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NALA
National Adult Literacy Agency
Áisíneacht Náisiúnta Litearthachta do Aosaigh

Integrating digital into adult literacy practice

Guiding Principles for developing a
Train the Trainer programme

About this report

This report is part of the Erasmus + ABEDiLi - Adult Basic Education Digital Literacy project. The goal of the ABEDiLi project was to empower adult literacy educators to identify useful digital options and concepts and to incorporate them into their teaching strategies. The aim of the project was to enhance the digital skills of literacy educators, giving them the tools to transfer digital skills and confident to their learners.

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Background

Between 2020 and 2022, the National Adult Literacy Agency engaged with partners across the European Union on the innovative Erasmus + ABEDiLi – **A**dult **B**asic **E**ducation **Di**gital **Li**teracy project[1].

The goal of the ABEDiLi project was to empower adult literacy educators to identify useful digital options and concepts and to incorporate them into their teaching strategies. The aim of the project was to enhance the digital skills of literacy educators, giving them the tools to transfer digital skills and confident to their learners.

There were seven partners across seven countries involved in this project:

1) Germany: Niedersächischer Bund für freie Erwachsenenbildung e.V
2) Ireland: National Adult Literacy Agency, NALA.
3) Sweden: ABF Göteborg Vuxenutbildning AB
4) Finland: Valo-valmennusyhdistys ry
5) Slovenia: LJUDSKA UNIVERZA ORMOZ
6) Croatia: Public open university Andragog
7) Serbia: Skola za osnovno obrazovanje odraslih

Four intellectual outputs (IOs) were delivered as part of this project:

1) <u>IO1 e-Pool Open Education Resource</u>[2] (OER): The e-Pool collected, categorised and analysed digital tools and materials which are of use to adult education practitioners. These were published in Google Education Apps and localised with appropriate tools and language for each partner country. IO1 was led by the Swedish partner, ABF Göteborg Vuxenutbildning AB.

2) IO2 Digital Education Escape Room (DEER): The DEER was a virtual reality escape room demonstrating how educators could use virtual reality in basic skills programmes. IO2 was led by the German partner, Niedersächischer Bund für freie Erwachsenenbildung e.V.

3) IO3 Train the Trainer: The Train the Trainer programme was designed for basic skills educators across the seven countries to assist them to integrate digital into their teaching practice. IO3 was led by Irish partner, the National Adult Literacy Agency, NALA.

4) IO4 Handbook: The handbook described the e-Pool, DEER and Train the Trainer programme and was designed to support sustainability of the project. IO4 was led by the Finnish partner, Valo-valmennusyhdistys ry.

For more on the project, go to https://abedili.org/

IO2 Train the Trainer

As per the project application, Train the Trainer is the modular training concept in the form of blended learning where the adult basic trainers are be introduced into the notions and definitions of digital world, experience the digital tools themselves, work together on site and online in order to become successful multipliers.

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[2] Available online: https://sites.google.com/view/e-pool/home?authuser=0

The course was aimed at facilitating the educator of the future with flexibility and methods knowledge while using digital tools in a rapidly changing and demanding world.

NALA, as the lead partner in IO2, Train the Trainer, engaged in a five-stage process in the development of the programme:

1) Secondary research
2) Analysis of IO1
3) Primary Research
4) Development
5) Pilot and test

This document sets out the findings of stage 1, secondary research.

Introduction

Digital technologies and media now underpin effective participation across many aspects of everyday life and work. An individual's ability to make use of digital technology — and therefore benefit from this use — depends upon the possession of a range of skills and competencies, as well as the confidence to make the most of the ever-evolving digital landscape.

Educators need to be equipped with these digital skills and competences to participate in society, both personally and professionally. They also need to be able to clearly demonstrate their digital competence to learners and to pass on their creative and critical use of digital technologies. Additionally, educators need to develop educator-specific digital competences to be able to effectively utilise digital technologies in a critical, collaborative, and creative way for teaching.

