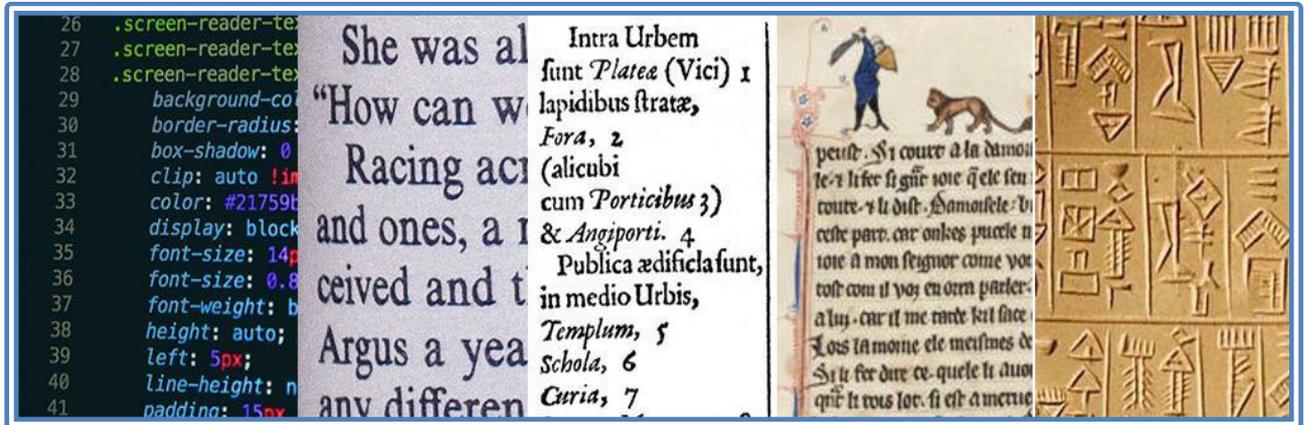


# Citizen Literacy: A White Paper

September 2020



## “Reading and Writing for Everyone”

<https://citizenliteracy.com/>

Citizen Literacy is developing digital and paper resources, to support adult literacy learners and their teachers, including a smartphone App with an interface especially designed for low literacy users. The App includes the use of voice and handwriting recognition.



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## Introduction

### *Purpose*

The purpose of this [white paper](#) is to raise awareness of the scale and nature of the adult literacy challenge in the UK and describe our ideas, activities and approach to contributing towards a solution. We will explore what we mean by the ‘adult literacy challenge’ below. Here, we describe our activities, how we work, our rationale and values and what we hope to achieve. We firmly believe that no single organisation can solve this difficult problem alone and that an open collaborative partnership approach is the best way of working.

### *Audience*

This white paper is intended for the general public and those working and researching in the field of adult literacy. Our audience is anyone who is interested in the topic of adult literacy, no prior knowledge is assumed. Inevitably, there are some specialist terms used and we aim to explain them as we go. We also make extensive use of web links in the text to provide further information for the reader. We believe by providing an explanation of the issues involved and the potential solutions to a general audience we will make our work more widely useful. The style of writing in this White Paper is not intended as an academic text, although our work and approach is informed by academic research, it is more informal and direct in style. Where we do reference sources, we use a referencing system based (very loosely) on that of the [IEEE](#).

## Citizen Literacy and its Focus

Citizen Literacy is forming a non-profit [Community Interest Company](#) (CIC) that operates to create learning resources to support adult literacy learners and those who teach them.

Our work is primarily focussed on improving the literacy (especially reading and writing) of adults who are already speakers of English. However, feedback from colleagues who teach ESOL (English for Speakers of Other Languages) has indicated that many of our tools and resources will be of use to them, especially for ESOL literacy learners.

## Understanding The Literacy Challenge in the UK

It often comes as a shock to people when first discovering the scale of adult low literacy in the UK. It is quite easy to go through life unaware of the numbers of our fellow citizens who have low or very low levels of literacy. So, here we present the facts, derived from primary government and research data sources. In the later section entitled 'The Social and Economic Costs of Low Literacy' we explore the implications of low literacy for social and economic well-being at an individual and national level.

