 7/9/16 meeting of the National Technologies Network, and is a member of the National Digital Learning Forum.

Education Scotland – Complex Learning Needs

Claire Harrison is a member of an Education Scotland working group that is developing guidance for practitioners around tracking the progression of learners who require support to consolidate their knowledge, skills and competencies at a pre-Early level. The guidance will form a series of milestones organized into curricular areas, which will give practitioners a picture of what progression may look like for learners working at a pre-Early level. The initial guidance will be linked to the Literacy Experiences and Outcomes, with other curricular areas to follow.

European Agency for Special Needs and Inclusive Education: ICT for Information Accessibility in Learning (ICT4IAL)

Stuart Aitken co-authored a chapter[4] for a new book on ***Implementing Inclusive Education: Issues in Bridging the Policy-Practice Gap***, the 8th volume in the ***International Perspectives on Inclusive Education*** series published by Emerald Insight.

Scottish Qualifications Authority

CALL continued to provide advice and support to SQA and to schools regarding SQA Digital Question Papers and technology in assessments and examinations.

The final report of the Talking in Exams project, researching the application of Dragon NaturallySpeaking speech recognition software in assessments, was published in December 2016 and is available from the CALL web site.

Over the past two years, CALL has undertaken research into accessible digital formats for question papers, for learners with significant sight loss and a report for SQA[8] will be published in May 2017.

Augmentative Communication in Practice: Scotland (ACiP:S)

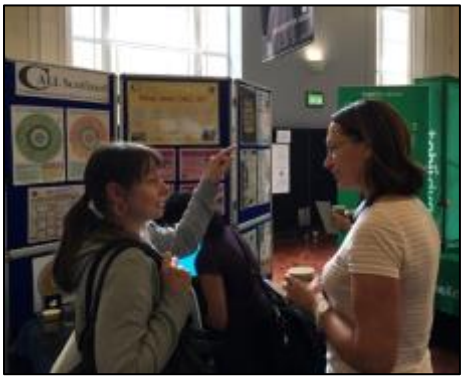
CALL staff (Allan, Gillian, Joanna) as members of the ACiP:S executive committee provide leadership and participation on national AAC issues. Other committee members represent AAC services across Scotland.

In partnership with other members of the ACiP:S network:

- Working on the revision of the ACiP:S network constitution to become the trust deed and on the application for charitable status.
- Facilitating the AAC Leads from across Scotland to meet regularly with the ACiP:S committee, to consult on the AAC legislation 2016 and to share good practice and service procedures for supporting people in AAC.
- Organising the Family Fun Technology Day on 16th April 2016 at CALL Scotland. Attended by 100 children and families from different parts of Scotland, with CALL and other staff (and some of their families) involved in leading activities and providing information. This was an opportunity to for the children to engage in inclusive and accessible activities, and for parents to discuss technologies with specialist professionals.
- Planning for an Adult Technology Discovery Day to be held on 24th June 2017 at CALL Scotland. For adults (16yrs+) and assistants, to find out about different technologies and to take part in a consultation for people who use AAC.

Communication Matters

- Allan, Gillian and Shirley attended the annual Communication Matters conference in Leeds (September 2016), including an exhibitor stand. Allan acted as Returning Officer for the election of Trustees. CALL staff attended the Communication Matters Roadshow in Clydebank on May 10th 2016.



[8] Nisbet, P., & Aitken, S. (2017). Digital Question Papers for Candidates who are Blind or have Severe Sight loss: Report May 2017. Edinburgh. Retrieved from http://www.adapteddigitalexams.org.uk/common-assets/cm-files/files/digital-question-papers-for-candidates-who-are-blind-or-have-severe-sight-loss.pdf

Health (Tobacco, Nicotine Etc. And Care) (Scotland) Bill: Provision of Communication Equipment

On 3 March 2016, a new Bill was passed by Scottish Parliament which places a duty on Scottish Ministers to:

> *"meet all reasonable requirements, provide or secure the provision of—*
>
> *a) communication equipment, and*
> *b) support in using that equipment,*
> *to any person who has lost their voice or has difficulty speaking."*

Implementation of the new duty will be the responsibility of Health Boards and Scottish Government has formed an Assisted Communication Team (ACT) to create and take forward a programme of work, and develop Directions to underpin the Act. AAC Executive Leads have been identified for each health board, and an AAC Advisory Group has been established to work with the ACT. Paul and Gillian are both members of this group. Jean Alexander, the AAC Operational Improvement Lead, has joined the CALL Scotland Steering Group.

This work is of great significance for learners in Scotland who require AAC, and CALL staff are heavily engaged in the discussions and the development of the Directions.

Scottish Book Trust

CALL's partnership with the Scottish Book Trust has further developed in 2016-17 we:

- created accessible digital versions of the 3 shortlisted books in the 2017 BookBug Picture Book Prize, in PDF, PowerPoint and Keynote (iPad) format;
- developed symbolised resources to accompany the P1 Bookbug books, to help learners with physical and communication support needs access the books and participate in reading;
- developed packs of symbolised resources for the Explorer pack of Bookbug books, which are given out to all children at nursery school, when they turn 3;
- created accessible digital versions (PDF) of the 3 books shortlisted for the 2017 Scottish Teenage Book Prize.

Further details about these developments are in the Knowledge Exchange section under Scottish Children's Book Awards.

Local authorities

CALL continues to offer assessment and support for individual learners, professional learning and technical expertise tailored to individual local authority contexts through partnership agreements with 17 local authorities; see *Pupil Assessment and Support* and Career-Long Professional Learning.

Assistive Technology for Learning Across Scotland (ATLAS)

ATLAS is the new name for the group formerly known as ICTSLS (ICT to Support Learning in Scotland).
Shirley Lawson chairs this national group of primarily educational practitioners working in the field of technology to support children and young people with Additional Support Needs and / or disabilities.

The group mainly communicates online via a Google Group forum and provides support for each other: answering questions, sharing resources and suggesting solutions to problems posted. The ATLAS group met - on 02/11/16 in Haddington, East Lothian and 01/03/17 in Airdrie to discuss a wide range of current issues on the topic of inclusive digital technologies, educational practices, legislation, Professional Learning opportunities as well as hearing from invited guests.

CALL Assistive Technology Community in Scotland

The CALL AT Community in Scotland is a new online forum for teachers and others with an interest in the use of assistive technology in education, managed by Craig. It allows members to share ideas and resources and to ask questions. Many people in assistive technology work in relative isolation and value opportunities to interact with colleagues with a shared interest. A meeting in "teach-meet" format was due to be held in May 2017. The Community was set up in November 2016 and had nearly 100 members by the end of March 2017.

Other collaborations

- Discussions with software and communication aid suppliers, making an input to product development.
- Exhibition and presentations at Dyslexia Scotland roadshows and events (Allan, Craig, Paul, Shirley).
- CALL staff attended meetings and contributed to the Autism Education Network.

Advisory and working group memberships

- AAC Advisory Group (Gillian and Paul)
- Augmentative Communication in Practice: Scotland (Gillian and Allan)
- Addressing Dyslexia Toolkit Working Group (Paul)
- Doorway Online Accessible Software Trust (Allan, Craig and Shirley)
- Doran National Commissioning Group (Paul)
- Doran Strategic Commissioning Project Board (Stuart)
- Education Scotland Complex Learning Needs Curriculum Milestones Working Group (Claire)
- National Digital Learning Forum (Paul)
- National Standardised Assessments Project Inclusion/Additional Support Needs User Assurance Group (Paul)
- Scottish Qualifications Authority Equality and Inclusion Key Partners' Group (Paul).

National Provision of Core Assistive Technologies

OBJECTIVES

- **Books for All:** provision of learning materials in accessible formats for pupils with additional support needs. (Funded by Scottish Government Core Grant).
- Provision of high quality **Scottish Computer Voices** for Scottish schools and public sector. (Funded by Scottish Government Core Grant).
- Development and support for **SQA Digital Question Papers and Assessments**. (Funded by SQA).
- Ensure that National Standardised Assessments are accessible. (Funded by Scottish Government Core Grant).
- Provision of **WordTalk** text reader. (Funded by Scottish Government Core Grant).

Books for All

Funded by: Scottish Government Core Grant

Awareness Raising and CLPL

Books for All and the use of learning materials in accessible formats continues to be a core message and service that is disseminated through direct work with learners in schools and professional learning. The Books for All web site received 103,155 visits in 2016-17; an increase of 14% on the previous year.

Books for All Scotland Database

51,449 books were downloaded from the Database by 1,373 teachers in 2016-17 – a reduction of 1,120, or 2%. The total number of individual schools or services accessing files was 1,373; 13 more than 2015-16.

Table 1: Number of downloaders and books downloaded from the Database

Books for All Downloads	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Number of individual downloaders	289	523	862	1,230	1,033	1,360	**1,373**
Number of books downloaded	2,012	3,923	7,257	11,067	31,315	52,569	**51,449**

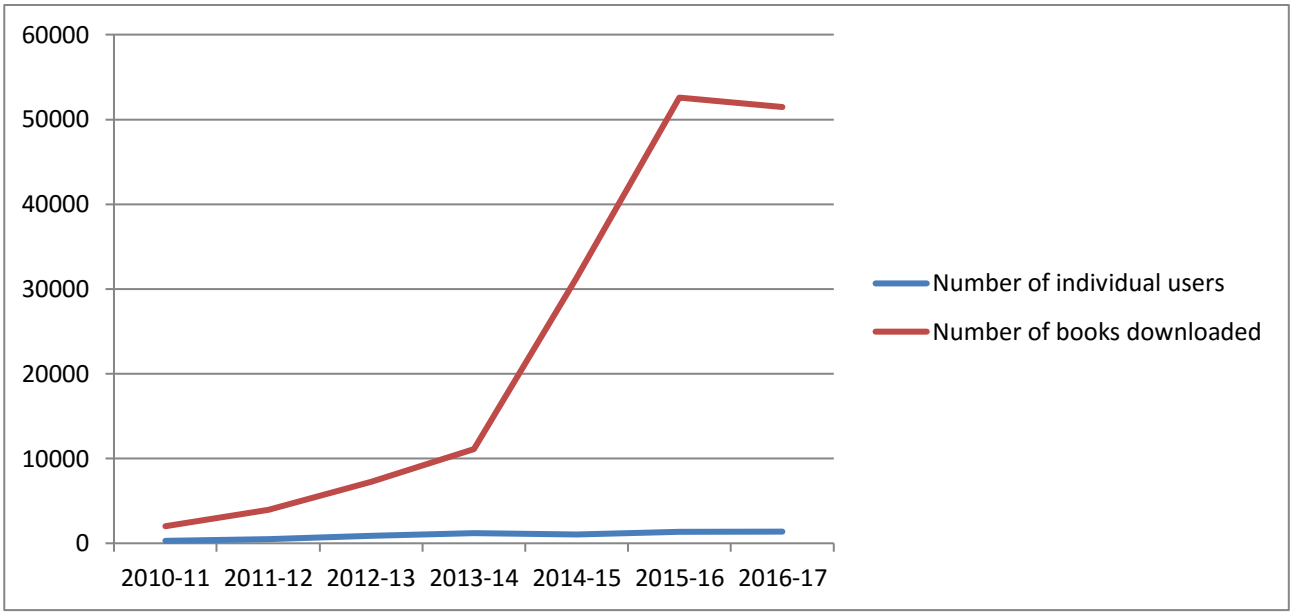


Figure 5: Number of users and books downloaded from the Books for All Database

(For readers with good memories, these 2015-16 figures are different to the statistics reported in the 2015-16 annual report; this is due to data processing error for last year's report.)

One reason for the reduced downloads may be because PDF files from BrightRED Publishers were withdrawn from the database in September 2016 and consequently, there were only 1470 downloads in 2016-17 compared to 3650 the previous year. In August 2016, BrightRED alerted us to a complaint from one of their authors that files were being downloaded and used for whole class teaching, which contravenes the terms and conditions of supply. The files on the database

are only for use by individual learners who cannot access the paper books as a result of a disability, and it is illegal to use them for any other purpose.

In September 2016 we contacted all the schools and services that had downloaded files during the previous year to remind them of the terms and conditions of use, and BrightRED asked us to remove the files from the database.

In January 2017, Hodder Gibson also reported a complaint from one of their authors, which alleged that files were being downloaded and printed out for class use. Again, this practice is completely illegal, and this time we contacted the schools and users that had downloaded the largest number of Hodder Gibson textbooks to investigate how the files were being used. Feedback suggested that practices were mixed: some schools provided evidence of correct procedures for downloading and controlling access to files, but others investigated and then reported that books were being used inappropriately.

We are very keen to maintain the Hodder books on the database as they are clearly of great benefit to learners with print disabilities, and so we discussed with Hodder what measures should be taken to reduce the risk of illegal use. We clarified and strengthened the wording on the download page, and added a pop-up dialogue box to remind users of the terms and conditions of use (Figure 6). We are monitoring the downloads from the database, and considering further changes that could be made to the database ensure that teachers and practitioners who are downloading files are fully aware of the permissions for their use.

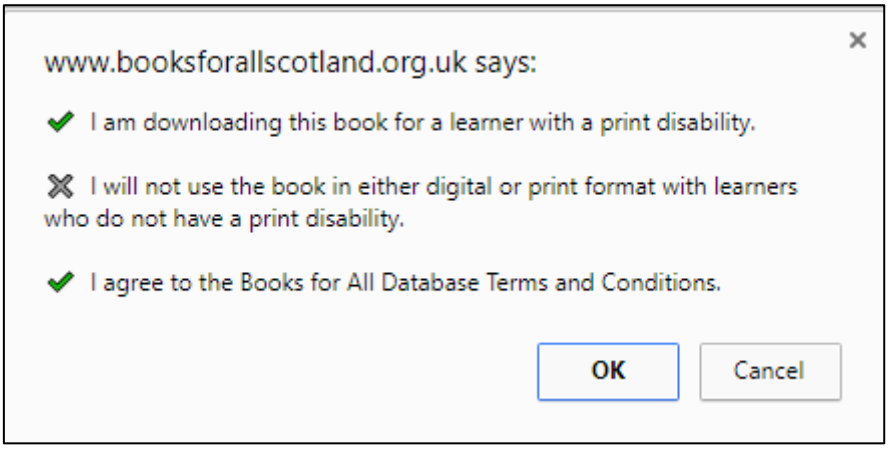


Figure 6: Books for All Database terms and condition

Hodder Gibson textbooks accounted for 36% of the total downloads (18,392) followed by TeeJay (9,698) and then Heinemann (8,165). The Hodder Gibson and TeeJay PDF files are supplied by the publisher and are high quality digital versions of the printed textbooks.