The ABEDiLi project aims to enable educators who teach basic skills in adult education to successfully integrate digital media into their teaching practice, by assisting them to:

- identify useful digital tools (IO1- e-Pool);
- use innovative tools such as escape rooms (IO2-DEER); and
- integrate technology into their teaching curriculum (IO3-Train the Trainer).

At present, no specific train the trainer professional development programme exists for basic skills educators on integrating digital media into their teaching. The ABEDiLi project will develop a train the trainer professional development programme on integrating digital media into teaching practice, as well as providing training on how to use and access the e-Pool website, and a workshop on the DEER escape room.

Initial research has been undertaken to develop a coherent framework and set of guiding principles that will underpin the development of a train the trainer professional development programme. The resulting framework will empower basic skills educators to bring technology to life in their teaching. It will enable them to successfully integrate digital media into their teaching, thus allowing them to bring technology into all subject areas and progress their own digital skills, as well as that of their learners.

This research has drawn on an analysis of current digital competencies frameworks, digital teaching professional frameworks and digital teaching models. Research and reports from each partner country have been reviewed along with other related projects. Furthermore, as this programme is specifically for basic skills educators, relevant research publications for adult literacy education have been drawn on and integrated into this framework and guiding principles.

Digital skills and digital competencies: An overview

21st century skills

Definitions of twenty-first century skills tend to vary, however the term originated from The Framework for 21st Century Learning, which was designed by educators and industry leadersfor schools in the USA (Figure 1). This framework was designed to help educators integrate skills into the teaching of core academic subjects, and develop a unified, collective vision for learning. Within this framework, four key learning and innovation skills were identified for 21st Century Learning, which are known as the 4Cs: critical thinking, communication, collaboration, and creativity. These learning and innovation skills are seen as essential to preparing students for the future.

Figure 1: P21 Framework (Battelle for Kids , n.d.)

Although there is a lack of supporting research evidence for these 21st century skills, they have underpinned educational provision and learning outcomes for several years prior to theadvent of computers and technological advancement. For example, The National Education Association, have taken the key areas of the framework and have shown educators ways to integrate each one into the curriculum (National Education Association , n.d.).

Furthermore, these skills have since been identified as 'ICT complementary skills', essentiallyskills that allow people to 'process complex information, communicate with co-workers and clients, solve problems, plan in advance and adjust quickly' (OECD, 2016). The 4Cs therefore feature heavily and form the foundational basis of a number of digital competencies and teaching professional frameworks, and are seen as integral to the development of digital skillsand competencies of both educators, and learners.

The 4Cs provide a guide for educators when they are designing and developing their teachingand learning strategies. It provides a foundational base when considering the digital context and digital skills and competencies that are required for 21st century educators. Consequently,the design and development of the train the trainer programme will need to draw on the ideas and guidance within this framework and adapt it to the integration of digital media within basic skills teaching practice.

Digital competencies

Current definitions of digital skills and competencies are related closely to ongoing trends in technological advancements and developments. There is not one set of agreed competencies,which reflects the fact that digital skills and competencies are not static and they change rapidly. New devices or applications will often involve additional skills, abilities, or altered competencies.

However, within this ever-evolving digital landscape, there are three broad areas that can be used to describe the skills and competencies that are required (Broadband Commission, 2017):

- Basic digital skills: accessing and engaging with digital technologies
- Generic digital skills: using digital technologies in meaningful and beneficial ways
- 'Higher level' skills: using technology in empowering and transformative ways

In an educational context, a competency model is a framework for describing the skills and knowledge needs of educators. It is a set of competencies that together define successful performance as an educator (Redecker, 2017). Educator-specific digital competences are required so that educators can effectively utilise digital technologies in a critical, collaborative, and creative way for teaching. Here we will review various EU and international digital competencies frameworks that are widely used in an educational context, how they draw on these broad areas and how this may inform the design and development of a train the trainer professional development programme.

The European Framework for the Digital Competence of Educators

The European Framework for the Digital Competence of Educators (DigCompEdu) aims to guide policy and provide a template that will allow local stakeholders to implement regional and national tools and training programmes, without having to develop a conceptual basis for this work. Additionally, 'it provides a common language and approach that will help the dialogue and exchange of best practices across borders' (Redecker, 2017).