Our target learners include those with the poorest literacy levels. From [government figures](#) for England, the percentage of the working population with the very weakest literacy (Entry Levels 1 – 3) is 14.9 %. Research by the [Scottish government](#) has produced similar figures as has research carried out by the [Welsh government](#) and the [Northern Ireland Assembly](#). In numbers across the UK<sup>1</sup> this breaks down for the UK working age population as about 6.1 million people who are living with the very lowest levels of literacy<sup>2</sup> (Entry Levels 1 – 3). It is these learners that the Citizen Literacy partnership is interested in supporting. Note, for convenience, we use English grading levels. The UK qualification levels in different countries can be compared in this handy '[UK qualifications comparison](#)' by EAL. There is also a UK [government reference site](#).

However, we need to be careful about using the official 'levels' of literacy, they are relatively crude and can miss important aspects of a person's existing real-world literacy skills - or worse, they can be used to somehow infer a person is 'other' than 'us', or worse, that they are not 'normal'. We need to be careful about labelling people in this way and falling into some of the negative and moralistic stereotypes about adult learners that can occur in debates about literacy and education in our society. In this connection, it is important to be aware of the ways in which social and political [power](#) manifests itself in discourse about these topics – especially in the way that the most disadvantaged and powerless can be labelled and blamed for their own lack of power and opportunity.

### *Connecting Digital Literacy and Textual Literacy*

Because existing measures of literacy are so crude, organisations like [UNESCO and OECD](#) have recognised the need to develop a wider interpretation that recognises the specific contexts of the use of literacy skills, this is especially relevant in connection to the use of

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<sup>1</sup> Working age population sources:

- English and Welsh working population figures (36.3 million) are at <https://www.ethnicity-facts-figures.service.gov.uk/uk-population-by-ethnicity/demographics/working-age-population/latest>
- Scottish figures (3.84 million) are from <https://www.nrscotland.gov.uk/news/2019/scotlands-population-projected-to-increase-but-at-a-slower-rate>
- Northern Ireland figures are from <https://www.nisra.gov.uk/news/labour-force-survey-annual-report-2018>

<sup>2</sup> Page 33 of The [2011 Skills for Life Survey: A Survey of Literacy, Numeracy and ICT Levels in England](#)

digital literacies. These emerging approaches move on from the currently dominant ‘transactional’ measures (important as they are), such as the influential [Lloyds Bank UK Consumer Digital Index 2020](#) Report. This is indeed useful as a baseline report for ‘the state of the nation’ in terms of digital literacy. But from this it would appear that our target learners should be struggling in the most basic ‘foundational level skills’ area of digital abilities. However, our experience indicates that most of our target learners own and use smartphones and use internet services. Some interact with work computers using a number of different strategies, including getting help. So, we need to know much more about the actual lived social reality of how our low-literacy learners interact with the digital world and we begin to explore these topics in this White Paper. From this perspective, one of our educational influences is the work of the Paulo Friere [1] who stressed the need to make sure we understand where our learners are in reality and start from there. Our strategy in the Citizen Literacy programme is to combine textual and digital literacy development for adult learners. The Appendix to this White Paper begins a wider discussion of these issues in the context of developing applied and action research strategies to address these needs.

### *Understanding Our Learners*

The OECD report ‘[International Survey of Adult Skills](#)’ (2013) that compares education and skills in different countries – referring to England and Northern Ireland in particular<sup>3</sup> observes:

- *England is the only country in the developed world where the generation approaching retirement is more literate and numerate than the youngest adults*
- *England was ranked 22nd for literacy and 21st for numeracy out of 24 [developed] countries [for 16-25 years old]*

There are some misconceptions and misplaced negative moralistic attitudes about people with very low levels of literacy (our fellow citizens) and it is worth dispelling them before we go any further. Most are in work, they employ ingenious methods to cope with a world of textual information, they have to be emotionally resilient and they are absolutely not unintelligent. These are people who have not managed to learn to read and write using the standardised educational codes and methods, something which has been all too easy to happen in our national education systems for a long time.