5,847 of the 8,165 Heinemann downloads were of Scottish Heinemann Maths primary textbooks that we scanned and adapted with 'answer boxes' to improve access for learners. The TeeJay books 1a, 1b, 2a and 2b have also been adapted with on-screen answer boxes, and it is clear from the number of downloads that these adapted PDF textbooks are providing learners with accessible learning resources. The most popular book was TeeJay's Curriculum for Excellence Book 1a which was downloaded 1,178 times.

Table 2: Most downloaded publishers

Publisher	Number of books downloaded 2014-15	Number of books downloaded 2015-16	Number of books downloaded 2016-17	Δ 2015/16 – 2016/17
Hodder Gibson	14,642	18,619	18,392	-227
TeeJay Publishers	5,692	8,154	9,698	1,544
Heinemann	4,051	8,125	8,165	40
Nelson Thornes	1,473	2,676	2,457	-219
Oxford University Press	771	2,812	2,088	-724
BrightRED	0	3,650	1,470	-2,180
Puffin	551	1,037	1,268	231
Ginn	487	390	641	251
Bloomsbury	124	345	614	269
Collins	316	509	534	25
Leckie & Leckie	216	437	368	-69

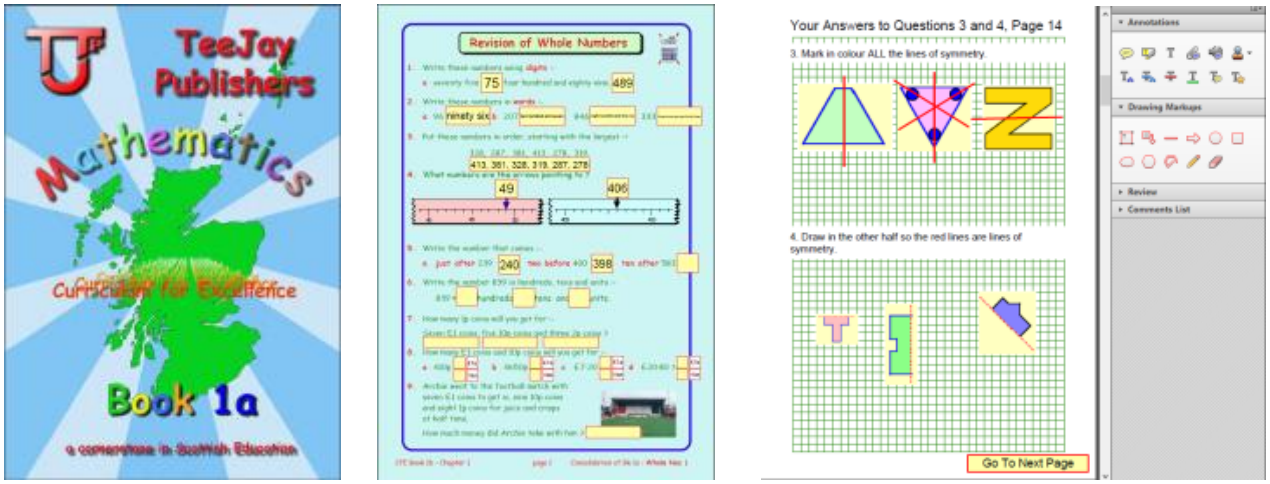


Figure 7: TeeJay Maths books adapted with answer boxes and tools for drawing on screen

The layout and complexity of the more advanced TeeJay books (3a and above) means that they are much more difficult to adapt and so we are researching other options for providing the content in accessible formats. This is particularly important given Scottish education's current focus on improving attainment in numeracy.

75% of the books downloaded were electronic text files, mainly in PDF; the majority of the others were Large Print.

Table 3: Downloads by file format

Format	Number of downloads 2014-15	Number of downloads 2015-16	Number of downloads 2016-17	Δ 2015/16 – 2016/17
eText	25,264	39,348	38,476	-872
Large Print	5,850	7,659	8,614	955
Large Print 24	62	2,238	1,716	-522
Large Print 36	43	1,323	732	-591
Large Print 18	25	939	645	-294
Keynote	0	33	226	193
Large Print 28	0	224	218	-6
Audio	13	12	194	182
Large Print 26	13	211	189	-22
Large Print 48	0	291	166	-125
Large Print 14	15	206	136	-70
eText Powerpoint	25	48	26	-22
Daisy	0	5	21	16
eText Clicker 5	3	2	0	-2

Scottish Computer Voices for Scottish schools and public sector

Heather and Stuart

Heather and Stuart continue to be downloaded from the Scottish Voice web site (Table 4) and are now in common use across Scotland. The voices ares used by learners with dyslexia, reading difficulties, learning difficulties, visual impairment and English as an additional language to access curriculum materials, books downloaded from the books for all database, and SQA digital examination papers. Scotland is the only country in the world, as far as we are aware, to make such essential technology freely available to learners, and by doing so, improve access to the curriculum and reduce the cost to the taxpayer.

Table 4: Scottish Voice visits and downloads

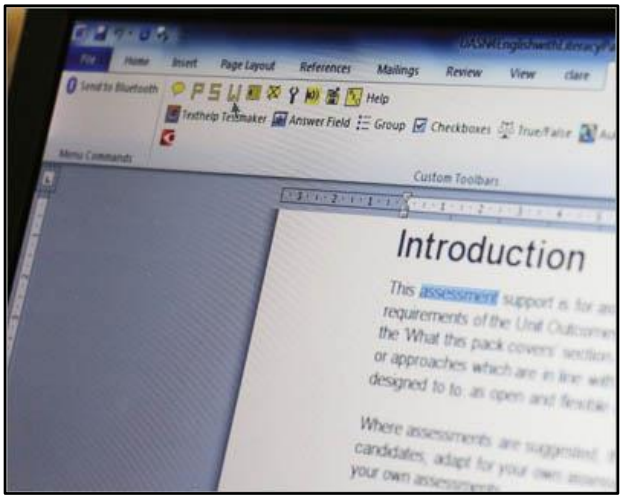
The Scottish Voice	2010 -11	2011 -12	2012 -13	2013 -14	2014 -15	2015 -16	2016 -17
The Scottish Voice (visits)	15,487	16,347	13,317	19,973	23,890	26,468	**34,432**
Heather downloads	728	588	949	855	786	912	**954**
Stuart downloads		947	851	742	679	644	**722**
Ceitidh downloads (Jan - March 2016)						288	**267**

Ceitidh

The world's first Scottish Gaelic computer voice was created by CereProc and formally launched by Dr Alasdair Allan, Minister for Learning, Science and Scotland's Languages, on 19th January 2016. The voice has generated considerable interest in Scotland and internationally, and has been warmly welcomed by Gaelic medium education schools.

Paul gave a workshop on using the voice and technology at An-t-Alltan, the conference for Gaelic teachers and Early Years staff, in September 2016.

Computer Text Readers and Text-to-Speech software



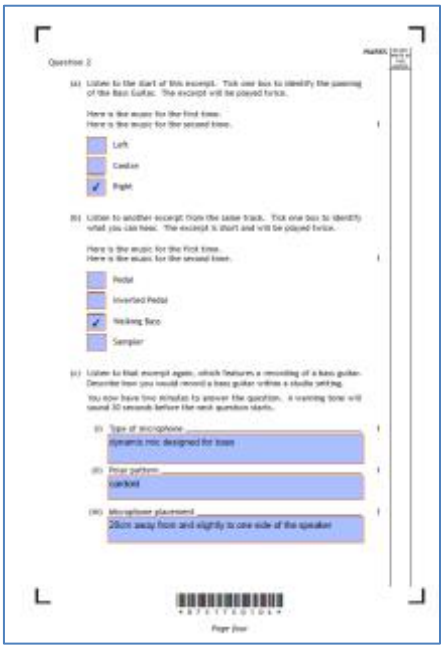
The Scottish voices can be used with most commercial literacy support and accessibility software, such as Clicker 7 or Read&Write, and also with free computer reader programs. While the free tools do not have the range of features and facilities provided by the commercial products, together with the free Scottish voices they do offer a base level of accessibility software for schools and learners at home, who may not be able to afford the commercial products.

CALL therefore monitors, tests and reports on the utility of these free tools so that schools and local authorities can have access to the most effective solutions.

The CALL web site was updated with information and links to free computer readers such as Ivona MiniReader, Natural Reader and Balabolka.

Digital Exams and Assessments

Funded by: SQA



Uptake of Digital Question Papers in Examinations

CALL continued to work with SQA (funded by SQA) to refine the Digital Question Papers and to provide support and professional learning to schools and learners.

The number of requests for Digital Question Papers (DQP) increased by 34% between 2015 and 2016 and the number of candidates for whom papers were requested increased by 8.8%. This compares with an increase of only 3.2% from 2015 to 2016.

Table 5: Digital Question Papers 2008-2016

Digital Papers	2008	2009	2010	2011	2012	2013	2014	2015	2016	% Δ 2015 - 2016
Number of requests	514	1,167	2,000	2,832	3,694	4,291	3,540	3,566	**4,802**	**34.7%**
Number of centres making requests	46	73	101	149	173	188	191	204	**222**	**8.8%**
Number of candidates	204	422	675	1,069	1,327	1,677	1,487	1,599	**n/a**	**n/a**
Mean number of requests per centre	11.17	15.99	19.80	19.01	21.35	22.82	18.53	18.92	**21.6**	**14.2%**
Mean number of candidates per centre	4.43	5.78	6.68	7.32	7.67	8.92	7.79	8.28	**9.27**	**12%**
Mean number of requests per candidate	2.52	2.77	2.96	2.65	2.78	2.56	2.38	2.28	**2.33**	**2.2%**

The phasing out of Standard Grade examinations in 2014 meant that fewer examinations were entered overall, and as a result the number of requests for all types of assessment arrangements, including DQP, fell between 2013 and 2014. The use of DQP increased as a percentage of the total number of requests (Figure 8 and Figure 9).

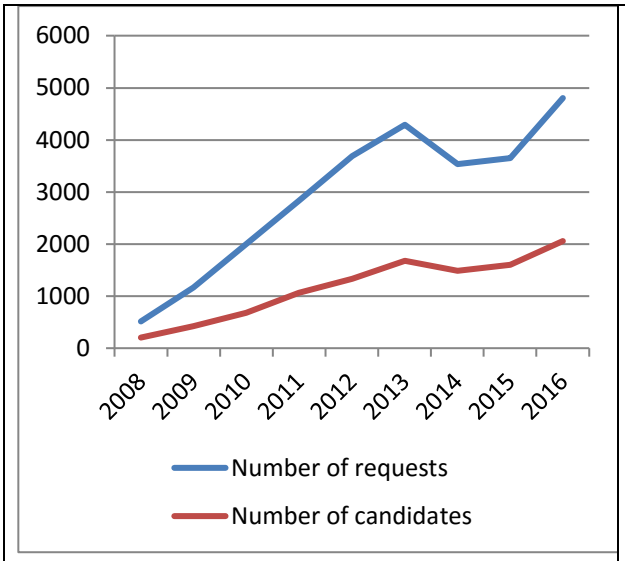


Figure 8: Number of DQP candidates and requests

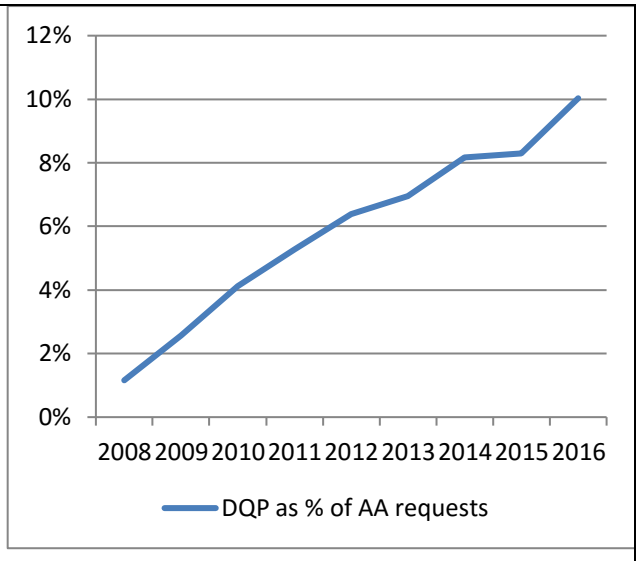


Figure 9: DQPs as percentage of AA requests

Use of technology compared to other types of support

One of the original reasons for researching Digital Question Papers was to provide a more independent alternative to a human reader for candidates to read the examination paper and a more independent alternative to a human scribe.

Figure 10 charts the number of requests for readers, scribes, ICT alone (i.e. not including DQP), and Digital Question Papers. Requests to use human reader and scribes continue to decrease, whereas use of DQPs and technology is increasing, suggesting that technology is continuing to replace human support in examinations.

CALL obtained and analysed the request data for readers, scribes and DQP, from SQA, for every centre in Scotland, and practices appear to vary widely both in terms of overall use of Assessments Arrangements, and in terms of which arrangements are requested. This analysis has been helpful to identify authorities where further support on technology is perhaps required, and during 2016-17 CALL provided additional support to schools and services in East Dunbartonshire and Edinburgh and further professional learning is planned for Glasgow, East Renfrewshire and Aberdeen in 2017-18.