The model divides digital competencies into three areas: educators' professional engagement, educators' pedagogic competencies and learner competencies. This is further segmented into 6 steps as shown in Figure 2.
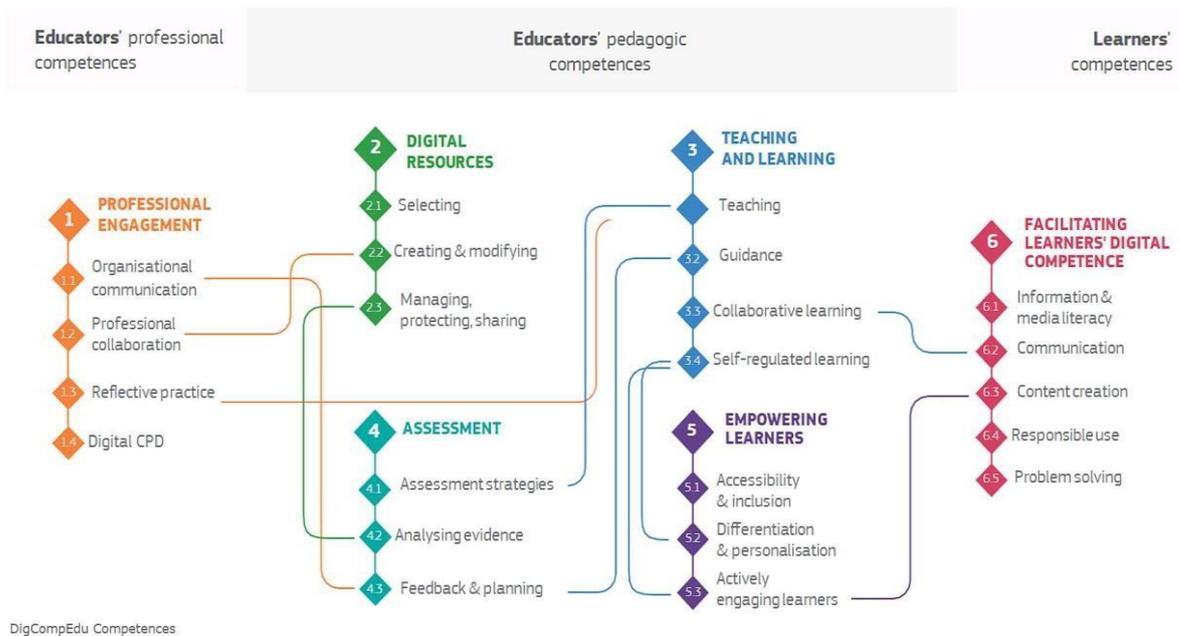
Figure 2: The DigCompEdu Framework (Redecker, 2017).

The six DigCompEdu areas focus on different aspects of educators' professional activities:

1. Using digital technologies for communication, collaboration, and professional development.

2. Sourcing, creating, and sharing digital resources.

3. Managing and orchestrating the use of digital technologies in teaching and learning.

4. Using digital technologies and strategies to enhance assessment.

5. Using digital technologies to enhance inclusion, personalisation, and learners' active engagement.

6. Enabling learners to use digital technologies creatively and safely for

information, communication and collaboration, digital content creation, well-being and problemsolving.[1]

The core of the DigCompEdu framework is defined by Areas 2-5, detailing what digital pedagogic competencies are required by educators to foster efficient, inclusive, and innovative teaching and learning strategies. This is complemented by Areas 1 and 6, which look to the broader educational context to include the professional environment and acknowledges that educators' digital competence goes beyond just the concrete use of digitaltechnologies within teaching and learning.