The UK is not the only country to suffer from serious problems of adult literacy. In Europe many countries face similar challenges. We see learning to read and write as an important social justice issue that affects all of us. These observations from the [EU High Level Group Of Experts On Literacy Report](#) nicely summarise the importance of supporting literacy for individual and societal well-being:

*Reading and writing are much more than a technique or a skill. Literacy is about people’s ability to function in society as private individuals, active citizens, employees or parents. Children need skills to learn, adolescents need them to*

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<sup>3</sup> Page 31 of [OECD Skills Outlook 2013 First Results from the Survey of Adult Skills also page 72](#)

*get a job and shape their futures positively. Citizens won't be able to pay their taxes online or vote if they're not literate. Employees need to be able to read safety instructions. And how can patients use their medication properly if they cannot read the instructions or lack the confidence to ask others? Literacy is about people's self-esteem, their interaction with others, their health and employability. **Ultimately, literacy is about whether a society is fit for the future.***

## **The Citizen Literacy Adult Literacy Programme**

This is being created in response to the lack of structured adult literacy programmes available using phonics methods for those with the greatest literacy needs. The programme is based on a community education initiative that started in Glasgow but has grown to include some of the leading adult literacy practitioners in the UK and a group of skilled educational and software designers and developers.

### *Learner Smartphone App*

As part of the programme, we are developing a comprehensive set of classroom resources for teachers to use with their learners and a smartphone app that the learners can use between their classes to practice their exercises. The smartphone app content is mapped to the course classroom resources and uses text-to-voice artificial intelligence (AI) services to provide spoken tutor instructions to learners, with an interface designed especially for beginner literacy learners. The online tutors have 'personas' that encourage and support the learners. The learners are engaged in a series of exercises that linked to the classroom exercises, so that they reinforce the classroom sessions. Learner interaction with the App uses standard smartphone touchscreen selection for data entry plus the use of voice and handwriting recognition, using AI.

### *Classroom / Teacher App*

While developing the learner App, we became aware that it could easily be modified to be a 'Web App' that a teacher could use in classroom settings with a 'Smartboard' or computer and data projector or similar equipment. This version will include a teacher-specific extension to the learner version of the App.

### *App Costs and Conditions*

Both Apps will be free to use, with no user registration, no adverts and no personal data captured. The Apps are being made available as a 'common good'. At the moment, we have no plans to make the App code open source because we need to concentrate on developing the learning resources first.

### *Classroom and Teacher Resources*

We are aiming to create a series of study courses with face-to-face (F2F) classroom resources for learners and their teachers to use that are supported by the Apps. The courses start with those at the beginning of their adult literacy journey and continue to become competent and confident readers and writers. These courses will be equivalent to English Entry Levels 1, 2 & 3 and Level 1

We are planning to make the first classroom lesson of each course together with their learner and teacher resources freely available under the terms of a Creative Commons License [Attribution-NoDerivatives 4.0](#). This will give teachers and learning providers a good idea of what the courses are like and whether they are right for their learners

We are developing a Teacher's Handbook to accompany the courses. The Handbook is intended to provide a friendly and supportive guide to get teachers up and running quickly and confidently using the Citizen Literacy classroom resources and the Apps. The Handbook will also be supported by teacher training videos on our YouTube channel. We are also developing a Student Workbook with the resources to support the classroom based learning activities, we aim to make this competitively priced. We know that paper based learning resources are crucial for adult literacy learners and their teachers.

### *Paid for Resources and Services*

To make our work sustainable we need to generate some income to cover costs. We plan to do this by charging for access to the course packs for use in F2F classroom teaching. These will be licensed under a commercial licence. There will be the option for additional customised online training sessions with the Citizen Literacy course authors.