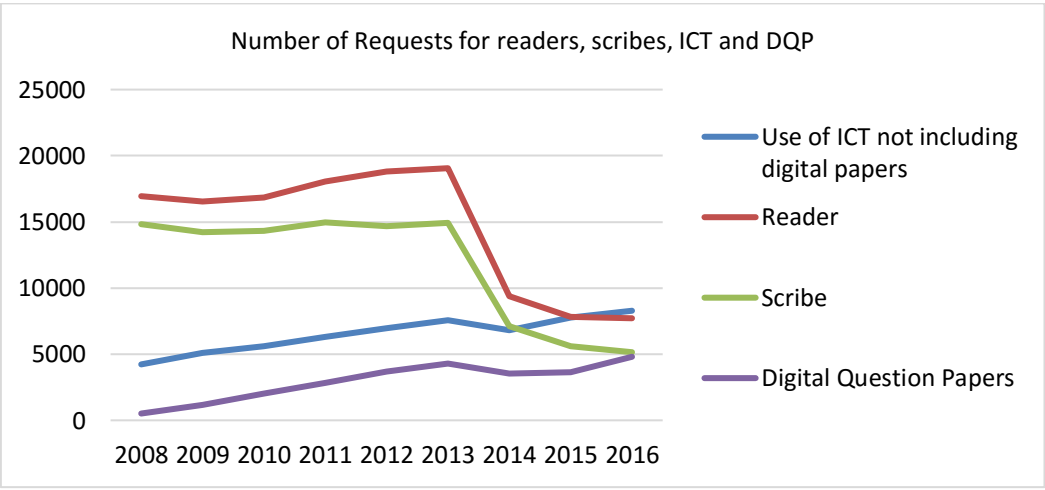


Figure 10: Number of requests for most popular methods of support, 2008-2016

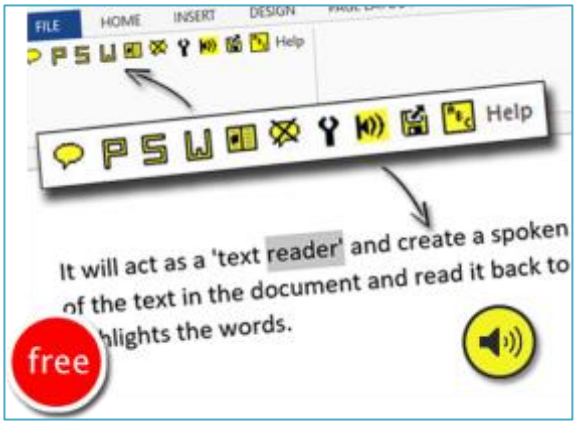
Scottish National Standardised Assessments

The intention to develop Scottish National Standardised Assessments (SNSA) was announced in December 2015 and it is essential that they are accessible to learners with additional support needs. CALL has met with Scottish Government and Paul Nisbet contributed papers and advice to meetings of the SNSA Inclusion / Additional Support Needs User Assurance Group.

The assessments should be available in August 2017 and CALL intend to develop guidance and materials to support schools and learners with additional support needs when accessing the resources.

WordTalk text reader.

WordTalk is a free text reader for Microsoft Word that was originally conceived and developed by Rod Macaulay of TASSC in Aberdeen in 2005. Scottish Government provided funding support to package it and make it freely available from CALL Scotland's web site.



Since then WordTalk has been downloaded over 135,000 times by users and educators across the world.

WordTalk is installed as standard on school computers in many local authorities in Scotland. The combination of WordTalk plus the free Scottish computer voices gives schools a high quality solution for accessing curriculum resources in Word format.

Table 6: Wordtalk visits and downloads

WordTalk	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
WordTalk (visits to web site)	92,805	97,068	119,562	130,518	208,088	**166,240**
WordTalk (copies downloaded)	24,928	21,504	20,826	19,555	21,472	**26,395**

Pupil Assessment & Support

Funded by: Partnership Agreements with local authorities (primarily)

OBJECTIVES

Multidisciplinary assessment, follow up and support of Individual referred pupils with complex ASN, in mainstream or special settings.

OUTCOMES

- 42 new pupils were referred for assessment and support (39 in 2015-2016).
- 51 pupils received a comprehensive assessment for AT/AAC (50 in 2015-2016).
- 99 pupils were supported directly in school through assessment or follow up visits (72 in 2015-2016).
- 131 pupils in 19 local authorities were supported directly in school or indirectly through telephone or email advice (117 pupils / 17 local authorities in 2014-2015).
- 188 assessment and/or support sessions were delivered in schools (135 in 2015-2016).
- 17 Partnership Agreements or Service Level Agreements (SLAs) were made with local authorities for 196 days of work for 2015-16 (17 Agreements / 189.7 days in 2015-2016). The following local authorities had arrangements with CALL: Argyll & Bute, Clackmannanshire, Dumfries & Galloway, Dundee, East Renfrewshire, Falkirk, Highland, Inverclyde, Moray, North Ayrshire, Orkney, Perth & Kinross, Renfrewshire, Shetland, South Lanarkshire, Stirling and West Dunbartonshire.
- 46.3% of Assessment and Support staff time was spent in schools (42% in 2015-16); 30.1% is taken up with support from CALL by telephone and email, equipment preparation, development work, report writing, etc. (35% in 2015-16) and 23.6% is taken up with travel (23% in 2015-16). The slight reduction in the proportion of time spent in support from CALL may reflect a streamlining of reporting procedures.

Table 7: Assessment and Support 2012-17

Number of …	2012-13	2013-14	2014-15	2015-16	2016-17
New referrals	49	43	37	39	**42**
Pupils assessed/supported on site	88	85	71	72	**99**
Assessment/support sessions	152	118	107	135	**188**
SLA/Partnership agreements with local authorities	15	15	16	17	**17**
(Number of days work)	228.5	191.25	196.5	182.75	**196**

Pupils referred to CALL in 2016 - 2017

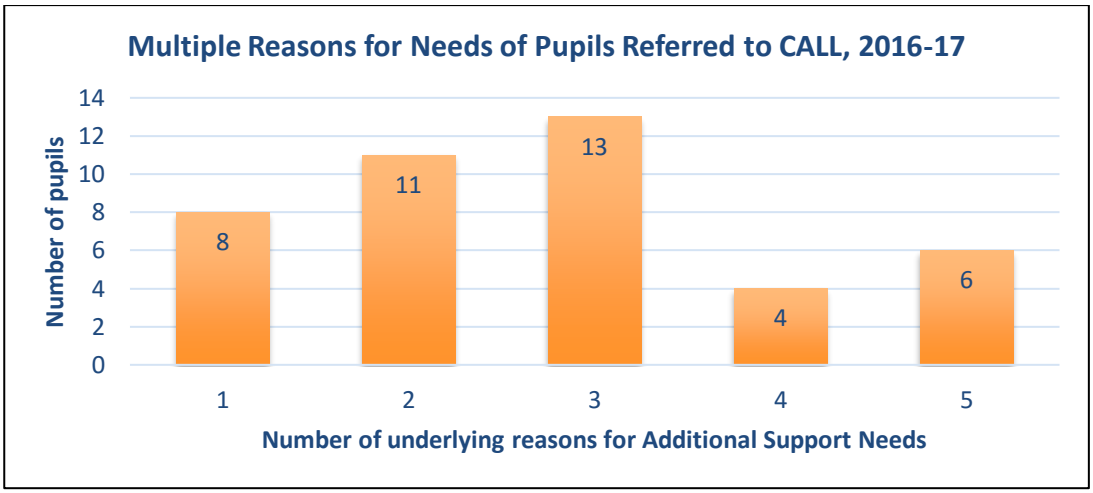
CALL supports young people in Scotland who may benefit from assistive technology or augmentative communication, due to a complex communication, physical, or other additional support need. Table 8 gives an indication of the reasons for the referral and of the different areas

in which progress was expected at the time of referral for clients first seen in 2016-2017. Note that most pupils referred to CALL have complex support needs, arising from more than one condition (see Figure 11, below) and that there are usually multiple areas with which progress is expected.

Table 8: Pupils Referred to CALL in 2016-17

Reasons for Additional Support Needs…	Number	Areas in which Progress is Expected…	Number
Attention Deficit Hyperactivity Disorder (ADHD)	2	Communication	19
Autism Spectrum Condition	6	Writing	25
Cerebral Palsy	7	Software	28
Concentration	14	Hardware	22
Dyspraxia	1	Keyboard/mouse/switches	9
Hearing Impairment	3	Communication Aid	15
Mild / Moderate Learning Difficulty	14	Personalised Resources	15
Severe / Complex Learning Difficulty	9	Teaching & Learning	13
Muscular Dystrophy	1	Other	9
Other physical disability	8		
Social Emotional Behaviour Difficulty	4		
Specific Learning Disability / Dyslexia	6		
Speech and Language Difficulty	17		
Visual Impairment	14		
Other	8		

Figure 11: Pupils with multiple underlying reasons for support needs, 2016-17

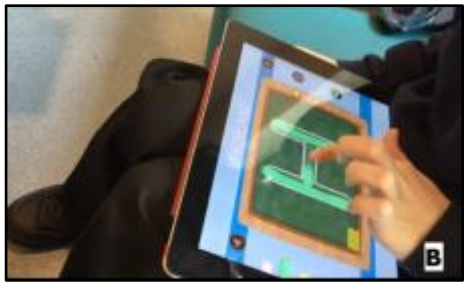


Using an iPad to support Literacy – A Case Study

H is a 10 year old boy on the Autistic Spectrum, Global Development Delay and myopia. Each day the class start with a writing activity which is a diary entry. Working independently, H produces this page (A) with mixed lines, letters and pictures. He is very distracted and there is no effective exchange of communication on what he has produced.

How can the iPad support H's literacy activities to promote independent learning and increase his confidence?

There are a few early letter formation apps (B) which H could engage with but his concentration span did not last for more than two letters. He liked the reward system (noises and animation) if he got the letter correct, but he quickly lost interest and gained no transferrable skills from this exercise.

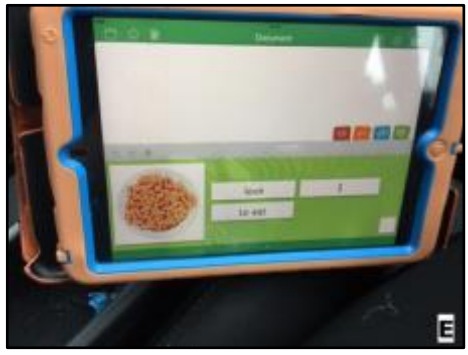


Introducing Clicker Sentences app enabled H to experience a certain level of success. I created a very simple sentence set based on activities I knew he liked. He clicked on the modelled sentence then the words in the cells to listen to them before choosing which to click into the document. With support and repetition he was able to choose the required word but when left to make the sentence independently, he clicked on random words (C).

I set the sentence to Guided Order which forces the user to click on only the highlighted word to create the sentence in the correct order. This was exactly the stage the pupil was working at. He was clearly happy to have the sentence he had created read back to him by the inbuilt text to speech. Success! (D).

Over time, this scaffolded support could be modified as H's literacy levels improved and with careful monitoring he would be able to achieve a level of success at every stage. This would not be possible without this intervention of assistive technology.

This next differentiated step would be to have one missing word that he would then have to find in a Word Bank on screen (E) and eventually with a keyboard. For H, this would be a long term literacy target.



Assistive and Communication Technology Assessment and Support across Scotland

In last year's 2015-16 annual report we drew attention to the variability of Assistive Technology provision across Scotland: some local authorities have well established AT teams; some have partnership agreements with CALL; some devolve responsibility to the ASN service; some devolve responsibility to schools; some have an AAC service but do not have an AT service; some use SCTCI for AAC assessments; some make use of several of these ; and some local authorities do not appear to have any clear pathway for provision of Assistive or Communication Technology.

Last year we identified a need for Professional Learning to build capacity regarding Assistive Technology and AAC at three levels, corresponding to GIRFEC; the stages identified in the revised Supporting Children's Learning Code of Practice; and levels described in the European Agency for Special Needs and Inclusive Education ICT4I Policy Monitoring Framework (Table 9):

1. **All staff** working in all schools: universal awareness and understanding on how to use readily available ICT to support learners, including use of standard applications and built-in accessibility tools to support learners with additional support needs.
2. **Support for Learning staff, and practitioners in Special Schools**: more specialist understanding and expertise with application of Assistive and Communication Technology to access the curriculum.
3. **ASN Technology specialists** within the local authority or regional partnership: staff with a recognised remit and expertise in assessment and support of Assistive and Communication Technology.

We hope to address these needs under the forthcoming National Strategic Commissioning that will follow from the Doran 10-year Strategy[9].

Table 9: GIRFEC, Code of Practice and ICT4I

GIRFEC Level	Code of Practice Stage	ICT4I Policy Goal
1 - Universal	1 - Parents/pre-school staff/teachers/health or social services staff, other agencies identify child/young person needing support or planning which can be met within the existing pre-school or school setting.	1 - all learners are able to effectively use ICT in their learning in inclusive settings. 2 - all teachers are able to effectively use ICT to support learning in inclusive settings. 3 - all schools are able to implement and maintain an effective, sustainable ICT4I infrastructure.
2 – Single agency plan	2 - Situation not resolved and need for further action identified. Advice and support sought from specialists outwith the school or centre but from within educational services.	4 - the ICT4I infrastructure at national and/or regional level is able to effectively support the work of all schools and teachers working in inclusive settings.
3 – Multi-agency plan	3 - Situation not resolved and need for further action identified. Advice and support sought from specialists from agencies outwith education.	4 - the ICT4I infrastructure at national and/or regional level is able to effectively support the work of all schools and teachers working in inclusive settings.

[9] Scottish Government (2017) Scotland's Ten Year Strategy for the Learning Provision for Children and Young People with Complex Additional Support Needs 2017-2026. http://www.gov.scot/Publications/2017/06/7935.

Evaluation of impact

For learners who are primarily referred to CALL for assessment and support to help them access the curriculum more effectively, we have continued to develop an evaluation tool linked to the four capacities of Curriculum for Excellence.

This provides an opportunity for staff and learner to evaluate the impact of the technology loaned and strategies put in place following assessment. It is an important part of the evidence we collect to make a recommendation for provision of Assistive Technology to the school or local authority.

An example for 'Sally', a learner in primary 1, who has physical support needs and struggles to hold and use pens and pencils is given below. Following CALL assessment, Sally was loaned an iPad with specific apps, digital books and resources, for evaluation.

Assistive Technology Impact Evaluation - staff

What impact has the device had on the pupil's ability to access the curriculum?

Sally can access the numeracy and literacy curriculum as she works on the SHM workbooks. She is able to click on the correct answer instead of writing her numbers which is a very labour intensive exercise for her. She uses Clicker to create stories and add text to her writing. She also uses the iPad to read her reading books.

How has it impacted on his/her written work (quantity and quality), in comparison with what s/he was able to produce without it?

Her work is legible and she can complete work at a much quicker pace.

Has it helped him/her to develop the four capacities of Curriculum for Excellence?

Successful learner – *Sally is pleased her work can be completed in the same time as her peers. She also notices that her work is easier to read and she says her work is neater.*

Confident individual – *She is able to do the same as everyone else ensuring her confidence is continually built up.*

Effective contributor – *She uses the iPad every day. She also uses the camera tool and video function to record activities we do in the classroom.*

Responsible citizen – *Using the iPad has demonstrated Sally to be extremely responsible as she takes great care of the iPad.*

Any further comments....