### Development Roadmap

In our development roadmap, we are intending to develop an optional paid-for version of our free Apps. This would take the form of a [Software as a Service](#) (SaaS) and would enable an organisation to register their learners on the system and follow their activity and progress through a 'dashboard', powered by analytics data provided by the App. It would also enable an organisation to offer customised support to learners, with things such as vocational vocabularies available via the Apps.

Please see Appendix 2 for a summary of our future plans, the roadmap image is taken from a recent presentation we did for a joint [educational conference](#) at UCL, Imperial College and the LSE.

### *Method & Course Description*

*"A structured and integrated blend of phonics, grammar, alphabet awareness and punctuation for adults just starting out in literacy learning"*

Citizen Literacy uses a highly structured educational method to teach reading and writing skills to adults that includes the use of '[Synthetic Phonics](#)'. The foundation of this approach is based on the learner being already fluent in spoken English and uses their existing language knowledge to develop their textual literacy skills. This method involves systematically developing the ability of learners to **Listen** to and analyse the individual sounds of the spoken language (Phonemes)<sup>4</sup> and connect them to the sounds of the component parts of written words (Graphemes)<sup>5</sup>. The learner is then able to combine or

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<sup>4</sup> Phoneme - The smallest unit of sound. There are approximately 44 phonemes in English

<sup>5</sup> Grapheme - A way of writing down a phoneme. Graphemes can be made up from 1 letter e.g. 'p', 2 letters e.g. 'sh', 3 letters e.g. 'tch' or 4 letters e.g. 'ough' (<https://www.phonicsplay.co.uk/SubjectKnowledge.htm>)

**‘Blend’** the sounds of the graphemes together (i.e. to ‘Synthesise’ them) to be able to understand the written word as a spoken word and therefore comprehend the meaning of the written word (**Read**). Similarly, writing skills are developed in learners by being able to analyse the component sounds of words and associate them with the Graphemes that make up the word in order to be able **Write** them. Citizen Literacy also includes linking words with images that are relevant to the learners, including creating an image / sound / letter alphabet, and advancing from simple to more difficult words in order to construct sentences. This allows learners to write words that aren’t included in the phonics sound sequence, but which are relevant to their daily lives and which they want to use in their writing.

Basic grammar and punctuation awareness are embedded in every lesson and there is a strong focus on alphabet awareness. In this way the course develops the key skills of **Listening, Blending, Reading and Writing** in learners very rapidly – by the second or third lesson, dependent on ability, they are starting to read and write sentences. This rapid progress is important to build confidence in the learners to encourage them to stick with the course to the end. The course consists of 36 lessons of 2 hours duration, that can be delivered face-to-face in a wide variety of settings. This is supported by a smartphone App that helps the learners to practice key elements of the course in between their F2F classes. Formative assessments (progress checks during the course) are used to help the teacher monitor the learner’s progress and understand any teaching adaptations that are needed. The final summative (formal and official) assessments cover the key skills of Listening, Blending, Reading and Writing and evaluate how much the learner has progressed during a course.

The courses will start with complete beginners and continues forward to Level 1 (English Levels). They are being designed to be easy for learning providers to have them accredited by awarding bodies. For many learners achieving an accredited certificate may be the first educational certificate they have obtained. The courses can be delivered in a range of ways in different locations; some learning providers may use our resources and present students for an accredited route, others may utilise our resources as they need, dipping in and out as best fits their learners’ needs. The programme’s versatility allows for this and for it to be delivered using a Smart Board or a flip chart with printed resources for each learner, supported by the free teacher and learner Apps.