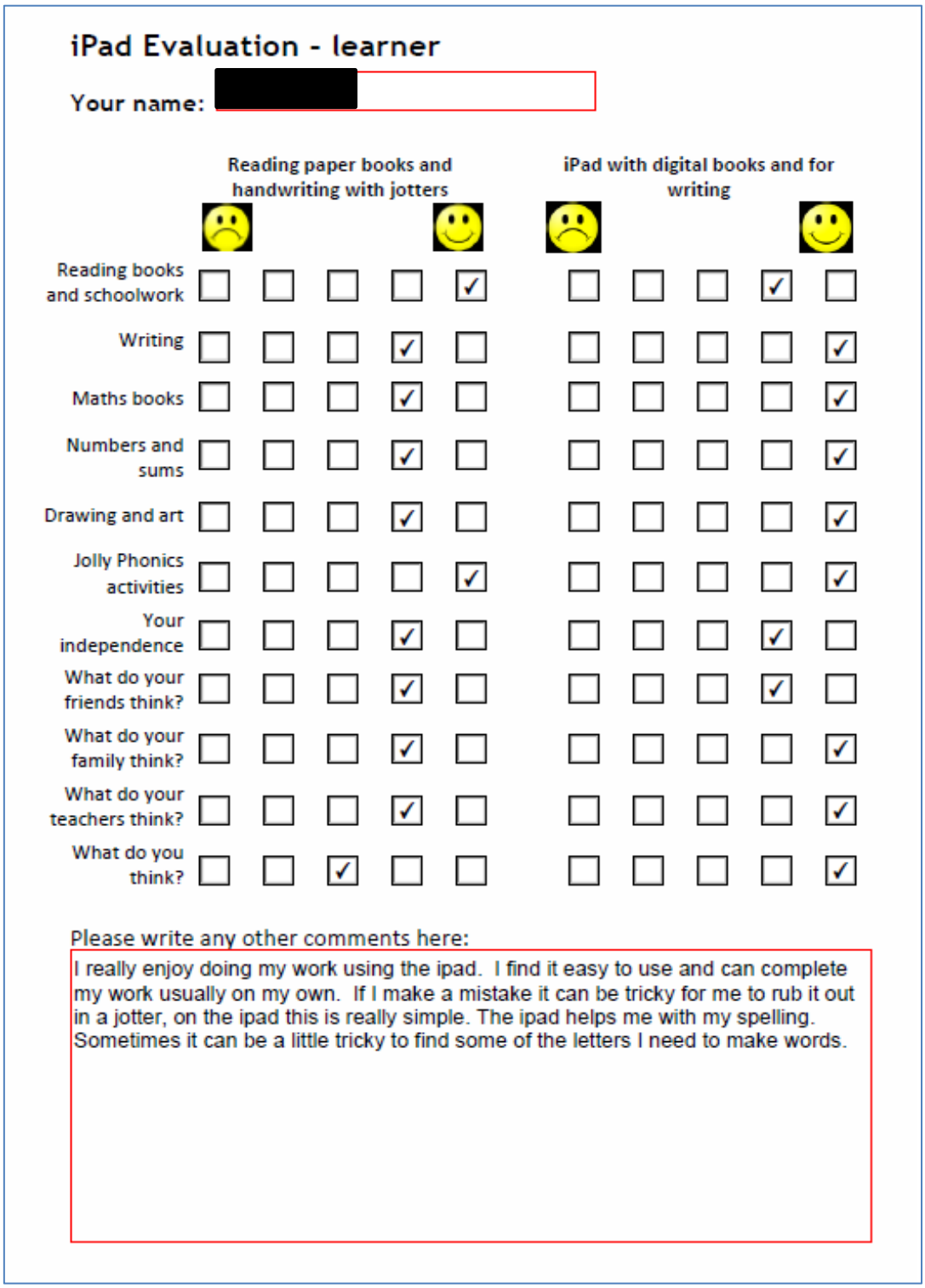
The use of the iPad has impacted Sally beyond my expectations. Her pace of work is quicker, neater and she is able to complete the work in the same time frame as her peers.

She would struggle to complete written work if she had to write it in a jotter. The use of the iPad ensures her creativity and enthusiasm for writing is not lost.

She has also used the iPad to complete homework and this helps the family at home.

Assistive Technology Impact Evaluation - learner

The learner evaluation was adapted so that Sally could complete it by using her iPad:



iPad Evaluation - learner

Your name: [redacted]

	Reading paper books and handwriting with jotters					iPad with digital books and for writing				
	☹				☺	☹				☺
Reading books and schoolwork	☐	☐	☐	☐	☑	☐	☐	☐	☑	☐
Writing	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑
Maths books	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑
Numbers and sums	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑
Drawing and art	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑
Jolly Phonics activities	☐	☐	☐	☐	☑	☐	☐	☐	☐	☑
Your independence	☐	☐	☐	☑	☐	☐	☐	☐	☑	☐
What do your friends think?	☐	☐	☐	☑	☐	☐	☐	☐	☑	☐
What do your family think?	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑
What do your teachers think?	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑
What do you think?	☐	☐	☑	☐	☐	☐	☐	☐	☐	☑

Please write any other comments here:

I really enjoy doing my work using the ipad. I find it easy to use and can complete my work usually on my own. If I make a mistake it can be tricky for me to rub it out in a jotter, on the ipad this is really simple. The ipad helps me with my spelling. Sometimes it can be a little tricky to find some of the letters I need to make words.

For learners who are primarily referred to CALL for assessment and support with communication technology and AAC, we have been exploring the AAC Therapy Outcome Measures[10] (TOMs).

Service evaluation and feedback

Evaluation forms are sent with the discharge letter to our main school contact for each pupil, but levels of return are low, partly because there can be a delay between our final involvement with the pupil and the sending of a discharge letter in case further contact becomes necessary. We are currently reviewing our evaluation procedures to try to increase the number of evaluation forms that are returned.

In 2016-17, four evaluation forms were returned, with three of the four providing an average overall rating of 4.67 / 5. One person felt unable to give a rating as she had not been involved in the early part of the CALL intervention. Comments from the forms are included below, along with unsolicited comments received from schools.

"I expected 'too much' from pupil in too short a time. Sally was excellent and encouraged me to refocus and gave us the 'starting point' for the child. Positive impact on the pupil and on upskilling staff."

(Head Teacher, Primary School, on pupil using GoTalk app on iPad for communication.)

"Excellent - enables the pupil to access a full curriculum."

(Head Teacher, Primary School on P7 pupil with muscular dystrophy transitioning to secondary school using laptop with *Dragon NaturallySpeaking* speech recognition software.)

" We have all the children using Clicker/ Co-Writer as per your plans. I have trained the class teachers in the use of Clicker/ Co-writer and look at your plans with them/ discussed how we would implement them in school. Parents came in last week to see the IT devices and the work their children were doing in school. They were able to show pieces of writing done on Clicker to their families. All parents provided positive feedback and were delighted with the support their child was receiving."

(Learning Support Teacher with three pupils with writing difficulties all using *Clicker* software.)

[10] Enderby, P. (2014). Introducing the therapy outcome measure for AAC services in the context of a review of other measures. Disability and Rehabilitation: Assistive Technology, 9(1), 33–40. https://doi.org/10.3109/17483107.2013.823576

Specialist Information & Expert Advice

Funded by: Scottish Government Core Grant

OBJECTIVES

- Open access national information and advice service delivered in response to enquiries by telephone, letter, email.
- Publication and circulation of e-News, newsletter, books, information leaflets and the CALL Scotland web sites.
- Provision of a specialist library and web search facility for all enquirers.
- Provision of online Professional Learning resources on AAC (funded primarily by NHS Education Scotland).

OUTCOMES

Information and Advice

- 551 significant enquiries were received and given a response, compared with 333 the previous year.
- 56.8% of enquiries were from education (55% in 2015-2016); 20% from people with disabilities, parents and relatives (20%); 11% from health/social work (14%), and 11.5% were from other sources (20%).
- 15.6% of information requests related to CALL's core services; 14.9% related to Dyslexia and co-occurring conditions; 14.3% to Books for All work; 10.2% to tablets and apps; 8.3% to Digital Exams and 5.4% to Communication and AAC.

Web sites

Web sites must be maintained on an ongoing basis to ensure that content is relevant and up-to-date, and they also need to be refreshed at regular intervals so that they are accessible on new mobile devices, and have a contemporary look. The main CALL Scotland website was extensively revised over the summer of 2015, and last year new, comprehensive material has been added, particularly in the Information zone of the web site. Extensive information and links to resources have been added to the Dyslexia, and Visual Impairment categories within the Additional Support Needs section, while the Technology Section has been enhanced with additional information for Alternative Access, Communication Aids, iPads, Androids & Chromebooks and Text-to-Speech.

The Adapted Digital Assessments site was given a new name and a new look. The site has been re-structured to allow teachers to find the information they need to get started with, set up and use digital assessments with their pupils. The number of people using the site has almost doubled since last year, suggesting that teachers are finding it easier to use than in the past and are recommending it to their colleagues.

The Books for All and AAC Scotland web sites will be revised in 2017-18.

After years of increases in the number of visitors to the main CALL web site, there was an unexpected 9% decrease in visitors to the site in 2016-2017. There is no obvious reason for this decline. The number of visitors to the WordTalk site also dropped, though the number of downloads of the WordTalk software increased by 23%. it may be that the high number of visits in 2015-2016 was the anomalous figure. The other CALL web sites have shown an increase in visitors.

The two “App Wheels” continue to be the most popular downloads, illustrating the continuing levels of interest in iPads and apps (Table 11). The use of these posters is even wider than suggested by these figures as we know of local authorities and other organisations which have made the posters available through their own servers.

Table 10: CALL web site visits and downloads

CALL Scotland Web Sites	2012-13	2013-14	2014-15	2015-16	2016-17
CALL Scotland main site (visits)	160,649	211,075	338,840	428,899	**392,536**
CALL Scotland (resources downloaded)	54,808	72,460	146,146	286,192	**269,357**
WordTalk (visits)	97,068	119,562	130,518	208,088	**166,420**
WordTalk (copies downloaded)	21,504	20,826	19,555	21,472	**26,395**
The Scottish Voice (visits)	13,317	19,973	23,890	26,468	**34,432**
Heather downloads	949	855	786	905	**954**
Stuart downloads	851	742	679	646	**722**
Ceitidh (Gaelic voice) downloads	-	-	-	288	**267**
Books for All (visits)	48,770	70,935	112,318	90,530	**103,155**
Books for All Database (downloads)	7,257	11,067	31,315	52,569	**51,449**
Communication Passports (visits)	29,397	40,484	53,528	54,603	**57,703**
Digital Exams and Assessment (visits)	7,810	17,435	28,760	27,279	**54,515**
ASL and Technology Conference (visits)			8,424	11,407	**12,019**
AAC Scotland (visits)			15,363	25,412	**34,214**
Total visits	**378,515**	**572,750**	**711,641**	**872,686**	**854,994**

Figure 12: Visits to CALL web sites 2012 - 2017

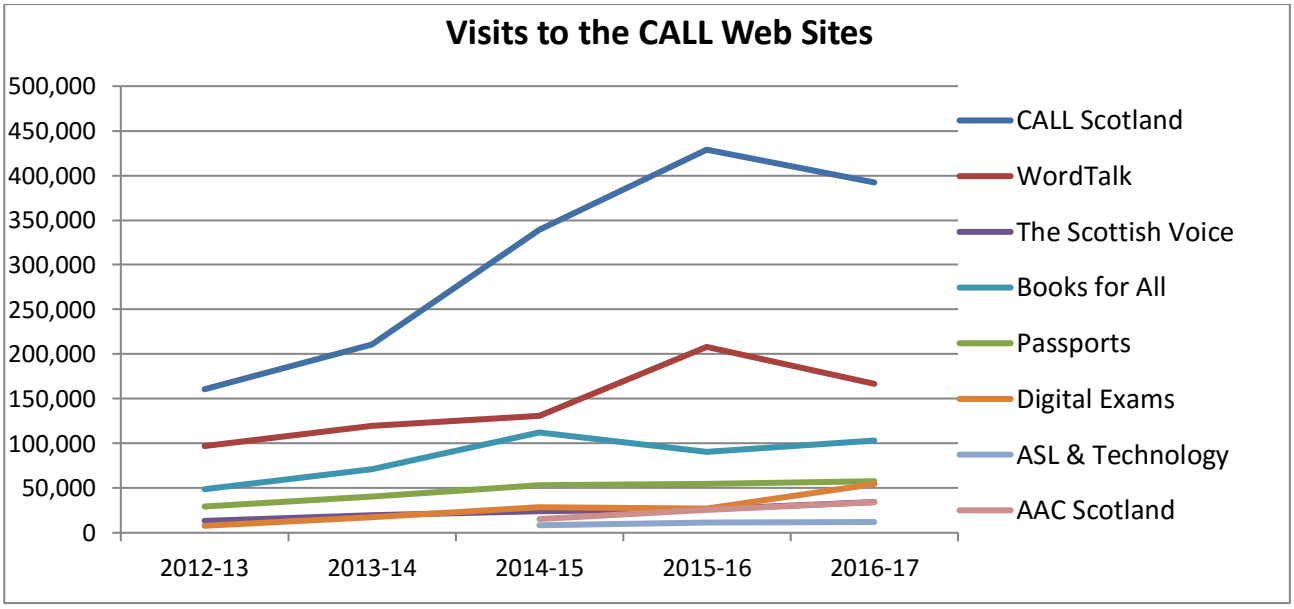


Table 11: The 'Top Ten' most downloaded resources from the CALL web site in 2014-15.

Resource	2015-16	2016-17
iPad Apps for Learners with Dyslexia/Reading and Writing Difficulties (App Wheel, published 2013)	29,676	**27,007**
iPad Apps for Complex Communication Support Needs (App Wheel, published 2014)	9,960	**9,993**
Android Apps for Learners with Dyslexia / Reading and Writing Difficulties (App Wheel, published 2015)	1,803	**3,557**
Using the iPad to Support Dyslexia (Infograph poster, published 2015)	1,621	**3,364**
Using Calibre to Read and Convert E-Pub Files for the Kindle (Quick Guide, published 2012)		**3,028**
iPad Apps to Support Creativity (Infograph poster, published 2015)	1,876	**2,786**
Supporting Writing Difficulties (Infograph poster, published 2014)	2,569	**2,457**
Mathematical and Scientific Symbols (Quick Guide, published 2014)		**2,368**
Addressing Reading Difficulties (Infograph poster, published 2015)	2,062	**2,324**
Eye Gaze Software Curve (Infograph poster, published 2015)	2,104	**2,257**

Publications

As mentioned in last year's report, publishing efforts now focus more on our very popular posters than on books, but the 62-page Talking in Exams Project Report was made available as a free download from the CALL web site. It was downloaded 116 times in 2016-17. Other books continue to be downloaded, including:

- iPads for Communication, Access, Literacy and Learning – 1,193 times (4,089 last year)
- Keep Talking! – 1,037 times (1,537 last year)

CALL posters provide information that can be given in paper format to people on training courses and at conferences, or downloaded from the web site. These posters have advantages, compared with longer publications in that they can be produced and updated quickly in response to new developments in assistive technology. The posters have helped to significantly raise the profile of CALL Scotland, both nationally and internationally in recent years.