## **Adult Literacy Teaching Methods and Phonics for Adults: Recent Research and Developments**

Phonics methods have been used with success for many years to teach reading and writing to children. It is only recently that the method has been endorsed for extension to adult literacy learners. In 2018, the English Department for Education (DfE) funded research commissioned by the [Education and Training Foundation](#) (ETF) into how phonics methods are being used to improve reading and writing skills in the post-16 sector (FE colleges, ACLs, training providers, etc.). Following on from the research, the ETF, together with subject experts from University College London and Claire Collins Consultancy Ltd, developed a [toolkit for phonics teaching in the post-16 sector](#). The toolkit is specifically designed for the adult sector; exploring approaches to phonics teaching, the essential concepts, how to assess learners’ needs and resources designed for post-16 learners – it provides a much-

needed foundation for further developments. Our Citizen Literacy Teachers' Handbook references this work and provides a useful bridge for teachers new to adult literacy teaching.

Research into [adult literacy teaching methods](#) undertaken by the National Research and Development Centre for Adult Literacy and Numeracy (NRDC) in 2008 found that there had been little previous research into adult literacy teaching methods, citing an:

*“almost complete lack of evidence relating specific teaching strategies to adult literacy learners' progress”*

The research compared different methods and despite a traditional reluctance to use phonics for adults in the UK, it found that phonics methods delivered a number of significant 'very encouraging results':

- *The learners (mainly Entry 1–3) made significant progress in reading comprehension and spelling.*
- *This progress was achieved in a very short time (on average only between five and six sessions were attended between the two assessments of reading and spelling).*
- *The learners' confidence in a range of language and literacy tasks also improved.*
- *Most teachers expressed enthusiasm for phonics, with eight of the nine saying they would definitely continue to use the strategy with their learners.*
- *Phonics was popular with most of the learners.*

The research found that a major challenge for teachers who were keen to adopt a phonics method was the almost complete absence of learning resources using phonics aimed at adults, or training and support materials for teachers to deliver phonics-based literacy. This confirms our own experience and remains an obstacle to future uptake – which is why we have created the Citizen Literacy Programme. The research also concluded that different approaches to teaching reading and writing to adults could and should be applied, with the teacher being able to change and adapt their approaches as needed, rather than slavishly following a pre-set programme. This makes sense to us as well; we see phonics as an important part of an overall strategy and approach that literacy teachers can use. Due to current policy and economics constraints, such phonics literacy teacher skills are not always clearly articulated in current practice, not many teachers are trained in teaching word-level decoding and encoding (reading and spelling) and this is a matter we need to address.

## **Policy, Philosophy & Influences**

The ideas and values underpinning Citizen Literacy are drawn from a number of different sources. The Scottish Government has an [adult literacy strategy](#) which is internationally well known for its aspirational learner-centred, 'social practice' approach, that underpins Community Learning and Development (CLD) activities in Scotland. This emphasises the

importance of a learner-centred approach and developing a personally relevant curriculum. The focus is on how the learner will use the skills, knowledge and understanding of reading and writing in their everyday lives, with their families, at work, gaining qualifications to progress towards a job, or a better job, and in their communities. For those who work in the CLD sector the [CLD Standards Council](#) provides a professional framework of qualifications and registration and contributes to policy discussions in Scotland and the rest of the UK.

The development of the Citizen Literacy Programme has been strongly influenced by the work of the 20<sup>th</sup> century Brazilian educational thinker [Paolo Freire](#) [1] who, along with many other critics of traditional education, rejected the ‘transmission model’ of learning and insisted that learning has to be made relevant to the lives of learners and empower them to develop themselves. It is from this perspective that we have decided to adopt a structured educational design using phonics methods with modern technologies that our learners can relate to. Our aim is to develop the learner’s ability to analyse and understand the structure of their own spoken language and relate it to its textual form. This provides a basis for their continuing educational development. We describe our approach as a [nuts and bolts](#) method to developing literacy abilities – for both learners and their teachers.

Another major influence on our work has been that of the Czech educational thinker [John Comenius](#) [2], who advocated teaching based on gradual development from simple to more comprehensive concepts, lifelong learning with a focus on logical thinking over dull memorization, equal opportunities for children from poor backgrounds, education for women, and universal and practical instruction. He is considered by many to be the founder of modern education and educational technology - having invented the first printed illustrated textbook and pioneered the move away from the use of the elitist Latin to using native languages in educational texts.