Previous posters have been updated as required and ten new posters were produced in 2016-17:

- Android Apps for Complex Communication Support Needs (June 2016)
- Are you Meeting your Legal Requirements for Computer Accessibility? (October 2016)
- Chromebook Apps and Extensions for Learners with Dyslexia (October 2016)
- ICT to Support Learners with Dyslexia (January 2017)
- Inclusive Learning Resources (November 2016))
- Reading and Writing Support on a Mac (March 2017)
- Using Book Creator (February 2017)
- Using the iPad to Support Learners with Physical Difficulties (August 2016)
- Using the iPad to Support Learners with Visual Difficulties (June 2016)
- What's New in iOS 10? (October 2016)

Table 12: Downloads of CALL Scotland Posters

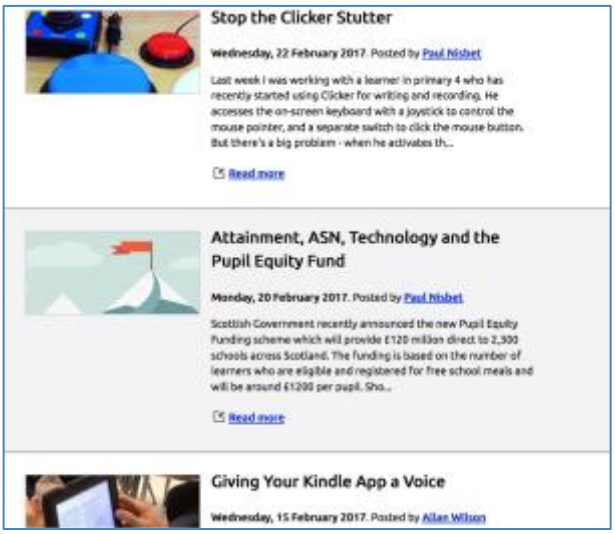
Downloads of CALL Scotland Posters	2016 - 2017	Total
Addressing Reading Difficulties (Published 2015)	2,324	**4,386**
Android Apps for Complex Communication Support Needs (Published June 2016)	1,873	**1,873**
Android Apps for Learners with Dyslexia (Published 2015)	1,803	**1,803**
Are you Meeting your Legal Requirements for Computer Accessibility? (Published October 2016)	468	**468**
Chromebook Apps and Extensions for Learners with Dyslexia (Published October 2016)	2,055	**2,055**
Eye Gaze Software Curve (Published 2015)	2,104	**4.361**
ICT to Support Learners with Dyslexia (Published January 2017)	354	**354**
Inclusive Learning Resources (Published November 2016)	292	**292**
iPad Apps for Complex Communication Support Needs (Published 2014)	9,993	**32,576**
iPad Apps for Learners with Dyslexia (Published 2013)	27,007	**92,442**
iPad Apps to Support Creativity (Published 2015)	2,786	**3,662**
Keep Talking! (Published 2014)	2,050	**3,848**
Powerpoint Books for Young Readers (Published 2016)	1,644	**2,551**
Reading and Writing Support on a Mac (Published March 2017)	39	**39**
Supporting Writing Difficulties (Published 2014)	2,457	**7.631**
Using Book Creator (Published February 2017)	979	**979**
Using the iPad to Support Dyslexia (Published 2015)	3,364	**5,933**
Using the iPad to Support Learners with Physical Difficulties (Published August 2016)	794	**794**
Using the iPad to Support Learners with Visual Difficulties (Published June 2016)	1,059	**1,059**
What's New in iOS 10 (Published October 2016)	412	**412**

CALL Info Cards

A5 cards with basic information for using a feature on a device, have been introduced in response to a clear information need. At exhibitions and events many parents and teachers ask for advice on the best iPad apps to get to support a young learner with dyslexia, but very few know about the built-in features that often meet their needs. Demonstrating features like Speak Selection and Speak Screen shows their value, but there's a need for an accessible reminder of how to access and use them. Two Info Cards have been produced, so far: *Speak Selection and Speak Screen* (downloaded 938 times) and *Using Siri Speech Recognition* (783 times).

Other Information Services

- 22 publications were sold, with Personal Communication Passports (15 copies) accounting for most of the sales.
- Ten issues of CALL's email newsletter were distributed during 2016-17. The email newsletter had 2,560 subscribers by the end of March 2017, with an average of 30 new subscribers signing up every month.
- Members of the CALL team make regular use of the Blog section of the web site, providing up-to-date information on new developments in assistive technology, Scottish Government policies, training courses, etc. 65 new blogs were published in 2016-17. Examples include *Using the iPad to Support Learners with Physical Difficulties* (19.8.16, 172 views), *Attainment, ASN, Technology and the Pupil Equity Fund* (20.2.17, 293 views) and *John Swinney and Sir Jackie Stewart Launch the Revised Addressing Dyslexia Toolkit* (10.3.17, 112 views).



- We continue to use social media for disseminating information, particularly on courses and webinars, but also for providing news of developments in technology and education. CALL makes regular use of Twitter (434 tweets, 1,693 followers, 333,600 'impressions', i.e. views of individual tweets) and Facebook (706 followers).
- CALL has also set up an email group for people with an interest in Assistive Technology, the *CALL Assistive Technology Community in Scotland*, bringing together teachers, Further and Higher Education staff, therapists, suppliers and others with an interest in Assistive Technology, providing a forum to ask questions, to share information and discuss current issues in the field with colleagues in other institutions. It was formed in November 2016 and by the end of March had 197 participants.
- 10 items were added to the CALL library during the year. 12 journals are currently received.

Consultation sessions

Most requests for information are responded to by phone, or email, but sometimes it is more useful to sit down with someone to explore different options for assistive technology that can be used to help somebody. In response to this we now offer a limited number of Consultation sessions, providing people with an opportunity to come to CALL and explore software and technology with the guidance of a member of CALL staff. We stress that these are informal information sessions, allowing people to see and try different solutions, but with no prescriptive recommendations or report.

Twelve Consultation sessions were provided in 2016-17, including:

- A young woman with cerebral palsy came to CALL to see if it was possible for her to access music and games independently on an iPad. We explored different switch settings and found ways for her to access her favourite game, *Candy Crush*.

- An S3 pupil with severe dyslexia has been provided with an iPad and has used the built-in Speak Selection and Siri features. We encouraged her to continue with this, discussed further built-in support features for the iPad and looked at apps for taking notes and to support reading. She was particularly interested in the combination of *Kindle* and *Audible* apps, which allows a book to be read with audio support from a 'human' voice.
- An S1 pupil with dyscalculia, dyspraxia and dyslexia visited with his parents to look particularly at support for his dyscalculia. We looked at how text-to-speech support and scanning apps can make it easier to read and comprehend number-based questions. We also looked at apps to support subitising and number skills. The *1 – 100* and *Pattern Sets* apps could be useful starting points for this.

Feedback

"Thank you so much for talking to us yesterday, it was incredibly helpful, and we both learned so much from you. And thank you also for your very detailed email (much more accurate than my scribbled notes!). We're going to go through everything with J. and I'm sure that we will find lots of practical apps, iPad features and websites to help him, which is more than we had ever hoped possible, so thank you for that."

(Mother, S1 boy with dyscalculia, following consultation session.)

" I love this @CALLScotland App Wheel, really helps remind me what else is out there!

(Speech and Language Therapist on iPad Apps for Complex Communication Support Needs poster)

"I would just like to say thank you very much for taking the time to reply to my query. I am pleased to say that that the app you suggested works a treat, well worth the £10.99. I am going to meet with our sensory support team after the October holidays and show them the app. Many thanks again."

(Learning Technologist seeking advice on app to support visually impaired learner reading files in PDF format – recommended Voice Dream Reader.)

Funded by: (a) Scottish Government Core Grants (PL development)
(b) Charges to course participants (PL delivery)

OBJECTIVES

1. Identification of CLPL requirements in (complex) additional support needs, ICT & AAC for staff in both special and mainstream settings.
2. Development and delivery of CLPL.

OUTCOMES

Career-Long Professional Learning at CALL Scotland

Scottish education recognises the importance of high quality Career-Long Professional Learning (CLPL) for all teachers. CALL Scotland has a team of specialist staff who can deliver high quality Professional Learning in inclusive digital technologies which provides the teaching profession with the knowledge and skills on how best to support their students with Additional Support Needs.

Information on CALL's Programme of Career-Long Professional Learning (CLPL) for 2016-17 was distributed to around 2,700 schools via local authority intranet systems, and by direct email from CALL in May 2016. A further 1,000 paper copies of the programme were printed and sent to contacts, or distributed at conferences. Throughout the year there was further promotion of courses via direct emails to schools, Twitter, CALL blog posts and e-newsletters. Participants signed up by email or through the booking system on the CALL website.

Table 13: CLPL Courses delivered in CALL

Course Title	Date	Number attended
iPads and Communication – AAC Apps from Symbols to Text	28.4.16	5
Engaging the Disengaged – Using iPads Creatively	5.5.16	6
iPad Management (half day seminar)	26.5.16	29
Talking in Exams (half day seminar)	2.6.16	27
How to use Digital Exams and Assessments	8.9.16	Cancelled
iPads for Learners with Dyslexia and Literacy Difficulties	29.9.16	10
Using ICT to Create Shared Reading and Storytelling Resources	6.10.16	Cancelled
How to Make Digital Exams and Assessments	27.10.16	9
Speech Recognition Software on Windows and iPad	3.11.16	6
Using Eye Gaze to Support Learning and Communication	10.11.16	Cancelled
Using iPads Creatively to Support Learning (half day seminar)	30.11.16	37
How to Make Digital Exams and Assessments	26.1.17	Cancelled
ICT and iPads for learners with Autism Spectrum Disorders	2.2.17	6
Motivating Disengaged Learners using iPads and Creativity Apps	23.2.17	6
iPads for Learners with Visual Impairment	2.3.17	10
Dyscalculia - Can ICT Help?	9.3.17	15
Supporting Learners with Dyslexia using Technology (half day seminar)	23.3.17	46

CALL offered 13 full-day CLPL courses in 2016-17, but four of these were cancelled due to lack of bookings. A total of 73 people attended the remaining nine full-day courses compared to 146 in 2015-16 and 209 in 2014-15.

We have undertaken research into why numbers are falling for day courses. We know there is the need for the training and that the course content is relevant, practical and professionally delivered. Reduced local authority budgets have meant fewer teachers being funded to attend courses and there is limited - and sometimes no - available supply class cover.

As attendance rates for the four half-day seminars were much higher (139 people in total) we have decided to follow that model of Professional Learning delivery and design our CLPL programme for 2017-18 to include half day morning seminars with optional afternoon hands-on training.

INSET Professional Learning

The model of providing on-site Professional Learning is proving to be economically viable for schools and local authorities and promotes collaborative, collegiate learning opportunities with greater chance of embedding good practice because more than one person from a school has undertaken the training. Courses are bespoke in design and participants are able to have hands on practice with the assistive hardware and software under the expert tutelage of CALL staff.

During 2016-17 CALL staff provided 24 sessions of Professional Learning for 475 people (teaching staff, Support for Learning staff, classroom assistants, education psychologists, Speech and Language Therapists, parents/carers) across Scotland. This compares with 30 sessions, for 509 staff, in 2015-16.

Table 14: INSET Courses provided in schools and local authorities

INSET topic / title	Date	Venue / Authority	Number Attending
Advanced Boardmaker 6+	19.4.16	Camelon Education Centre, Falkirk	4
Using iPads and tablets to support pupils	5.5.16	Wallace Hall, Dumfries & Galloway	20
iPads and ASN	20.5.16	Moray	17
ICT to support Reading	24.5.16	St Joseph's Primary School, Dundee	3
ICT to Support Dyslexia	8.6.17	Skye	25
ICT to Support Dyslexia	9.6.17	Skye	25

INSET topic / title	Date	Venue / Authority	Number Attending
Creating a Communication Friendly School	11.8.16	Broomlea School, Glasgow	14
Using Speech Recognition software	7.9.16	Dumfries & Galloway	18
How to use Digital Question Papers	4.10.16	Highland	10
How to make Digital Question Papers	5.10.16	Highland	8
Clicker 7	11.10.16	Renfrewshire	24
iPads - Anything & Everything	1.11.16	Langlands School, Dumfries & Galloway	24
iPads	1.11.16	Dumfries & Galloway	8
Using iPads to Support Dyslexia (webinar)	4.11.16	Aberdeenshire[11]	8
Creating Communication Passports	11.11.16	Scottish Borders	24
Digital Question Papers	21.11.16	North Lanarkshire	12
Digital Exams	28.11.16	Renfrewshire	8
Read & Write Gold	23.1.17	Perth & Kinross	24
Assistive Technology	6.2.17	Perth & Kinross	24
Technology and Additional Support Needs	15.2.17	Glasgow	100
Technology for Learners with ASD	8.3.17	Falkirk	24
iPads and Additional Support Needs	15.3.17	Falkirk	14
Assistive Technology	20.3.17	Perth & Kinross	24

The pilot webinar for Aberdeenshire suggests that this approach could work for some courses and save time and money for both CALL staff and course participants. Requirements would include: previous testing of the web link to ensure there are no local authority firewall issues; a reliable internet connection; a meeting room with a board at the front to project up the webinar; a local facilitator confident in the use of webinar technology and with reasonable knowledge of the subject matter for the course.

CALL Webinars

We understand that the modes of professional learning delivery need to be wide and varied. Webinars are convenient live 20 minute presentations delivered to your computer, tablet or phone over the web. Viewers can listen to the presenter via audio and engage in discussion via instant messaging.

[11] The Using iPads to Support Dyslexia course was provided as a webinar for Aberdeenshire on an experimental pilot basis.

- CALL hosted 23 webinars during the year (22 in 2015-16); 16 presented by CALL staff and 7 by suppliers.
- The total number of people who signed up for the 23 webinars was 738 (426 in 2015-16). An archive version of a webinar is generally made available via the CALL web site one day after the live broadcast. This is publicised via Twitter and Facebook and can be viewed by any interested person, not just those who signed up for the original webinar. Due to technical issues, three webinars could not be made available. Archived webinars were viewed 997 times, an average of just under 50 for each recording, compared with an average of 157 people viewing last year's files. There is no obvious explanation for the decrease since last year.