In our proposed uses of technology to support adult literacy development we draw on a wide range of influences:

- We have found the work of [Enid Mumford](#) [3] and her colleagues at the Tavistock Institute inspiring on the importance of understanding cultures when introducing technology into any setting, they are credited with coining the term ‘Socio Technical Design’. This is a useful corrective to the technical determinism that permeates much of current discourse in relation to technology in education.
- Diana Laurillard, especially her recent work that proposes seeing “[Teaching as Design Science](#)” [4], in relation to using technology for learning and the importance of learning / instructional design.
- [Étienne Wenger](#) [5] for the importance of the social and apprenticeship models in learning and the use of [boundary objects](#) in collaborations.
- The [Participatory Design](#) [6] movement, this is a further development of the concept of sociotechnical design, seeking to understand the complex interactions between people and technology. Participatory Design is exemplified in the work of [Ezio Manzini](#), [Pelle Ehn](#), and others; the main principle here is that those affected by a design should have a genuine say in shaping it – moving on from not just involving users (as in agile methods) to having users determine what is being designed and why.

- The work of [Norm Friesen](#) [7] is especially relevant, in his historical study of the recurring and persistent modes of media forms and technology to support literacy development over long periods of human history.

## **The Social and Economic Costs of Poor Adult Literacy**

We see literacy as a question of social justice that needs support, not just as an economic issue which has unfortunately shaped much of much of UK education policy in the last 30 years. Viewing skills and education through a purely transactional economic lens, as recent governments have tended to, do misses the big picture and makes understanding the causes of low literacy in the UK more difficult. Our own experience of working in adult literacy provision in the UK is that it is increasingly underfunded and fragmented with little coherent strategy. These problems are confirmed in a recent UK House of Commons [Report on Adult Literacy](#) that concluded:

*The ability to gain literacy and numeracy skills should be considered a fundamental right of all adults. Improved skill levels contribute to the social and economic well-being of individuals and the country as a whole. It is essential that the Government develops clear strategies and guarantees funding for effective initiatives that improve adult literacy and numeracy levels.*

Through our own experience via industry, trade union and community education links, as well as government and academic research, we understand the severe negative effects that poor literacy can have on productivity, individual and inter-generational life chances, self-esteem, personal development, social participation and social cohesion. Given the UK policy focus on economic growth, it is strange contradiction that that funding to develop such basic skills that can enable a modern economy to function and develop is being cut. It is well known that the UK has a productivity problem in international comparisons. The OECD report '[International Survey of Adult Skills](#)' (2013), that compares education and skills in different countries, identifies the link between the UK basic skills deficit and poor economic performance – referring to England and Northern Ireland in particular:

*England is the only country in the developed world where the generation approaching retirement is more literate and numerate than the youngest adults*

*England was ranked 22nd for literacy and 21st for numeracy out of 24 [developed] countries [for 16-25 years old]*

Analysis by the [Financial Times](#) arrives at the same conclusion for the links between skills and poor UK economic performance. It goes on to observe that things have got markedly worse since the economic crisis started in 2008. The policy context in the UK since 2008 has been marked by an acceptance (if not an embrace) of an economy that is defined by low skills, low productivity, growing inequality and in-work poverty. In a [scathing critique](#) of the chaotic policy of FE College reform and privatisation in England and its ideological roots, the

[NCFE](#) educational awarding body warns of the effects on skills and the economy and learners' lives. This context and policy environment do not bode well for those working at improving literacy skills in the UK. This is why we are convinced that to improve matters a collaborative approach is needed, and Citizen Literacy is our contribution to that.