Table 15: CALL Webinars 2016-17

Webinar title	Date	Number signing up	Archive Views
Using Clicker 7 and Clicker Apps to Support Pupils with ASN	20.4.16	**67**	**88**
How and Why to use Speech Recognition Software	27.4.16	**41**	**76**
Widgit Software Apps for Supporting Language and Literacy	4.5.16	**29**	**61**
Creating Accessible Documents in Word	11.5.16	**35**	**63**
Exploring the Creativity iPad App Wheel	18.5.16	**36**	**n/a**
Using Cloud-based Tools to Support Learners with ASN	25.5.16	**27**	**58**
How to Make the Most out of your Boardmaker Software	8.6.16	**4**	**n/a**
Talking in Exams Project Roundup – Using Dragon Software in Exams	29.6.16	**30**	**48**
Back to School - Assistive Technology to support all Learners	24.8.16	**25**	**79**
iShould App	7.9.16	**19**	**38**
Notetalker App	28.9.16	**31**	**37**
Using a Chromebook to Support Reading	12.10.16	**36**	**n/a**
What's new in iOS 10?	26.10.16	**6**	**38**
Going Digital: iPads in the Paper-based Classroom	9.11.16	**40**	**58**
AT for VI	23.11.16	**31**	**52**
It's All in the Cloud	7.12.16	**38**	**39**
Free Text to Speech Software for Windows	11.1.17	**54**	**54**
Using MS Word creatively to support learners with literacy difficulties	25.1.17	**16**	**33**

Webinar title	Date	Number signing up	Archive Views
PocketPhonics Stories - Award Winning app to Support Early Literacy	1.2.17	**23**	**46**
Sonocent software: Study Skills for Students with Disabilities	22.2.17	**26**	**39**
An Introduction to use of Technology in SQA Examinations	8.3.17	**41**	**33**
Book Creator	15.3.17	**33**	**30**
What's new in Eye Gaze	29.3.17	**50**	**27**

Conference Presentations and Talks

Members of staff from CALL are regularly invited to give formal presentations at conferences and requested talks for special interest groups, parents' groups, etc. CALL staff provided 17 conference presentations (listed in the Knowledge Transfer, Research and Development Section on page 53) and eight talks with a combined estimated audience of 450 attendees in 2016-17.

CALL's annual **Additional Support for Learning and Technology Conference and Exhibition** was held in Dundee and Edinburgh in June 2016. 104 teachers, therapists and others with an interest in assistive technology in education attended the day in Dundee, while Edinburgh attracted 92 visitors.

Table 16: Requested talks provided by CALL staff

Title	Date	Event	Number
Using Technology to Support Dyslexia	28.4.16	Fife Branch, Dyslexia Scotland	20
Software / Apps to Support Memory / Organisation	5.9.16	Glasgow Adult Group, Dyslexia Scotland	14
Using Technology to Support Dyslexia	25.10.16	Parents, Glasgow Gaelic School	20
ICT to Support Learners with Dyslexia	27.10.16	North East Branch, Dyslexia Scotland	45
Using Technology to Support ASN	18.10.16	Radio EduTalk	Unknown
SQA Digital Exams	31.1.17	Teachers, Edinburgh secondary schools	30
Technologies to Support Inclusion	16.2.17	ADES Additional Support Needs network	30
iPads to Support Communication	27.3.17	Chest Heart and Stroke Scotland	12

Exhibitions

CALL regularly takes an exhibition stand at local and national conferences, study days and other events giving a wide range of people an opportunity to find out more about the work of the organisation and raising the profile of CALL. Attending these events offer us valuable networking opportunities and can lead to the procurement of our Professional Learning. We had a stand at 12 exhibitions in 2016-17 with an estimated potential audience of around 1,650 people.

Table 17: Events where CALL exhibited in 2016-17

Event	Date	Venue	Numbers
College Development Network	25.4.17	Stirling	70
North Lanarkshire Learning Festival	19.5.16	Motherwell	100
ASL & Technology	14.6.16	Dundee	104
ASL & Technology	15.6.16	Edinburgh	92
Sight and Sound Conference	24.6.16	Glasgow	100
Dyslexia Scotland roadshow	8.9.16	Livingston	60
Communication Matters conference	11.9.16 - 13.9.16	Leeds	383
Bobath Scotland conference	5.10.16	Glasgow	120
Dyslexia Scotland Education Conference	24.10.15	Dundee	200
Scottish Council of Independent Schools Support for Learning Conference	10.11.15	Edinburgh	80
Enquire National Conference	16.3.17	Edinburgh	150
Scottish Book Trust Bookbug Conference	22.3.17	Edinburgh	200

Family Fun Technology Day

A Family Fun Technology Day, run in partnership with Augmentative Communication in Practice: Scotland, was held at CALL on Saturday 16th April 2016. This provided an opportunity for children with additional support needs, their parents and siblings to find out more about how technology could help them access the curriculum, develop skills for life and have fun. Visitors were able to try different communication aids, find out more about using technology to make music, explore the wonders of green-screen photography, experience a ride on a Smart Wheelchair and to take part in lots of fun activities. 101 children and adults attended the day.

Post-graduate teaching

Shirley and Claire delivered teaching sessions to Moray House Postgraduate Primary students on 27.1.17. The workshops were based around Technology to create accessible, inclusive curriculum resources; Using Technology to support children with communication / physical impairments and Technology to support learners with Additional Support Needs. Each workshop was run 3 times so a total of 120 students took part.

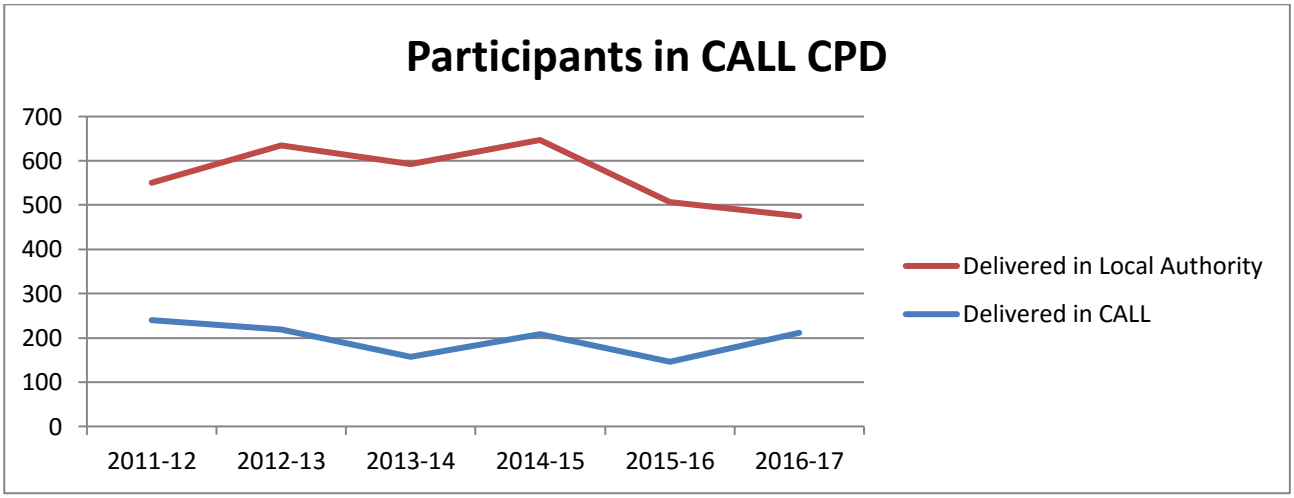
Online AAC modules

People are continuing to make use of the five introductory online learning modules developed by CALL with 'Right to Speak' funding for people who would like to learn more about augmentative and alternative communication. 842 people accessed Module 1 of these resources via the AAC Scotland website in 2016-17. We hoped that further modules focusing on AAC in Education would be available in 2016-17 but these have now been delayed.

Table 18: Summary of CLPL events 2012-17

Summary of CLPL Events	2012-13	2013-14	2014-15	2015-16	2016-17
PL delivered in CALL					
Number of courses	16	15	14	13	**13**
Number of participants	219	157	209	146	**212**
PL delivered in schools/authorities					
Number of courses	38	36	28	30	**24**
Number of participants	635	593	647	507	**475**
Webinars delivered					
Number of Webinars delivered			19	22	**23**
Number of participants registering			n/a	426	**738**
Average Number of people viewing archived webinars			n/a	157	**50**
Presentations at conferences	13	11	15	18	**17**
Numbers attending presentations	Not recorded			865	**450**
Exhibitions	13	16	10	14	**12**
Requested talks for parent/voluntary groups, etc.	7	7	5	7	**8**
ASL and Technology participants	205	202	313	215	**196**

Figure 13: Participants on CALL CPD and CLPL events 2010-2016



Evaluation and Feedback

Courses at CALL or in schools are routinely evaluated on the day of delivery through a CALL or local authority evaluation form or via an online Google Form. 84% of the people attending a course at CALL were 'very satisfied' and 16% were 'satisfied'.

A follow-up survey is sent out three – four months after the course to evaluate the impact that the course has had on professional practice. The Impact Evaluation form generally has a lower

response rate than the initial evaluation (typically around 25%), but returns gave an average score of 4.4 / 5 in response to the statement, "The course has had a positive impact on my professional practice."

Table 19: Satisfaction with Professional Learning Delivered in CALL

Professional Learning Delivered in CALL (%)	2012-13	2013-14	2014-15	2015-16	2016-17
Very satisfied	85	91	85	96	**84**
Satisfied	15	8	14	4	**16**
Not Satisfied	0	1	1	0	0

Table 20: Satisfaction with CALL Professional Learning Delivered in Schools

Professional Learning Delivered in Schools (%)	2012-13	2013-14	2014-15	2015-16	2016-17
Very satisfied	85	62	94	75	**83**
Satisfied	15	38	6	25	**19**
Not Satisfied	0	0	0	0	0

Sample comments:

'Really enjoyable and worthwhile day. Now excited about returning to school and trying things out with pupils I have in mind.'

(Teacher on ASL and Technology Conference)

'This is the best ICT course I have ever attended (teacher for 35 years). Well organised and attention capturing.'

(Teacher on iPads for Primary Schools INSET**)**

'Great course and very good backup notes. Thanks. Grateful for patience of the trainers when I can't always keep up!'

(Teacher on Engaging the Disengaged – Using iPads Creatively course)

'*Great course, really well presented and extremely useful to ASD teachers who are looking to improve communication in the establishment.*'

(Teacher on iPads for Primary Schools course**)**

Next steps

We continue to reflect on our approach to Professional Learning and our strategic role in ensuring all local authorities are meeting their legal duties in terms of supporting children and young people with additional support needs with appropriate inclusive digital technologies including Alternative and Augmentative Communication.

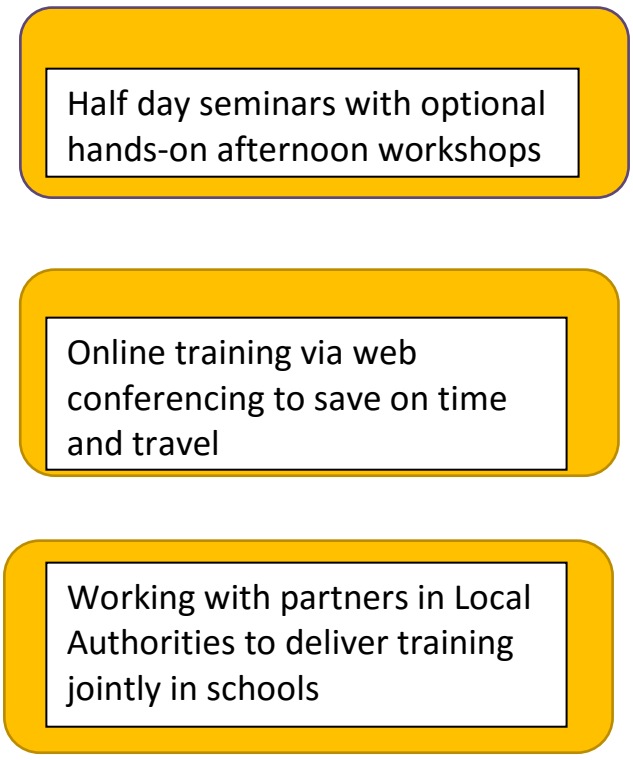
It is vital to ensure that Local Authorities do not invest in technology in isolation to help raise attainment and to support students with additional support needs and/or disabilities.

The Scottish Government's **National Operational Guidance** warns that "We know that simply providing more technology does not result in improved outcomes for learners. Therefore, any deployment of technology in an educational setting should be undertaken in line with the objectives of the national **Digital Learning and Teaching Strategy**." This strategy sets out a series of national actions and local expectations structured around four essential and interrelated objectives, one of which is to "Develop the skills and confidence of teachers".

CALL addresses this on-going identified need and a current lack of appropriate provision in Scotland for comprehensive Professional Learning for teachers in the use of assistive technology to help children and young people with additional support needs, physical disabilities, sensory and communication impairment.

As a National Centre for Assistive Technology, CALL Scotland are developing a cohesive programme of professional learning which aims to equip teachers with the knowledge, skills and expertise to use assistive technology and AAC for improved attainment, engagement and participation of pupils with ASN, including those with complex ASN. This course will be at Masters Level and ideally will be offered as a module as part of the University of Edinburgh MSc Inclusive Education course.

We continue to evaluate and re-assess what we offer to ensure that it provides the required learning opportunities while factoring in all the barriers that exist (actual and perceived) which result in low take up of Professional Learning in the field of inclusive digital technologies. In an attempt to increase the number of teachers who can take advantage of the Professional Learning we offer, we have decided to move our model of delivery to feature the following:



Funded by: (a) Scottish Government Core Grants (Assistive Technology Loans and Support service)
(b) other income (estimate £20,000) for purchase of new equipment for Loan Bank, in 2011-2012

OBJECTIVES

1. Provision of a Scottish National Loan Bank of Assistive Technology.

OUTCOMES

- 157 pieces of equipment and software products, with a total value of £18,058, were added to the Loan Bank last year. This compares with £11,650 spent on 129 new items in 2015-2016. Items purchased included a Tobii Dynavox PCEye Mini eye gaze system; a Microsoft Surface tablet (for a CALL eye gaze system, see below); two new iPad Air devices and a Quha Zono gyroscopic mouse (right).

- 134 of these items, costing £15,400, were purchased with funding from the Scottish Government. The remaining items were provided free by suppliers for evaluation purposes or purchased through other funding sources.
- The Loan Bank provides borrowers with an opportunity to try equipment rather than spend money on equipment that might not be suitable. 232 new equipment loans, with a total value of just over £69,000, were issued to clients in 23 local authorities. This compares with 213 loans with a value of £41,000 in 2015-16.
- The number of items loaned increased by 9% compared with 2015-2016, reaching an all-time record. The value of loans issued increased by 68% to £69,000 mainly due to a number of loans of expensive eye gaze systems. There was a further increase in the number of communication aids loaned, but these were mostly of relatively low tech devices such as the Go Talk (10 loans). There were two loans of expensive high-tech communication aids and four involving an eye-gaze system, compared with one of each in 2015-2016. The trend towards loans of iPads to support pupils with reading and writing difficulties, and / or communication support needs has continued.
- The number of loans provided to assessment clients increased from 136 in 2015-2016 (64% of all loans) to 163 in 2016-2017 (70%).

Table 21: Categories of Equipment Loaned

Type of Equipment	2000-01	2005-06	2010-11	2014-15	2015-16	2016-17
Communication Aid	5	49	25	8	21	30
Computer	9	13	6	15	8	16
Computer Accessory	4	10	2	7	6	7
Interface / Mount / Switch	44	61	44	25	67	41
Keyboard / Alternative	8	13	7	15	10	13

Type of Equipment	2000-01	2005-06	2010-11	2014-15	2015-16	2016-17
Mouse / Alternative	9	12	15	32	29	24
Reading / Writing Aid	-	6	6	4	5	12
Tablet	-	-	5	8	17	25
Tablet Accessory	-	-	1	20	37	44
Toy	-	5	6	9	3	11
Other	24	38	7	12	5	9

Loans and technical support of equipment continue to provide a significant 'best value' service, representing a substantial saving to schools and local authorities by ensuring that they buy only suitable and successfully trialled equipment and reducing the likelihood of them making inappropriate purchases.

Technical Support

- 53 instances of technical support were recorded (e.g. configuring communication software, setting up eye gaze systems, advising on iPad management, developing symbol resources, etc.). In addition to routine support, there were a couple of more comprehensive technical support projects: the development of a robust carrying case for an iPad and the development of a relatively low-cost eye gaze mounting kit:

- **CALL Adaptable Carry Case** – Some of the young people for whom we recommend iPads with communication apps are ambulant and need a lightweight, portable, robust case that allows quick and easy access to the device. Unfortunately, there was very little on the market that met our requirements for a reasonably affordable price, so we decided to devise our own by modifying an existing case, the Newstyle, with carry straps to make it more portable. Robert wrote a blog providing details of the modifications so that people can make their own, and he has also made a small number of the cases for clients. Feedback on the cases has been positive.

- **CALL Eye Gaze Mounting Kit** - When we upgraded our eye gaze systems, we also required an affordable mounting solution to accommodate them. There are several commercial solutions out there but they're all very expensive. The solution required several key features to be: affordable; robust and secure; easy to produce; able to hold a Microsoft Surface laptop (with case). Robert devised a solution involving a low cost protective case, acrylic sheeting, a bracket and screws, costing less than £50. He has now written a blog outlining how to put it together.

Table 22: Summary of Loans of equipment

Summary of Loans	2012-13	2013-14	2014-15	2015-16	2016-17
Number of loans	231	225	150	213	**232**
Value of loans	£87,500	£71,000	£32,800	£41,000	**£69,000**
Number of Loans to Assessment Clients	130	114	61	136	**163**
Number of items added to loan bank	207	163	139	129	**157**
Value of items added to loan bank	£44,447	£13,396	£19,837	£11.650	**£18,058**
Number of instances of technical support	170	160	115	84	**53**

Evaluation and Feedback

Borrowers are asked to complete a feedback form when returning equipment. There was feedback on the outcome of a loan for 59 of the 168 loans returned in 2016-17 (35%). Of these, 75% indicated that the 'Equipment met the client's need'; 19% 'did not meet the client's need' and 6% were 'inconclusive'.

50 feedback forms gave an indication of intended future action. Of these, 66% stated that they would try to buy the system that had been borrowed, while 18% planned to borrow something else and 16% wanted to seek further advice.

Overall, 96% of borrowers who provided feedback were 'very satisfied' with the CALL Loan Service and 4% were 'satisfied'.

"It was really useful to be able to borrow this equipment ahead of possible purchase and let R try it out in class. R found the keyboard very useful. The size of the keys was especially good. His only negative comment was how relatively noisy the keys were when struck. Thank you for your help!"

(Teacher on loan of keyboard with large keys for pupil with visual impairment.)

"Emma loved using her iPad and was always keen to be independent using it. Thank you for all your support. Mum very pleased with the equipment as well. Photo album shared with home."

(Teacher on loan of iPad for pupil with specific learning difficulties)

"Really enjoyed using it. Increased his self esteem. Have passed on info about it to his family who may be able to purchase."

(Teacher on loan of Pocket GoTalk communication aid.)

"We loved having the opportunity to trial this system for a block of time - it has been good for us to learn with our child and watch her progress over the loan. S enjoyed explaining the games and loved using the 'chat' pages to make requests."

(Teacher on loan of Tobii C15 & CEye eye gaze communication device.)

Funded by: Scottish Government Core Grants and other funders (see individual projects below)

OBJECTIVES

1. Identification of needs and development of research project proposals.
2. Dissemination and knowledge transfer of products and outcomes of project with stakeholders in Scottish education.

Books for All: provision of learning materials in accessible formats for pupils with additional support needs

Funded by: Scottish Government Core Grant

OBJECTIVES

- Collaboration with publishers, local authorities and other agencies to source and provide books in accessible formats.
- Enhanced mechanisms for sourcing, adapting and delivering accessible materials.

OUTCOMES

Section 2 on pages 22-24 provides information and data on the delivery of the Books for All programme and the Books for All Scotland Database. Here we summarise development work that has taken place in 2016-17.

Hodder Gibson

In 2014 we obtained permission from Hodder Gibson to distribute digital textbooks via the Books for All Database rather than manually on CD, and 38,476 files were downloaded in 2016-17. New titles are added as they are published, and there are now 310 Hodder Gibson textbooks on the database.

Distribution of learning resources in this way is of huge benefit to learners with Print Disabilities, who would otherwise be unable to read and access the books, and is also helpful to the publisher, who does not have to respond to requests from schools to source and provide digital files of titles.

TeeJay

Following the success of the Scottish Heinemann Maths and TeeJay 1 books with 'answer boxes', in 2016-17 we adapted the TeeJay 2a and 2b books to make them similarly accessible. These complement the 1a and 1b books that were adapted the previous year. Adapting the books is a time-consuming and challenging task, as it involves manually designing and drawing in hundreds if not thousands of answer boxes, and most of the work has been undertaken by Sarah and Rebecca. The more advanced 2a and 2b books are more difficult to adapt and so the CALL team created some novel techniques for making them accessible on computer or tablet.

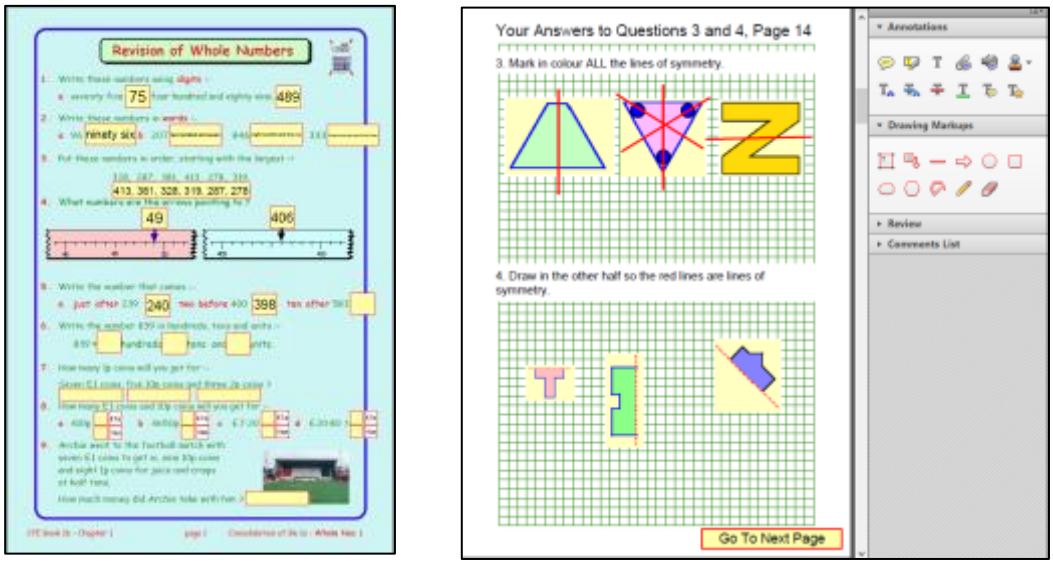


Figure 14: Adapted TeeJay Maths books with answer boxes and on-screen drawing tools

The adapted textbooks are particularly helpful for learners with more complex physical or visual difficulties, because the learner can quickly and easily type the answer and then 'tab' to the next answer box, which is much faster and easier than navigating with the mouse. The resources are also very popular with learners with literacy difficulties, because the questions and text can be read out with a computer reader, and with learners on the autistic spectrum who can reduce visual clutter by zooming in on a section of a page.

However, adapting the more advanced 3a and 3b books has proved to be challenging due to the nature and design of the material: in many cases it is not feasible to fit answer boxes on the page (Figure 15) or to create accessible exercises within the PDF format. In addition, some mathematical operations (e.g. algebraic equations) cannot be easily tackled within Adobe Reader. Therefore we intend to research other approaches to providing accessible textbooks at this level.

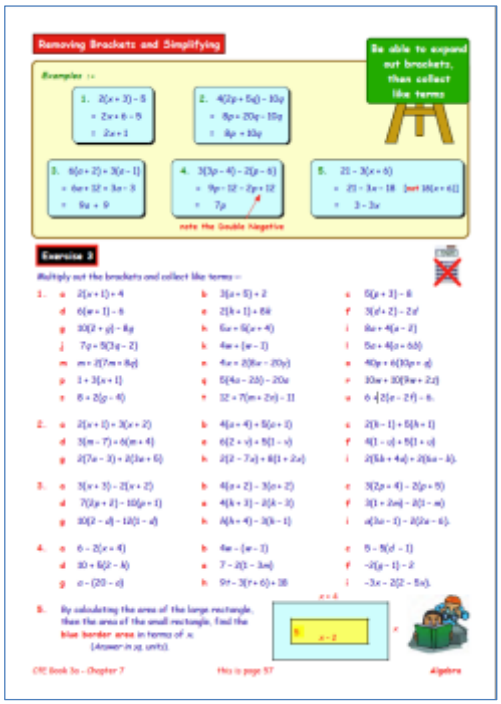


Figure 15: The design of the more advanced TeeJay books limits options for adaptation

Other contributors

Marie Lawson, a specialist VI transcription editor in Shetland, contributed Large Print versions of New Maths in Action and National 5 maths books, while Elaine Smith and Dr. Barry Begg from Glasgow Caledonian University recorded audio versions of some Scottish Set Texts for National 5 and Higher.

Scottish Children's Book Awards

Since 2010, we have produced accessible digital versions of the nine shortlisted books for the Scottish Children's Book Awards 2016. The Bookbug books are provided free to every P1 learner in Scotland each year.

The accessible digital versions enable pupils who find it hard to read or access the standard print books to take part in the awards along with their peers in the classroom.

We created switch accessible PowerPoint versions of the three shortlisted books with human speech narration. Learners can turn the page by pressing a switch, clicking a mouse button, or even by using eye-gaze systems. We also created versions for the iPad that can be accessed via the free Keynote app for iPad. These are all available from the Database.

Joanna again created symbolised resources for each of the Bookbug books to enable children to participate in the stories and to vote for their favourite entries. These are symbolised overlays for communication aids together with vocabulary sheets and hints and tips for teachers. Joanna also created files for use with the free **Sounding Board** communication app for iPads. The boards offer an opportunity for communication-disabled children to participate in reading, comment on the books, and also to vote.

112 books were downloaded this year in PDF or PowerPoint format, together with a total of 2,370 symbolised resources and files. The resources have not been accessed as much as last year (227 books and 4,479 resources downloaded, and so we will review the service and marketing with the Scottish Book Trust for the 2017 awards.

Figure 16: Bookbug books with symbolised resources for helping learners to participate with the stories

Colleagues at the Scottish Book Trust were enthusiastic about the benefits of the symbolised resources and asked if we could create equivalent materials to use with the Bookbug Explorer Bag, which is given out at nursery to all three year olds. These were made available on the Books for All web site at the beginning of 2017.

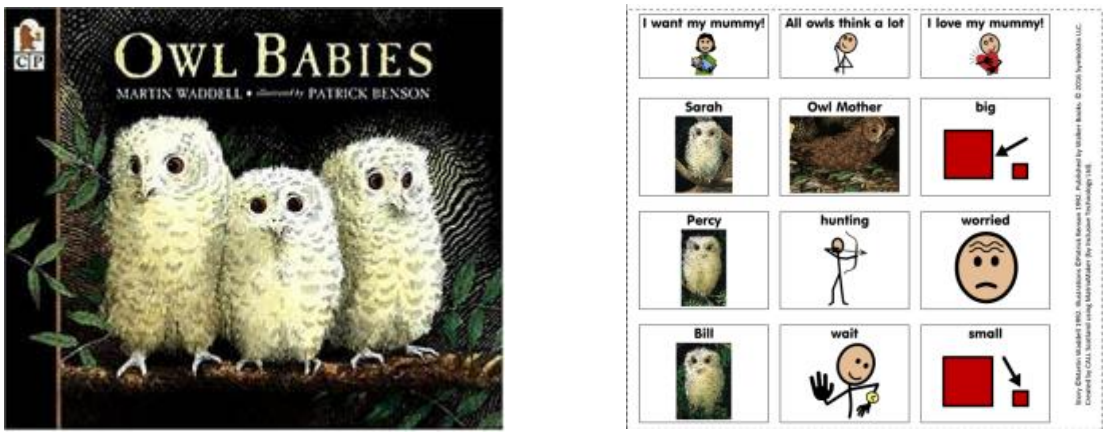


Figure 17: Symbol chart for an Explorer Bag book

RNIB Bookshare (formerly Load2Learn)

The RNIB Bookshare database was created by RNIB and Dyslexia Action, with funding from the Department of Education in Westminster in 2013. It is similar to the Books for All Scotland Database in that it offers accessible versions of books in digital formats, but it is available across the UK, and is currently free to use. More than 50,000 titles are currently available, most for the English National Curriculum, but RNIB have succeeded in collaborating with many of the UK academic publishers and as a result, more Scottish textbooks are becoming available.

One option that has been discussed with RNIB is to close the Books for All Scotland Database and upload the content to RNIB Bookshare, but feedback from Scottish practitioners is they value the distinctive Scottish curriculum materials and identity. In addition, when the database was first launched it was a paid subscription service, and while RNIB Bookshare is currently free to use, it is possible that charges could be introduced in future, which could impact on access to resources for learners in Scotland.