## Technology

We are developing a smartphone App to support learners between their face-to-face classes. Most of our target learners possess a smartphone so this is a realistic option. Although this approach may seem counterintuitive to many educated, literate and digitally active educators, our approach is based on our existing learners' input and feedback, which provides evidence that adults with poor literacy skills already use smartphones and access the digital world in a range of ingenious ways. This digital dimension provides another useful means of enhancing learning opportunities for these adults and opens up many new CPD and teaching opportunities for their teachers as well. We are well aware of the unrealistic commercial hype that surrounds digital technology in education and the many poor and expensive implementations that occur. So, we will be concentrating on the appropriate use of technology – not tech for its own sake.

The Citizen Literacy course design lends itself very well to being supported by a smartphone App that is structured for the learner to gain phonological awareness by listening, reading, writing and speaking, using the App's many useful tools such as voice and handwriting recognition. The need for appropriate digital tools to assist adult learning is growing and adult literacy students and their teachers should have access to those possibilities too.

The same software will be adapted to be able to operate as a normal website to provide an in-class teaching aid to be used by teachers with data projectors and smartboards, etc. In this way, learners will already be familiar with the interface when they use the App version on their smartphones. In parallel, we are planning to use technology to deliver and support teacher training in creative ways.

This innovative way of supporting Adult Literacy is in response to student and teacher need and also to a call to action in 2012 from the EU's 'High-Level Group of Experts on Literacy' when the, then, Commissioner for Education, Culture, Multilingualism, Youth and Sport, Androulla Vassiliou, stated,

*"I asked the group to look at common success factors in literacy programmes and policy initiatives and to take into account the realities that people – young and old – face today and the needs that come with modern technologies"*

More recently at [ELINET's 2018 International Symposium in Germany](#) one of the Keynote speakers, Janet Richardson, focussed on the need to ask new questions about Literacy, Digital Literacy and Citizenship. This has encouraged us to begin to explore the possibilities of using technology in appropriate ways to develop both textual literacy and digital literacy in parallel.

### *Digital Inclusion and Digital Literacy*

The topics of digital inclusion and literacy are rightly hot topics in a rapidly changing technology landscape, as are questions of equity and democratic accountability in relation to the providers of the technology we use. In this connection, **we see improving the textual literacy of learners as the key foundational skill for access to information in a digital world and the basis for inclusion and participation in digital citizenship.**

Most of our learners own and use a smartphone. Yet, we know that the use of smartphones for adult literacy is not exploited at the moment. As part of this process, we need to research and explore how digital tools and infrastructures are currently being used by these users to gain a better understanding of how digital devices (smartphones, etc.) and services are accessed by people with low literacy or special literacy needs and how they might be leveraged to support literacy development.

We also need better evidence about how textual representations of online information and online interactions are taken up by this target group (e.g. sign-up and log-in procedures). How multimedia, voice recognition and haptic approaches to online information perhaps mediates lack of reading and writing competences, and how this differs from access to printed information. With this developing knowledge base, we can explore how technology may be leveraged to support the developmental journey of adults via textual literacy into digital literacy and active digital citizenship.

## Appendix 1 Digital Literacy and Textual Literacy

This section is a work in progress...

How beginner literacy adults interact with the digital world in the UK seems to be a relatively unexplored field. To understand what is going on in this socio-technical space, we think a good approach for us is to situate our work not as a 'pure' academic research topic, but, instead, as an action and applied research exercise in the context of improving both textual and digital literacy at the same time. We are starting to incorporate this approach into the design of the Apps we are building. This also nicely fits the participatory design methods that we are using to develop the Apps.



**Adult Literacy Learners in Class with their Smartphones**

The pictures above show adult literacy learners in class with their smartphones and the images also illustrate the great diversity of the learners. As our society becomes increasingly digital, we need to reconsider our ideas about what constitutes digital literacies and see textual literacy as a foundational skill for developing digital literacies.

**Digital Literacy**



**Textual Literacy**

## *Action Research & Applied Research*

Here are some handy descriptions of these two research methods – they also nicely summarise the working methods of the Citizen Literacy partners.