SQA Digital Question Papers and Assessments

Funded by: Scottish Qualifications Authority

OBJECTIVES

- Partnership working with SQA to continue to develop digital papers and assessments.
- Research into speech recognition in examinations and assessments.

OUTCOMES

Uptake and use of SQA Digital Question Papers and Assessments is discussed in Digital Exams and Assessments on p. 27. A summary of new research and development in 2016-17 is given here.

Talking in Exams Project

The Talking in Exams project ran throughout the 2015-16 academic session and the aims were to:

- Create guidance materials for getting started with speech recognition.
- Build a community of practice where we can share what works and what doesn't.
- Provide Dragon licences to schools.
- Support schools to trial speech recognition software
- Gather and publish case studies / reports.

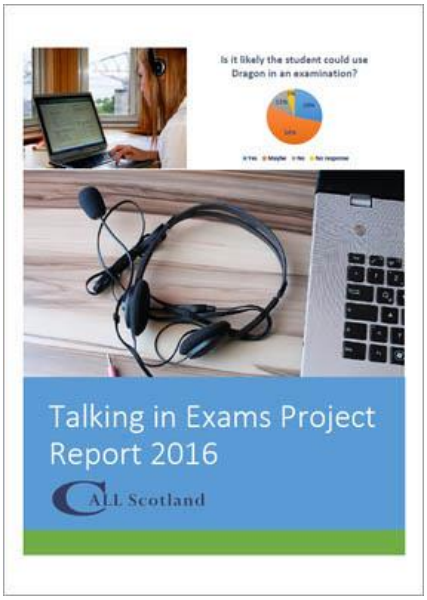
CALL staff researched speech recognition software and apps and created a dedicated Speech Recognition section on the main CALL web site.

28 schools and services participated in the project, and were provided with Dragon Naturally Speaking software, a high quality headset, and training and support from CALL.

Staff and learners presented their experiences at a successful seminar on 2nd June 2016. This is available to view in CALL's Archived Webinars. Several students gave very impressive contributions and insights, and confirmed that the new Dragon NaturallySpeaking software can provide a very effective means of writing and recording for students with literacy difficulties.

A Talking in Exams Project Report was published in December 2016 and is available from the Downloads area on the CALL web site.

Key findings from the project



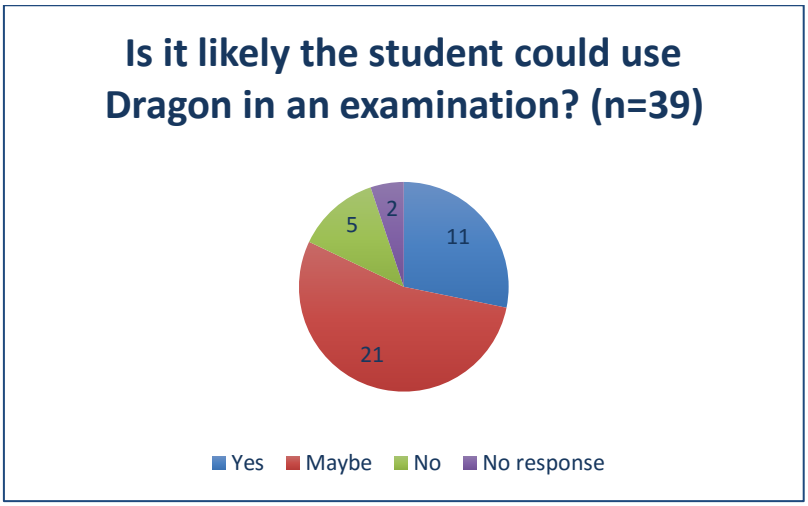
- This project has demonstrated that speech recognition can help students achieve previously unattainable literacy goals. Schools should explore and evaluate speech recognition software for students with additional support needs.
- Students with additional support needs who had success with the software are producing work independently which more accurately reflects their cognitive ability.
- There was a marked improvement in student engagement, motivation and self-esteem when they were able to produce presentable text of a higher literacy standard.
- Moving away from the use of readers and scribes requires a culture shift. Students are more likely to do this if they feel confident in the technology alternatives and have had experience of using assistive software combined with support and encouragement of their teachers.
- Training and support for staff and students are essential for successful introduction of new technologies.
- It is important to raise awareness of the software in varied and multiple ways in the school and with parents/carers. It is helpful to highlight the relationship between Assistive Technology and raising attainment and ASN and accessibility legislation.
- Technical issues were a barrier to the progress and/or the continued use of the software in some schools. Some students were unable to participate in the project and therefore missed the opportunity to trial the software.
- For some schools, additional support is required to ensure the successful implementation of speech recognition software in SQA examinations. CALL Scotland will continue to work with the SQA to ensure all schools are provided with the relevant information to support (and encourage) the use of all assistive software with digital exam papers for students with additional support needs.
- Working collaboratively and sharing good practice is essential to the success of nationally organised initiatives and research projects.

Practitioners were asked to complete a Student Record in respect of each learner that took part in the project and responses were received from 12 schools (60% of the actively participating schools), in respect of 39 of the 70 (56%) students initially identified by schools.

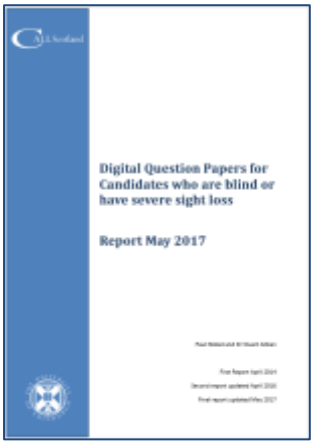
The main research question of the project was to explore use of speech recognition in SQA examinations and assessments. Accordingly, practitioners were asked to consider “Is it likely that this student could use Dragon Naturally Speaking in an exam setting?”

Staff judged that 11 out of 39 learners would be ‘likely’ to use Dragon in an examination; 21 ‘might’; 5 would ‘not’; and there was no response for 2 learners.

	Yes	No	Maybe	No response
Is it likely that this student could use Dragon in an exam setting?	11 (28%)	5 (17%)	21 (54%)	2 (5%)



Digital Question Papers for Candidates who are blind or have severe sight loss



The existing SQA Digital Question Papers are not optimised for candidates who use screen reader facilities and software, and SQA adopts a bespoke procedure for providing digital papers in response to individual requests from schools. Since 2014, we have been working with practitioners and learners to research appropriate digital formats for SQA digital question papers, for candidates who are blind or have severe sight loss.

The research has involved technical investigation and testing; interviews with candidates and staff; and a survey of digital devices, tools and file formats used by learners with visual impairment. The final project report is due for publication in May 2017.

Online Professional Learning resources on AAC.

Funded by: NHS Education Scotland (primarily)

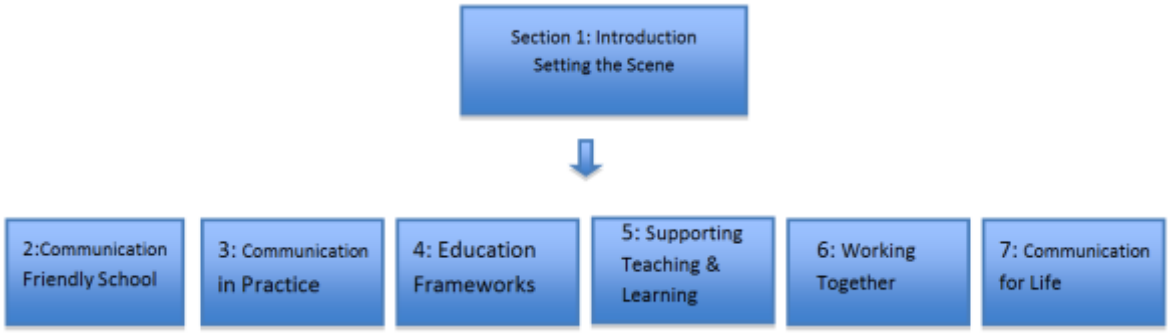
OBJECTIVES

- Development of free online professional learning resource for teachers and practitioners.

OUTCOMES

The AAC in Education modules are still in development and we hope that they will be completed very soon.

The resources is composed of 7 sections. Four sections are complete, with only Sections 1, 3 and 5 to be finished.



The sections cover:

1. Communication skills and Complex Communication Support Needs, an introduction to AAC and getting yourself and your school ready for AAC.
2. Establishing a communication friendly school with an inclusive environment and practices benefitting learners beyond those using AAC directly.
3. Fundamentals of AAC, creating communication opportunities and communication partners and integrating its use into the everyday classroom.
4. Supporting AAC through Education Frameworks, staged intervention and planning, target setting, recording and monitoring.
5. Curriculum differentiation, including literacy and language teaching, and supporting learners with profound/severe and complex ASN.
6. Collaboration and team working, including school roles and responsibilities, partnership working with parents and pupil voice.
7. Making for good transitions and beyond school, preparing for communication as a lifelong skill

The sections are linked to the IPAACKS framework (between skill level 1 – 2) and explore the specific 'Core Values and Commitments' and 'AAC specific knowledge and skills' that are particularly relevant to that topic. The module will be a helpful tool for services, teams or individuals that wish to 'self-audit' and to develop best practice to ensure positive outcomes for people who use AAC.

Conference and Study Day Presentations

Courtney, J. (2016) **The Eyegaze Software Curve**. ASL & Technology, Edinburgh, 15 June 2016.

Courtney, J. (2016) **Accessible books and symbol resources for Young Readers**, ASL & Technology, Edinburgh, 15 June 2016.

Lawson, S. (2016) **Maths Resources to Support Children with Speech & Language Impairment** Speech & Language Impairment Special Interest Group, Queen Margaret University, 13 May 2016.

Lawson, S. (2016) **Using Speech Recognition Software for ASD Learners**, ASL & Technology, Dundee, 14 June 2016.

Lawson, S. (2016) **Assistive Technology to Support People with Duchennes Muscular Dystrophy**, DMD Pathfinders' Conference, 29 September 2016.

Lawson, S. & Mill, C. (2016) **Using iPads to Support Learners with Additional Support Needs**, AT Ready Conference, Glasgow City College.

Lawson, S. & Mill, C. (2016) **Assistive Technology and Dyslexia**. Dyslexia Scotland Education Conference, Dundee, 29 October 2016.

Lawson, S. & Scott, F. **Using Speech Recognition Software – in School, at University…for Everything!** ASL & Technology, Edinburgh, 15 June 2016.

McNeill, G. (2016) **CALL Scotland's AAC App Wheels**. ASL & Technology, Edinburgh, 15 June 2016.

McNeill, G. (2016) **A Guide to the CALL Scotland 'AAC in Education' Online Learning Course**. ASL & Technology, Edinburgh, 15 June 2016.

Mill, C. (2016) **iPads and Dyslexia**. Dyslexia Scotland, Bridge of Allan. 14 May 2016.

Mill, C. (2016) **Using iPads to Support Dyslexia.** ASL and Technology, Dundee, 14 June 2016, and Edinburgh, 15 June 2016.

Mill, C. (2016) **It's All in the Cloud!** ASL and Technology, Dundee, 14 June 2016.

Nisbet, P. (2016) **Going Digital: iPads in the Paper-based Classroom**. ASL & Technology, Edinburgh, 15 June 2016.

Nisbet, P. (2016) **The Use of Assistive Technologies for Visually Impaired Candidates**. Scottish Sensory Centre, Edinburgh, 30 August 2016.

Nisbet, P. & Ranaldi, F. (2016) **Inclusion and Digital Literacy**. National Technologies Network, Glasgow, 7 September 2016.

Nisbet, P. (2016) **Reading, Writing and Learning with Ceitidh, the Scottish Gaelic Computer Voice**. An t-Alltan 2016 conference, Aviemore, 28 September 2016.

Nisbet, P. (2016) **Creating a digital strategy for your school.** EduTech 2016, Glasgow, 7th December 2016.

Nisbet P. (2017) **Technologies to Support Inclusion**. Dutch Study Visit Edinburgh/Scotland: Developing more inclusive learning environments. Edinburgh, 30th January 2017.

O'Neill, S. (2016**) iPads and Maths.** ASL and Technology , Dundee, 14 June 2016, and Edinburgh, 15 June 2016.

GLOSSARY

AAC	Augmentative and alternative communication
ACiP:S	Augmentative Communication in Practice: Scotland
ADES	Association of Directors of Education in Scotland
ASL	Additional Support for Learning
ASLO	Association of Support for Learning Officers
ASN	Additional Support Needs
ASPEP	Association of Scottish Principal Educational Psychologists
AT	Assistive Technology
ATLAS	Assistive Technology Leaders Across Scotland (formerly ICTSLS)
B4A	Books for All
BETT	British Education and Training Technology Exhibition
CALL	Communication, Access, Literacy and Learning
CfE	Curriculum for Excellence
CFS	Communication Forum Scotland
CLA	Copyright Licensing Agency
CLPL	Career-long Professional Learning
CM	Communication Matters
CPD	Continuing Professional Development
ES	Education Scotland
FAACT	Fife Augmentative and Alternative Communication Team
FE	Further Education
GASS	Grant Aided Special Schools
GIRFEC	Getting it Right for Every Child
HE	Higher Education
HI	hearing impairment
ICT	Information and Communication Technology
ICTSLS	ICT Support for Learning Scotland (now ATLAS)
JISC	Joint Information Systems Committee (in FE/HE)
Keycomm	Edinburgh & Lothians AAC service
LA	Local authority
MH/MHIE	Moray House/Moray House Institute of Education
NAACE	[not an acronym] ICT association for education professionals (UK)

PL	Professional Learning (previously referred to as CPD)
QMU	Queen Margaret University
RCSLT	Royal College of Speech and Language Therapists
RNIB	Royal National Institute for Blind People
SCRAN	Scottish Cultural Resource (charity and online resource base)
SCTCI	Scottish Centre for Technology for the Communication Impaired
SG	Scottish Government
SIG	Special Interest Group
SLA	service level agreement
SLF	Scottish Learning Festival (Education Scotland run event every September)
SocITM	Society of IT Managers
SQA	Scottish Qualifications Authority
SSC	Scottish Sensory Centre
TASSCC	Technological Assessment and Support Service for Children and the Curriculum (Aberdeen)
UoE	University of Edinburgh
VI	visual impairment
VIP	visually impaired persons
VQ	Victoria Quay

Communication, Access, Literacy and Learning

The Moray House School of Education

The University of Edinburgh

Paterson's Land, Holyrood Road

Edinburgh EH8 8AQ

www.callscotland.org.uk