### *Action Research*

- “There is no single type of action research, but broadly it can be defined as an approach in which the action researcher and members of a social setting collaborate in the diagnosis of a problem and in the development of a solution based on the diagnosis. It can take a variety of forms, from the action researcher being hired by a client to work on the diagnosis to and solution of a problem, to working with a group of individuals who are identified as needing to develop a capacity for independent action.” (Bryman, 2012: 397)
  - In action research a researcher collaborates with people in a social context to systemically gather data on a specific problem and develop a solution based on the data gathered. It could be in a business, educational or other context, seeking to find solutions to an identified problem, or working with individuals who can benefit from new skills and/or capacities (Bryman, 2012: 397).

### *Applied Research*

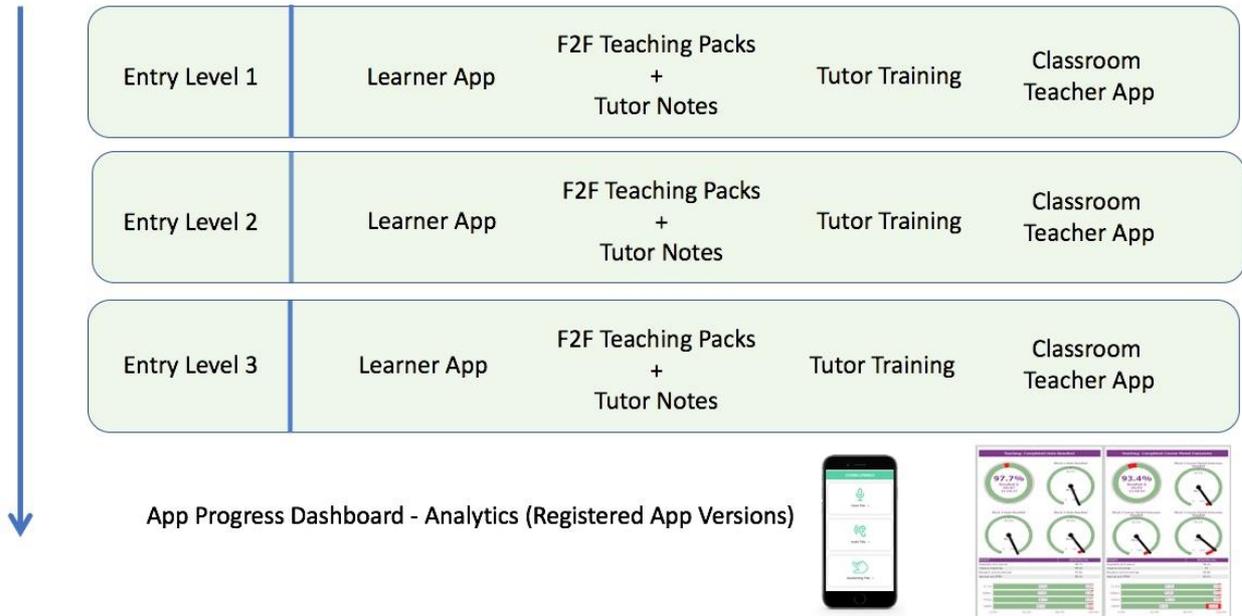
- “Applied research is, by definition, research that is conducted for practical reasons and thus often has an immediate application. The results are usually actionable and recommend changes to increase effectiveness and efficiency in selected areas. Applied research rarely seeks to advance theoretical frameworks. Theory is generally used instrumentally to help identify and define concepts and variables so that researchers can operationalize them for analysis. Applied research is usually used in contrast to basic research (sometimes called pure research) that does not yield immediate application upon completion.” (Phua, 2004: 19–20)
  - ‘Applied’ research contrasts with ‘basic’ research in that the results are intended to immediately be put to use in improving processes or tools. Theory may inform applied research, but it does not seek to advance theoretical frameworks (Phua, 2004: 19–20).

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## Appendix 2 Roadmap

Draft Roadmap for Citizen Literacy programme. Presented at the APT20 EdTech joint conference at UCL, Imperial College, and the LSE

Roadmap: Systematic & Integrated



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