These six competence stages are linked to the six proficiency levels used by the Common European Framework of Reference for Languages (CEFR), ranging from A1 to C2. Shown herein Figure 3.
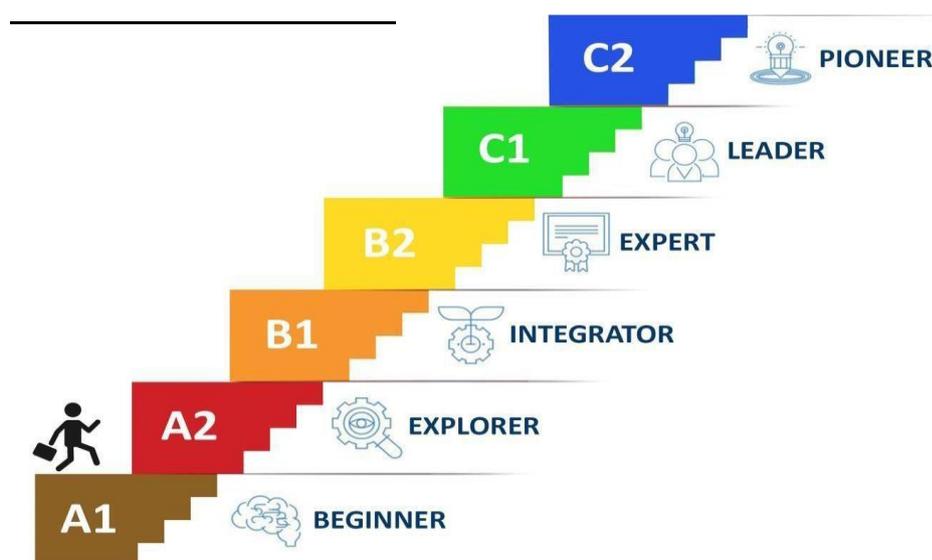
Figure 3: The Common European Framework of Reference for Languages (CEFR), (Redecker, 2017).

[1] The framework was updated in DigComp 2.0. and changes were made to area 6. 'Information and media literacy' was changed to 'Information and data literacy'. 'Communication' was changed to 'Communication andcollaboration'. 'Content creation' was changed to 'Digital content creation'. While 'Responsible use' was changed to 'Safety', (Carretero, Vuorikari, and Punie 2017).

The DigCompEdu framework and the six proficiency levels A1-C2, provide an excellent and extensive competency and progression model. It provides a sound theoretical framework for educators' pedagogic competencies, setting out a template from which training programmes can be developed. It also allows educators to understand and self-assess their individual strengths and weaknesses, by describing various stages and levels of digital competence development.

However, DigCompEdu does not provide a practical framework or practical supports for developing professional practice. It does not show how the framework can be used by educators and applied to their practice with ease. For example, it does not provide a list of activities, supports, analysis tools or training modules to assist educators and their practice. Equally, it does not demonstrate how effective use of digital technology can enhance or transform the learning process or how this can vary depending on the educational context, with no specific consideration for basic skills educators.

Joint Information Systems Committee Digital Capabilities Framework

The Joint Information Systems Committee Digital Capabilities framework (JISC) was developed for use by digital leaders, staff responsible for the development of digital skills in their organisation, as well as educators and students. Digital capability is a term they use to describe the skills and attitudes that individuals need if they are to live, learn and work in a digital society.

It defines six elements in building digital capabilities (JISC, 2018):

- ICT Proficiency (functional skills)
- Information, data and media literacies (critical use)
- Digital creation, problem solving and innovation (creative production)
- Digital communication, collaboration and partnership (participation)

- Digital learning and development (development)
- Digital identity and wellbeing (self-actualising)

JISC depicts these elements as interlinked and connected to one another, as demonstrated in Figure 4. This framework has a number of similarities with the DigCompEdu and offers a template and model for educators to create their own programme or curriculum. It helps define what digital capabilities are required for educators, echoing a number of themes discussed previously and explicitly demonstrates how the 4Cs are interwoven within these capabilities, forming a foundational core of what skills educators are required to have.

However, the framework offers a guide rather than a prescriptive plan for educators in their practice. This is beneficial at a high-level and could assist both educators creating curriculum and engaging in professional development. However, It would be far more useful if it was accompanied by a practical framework with a set of activities for educators to use in their own professional development, assess their own competencies, and demonstrate how to integrate technology into their teaching and learning practice.
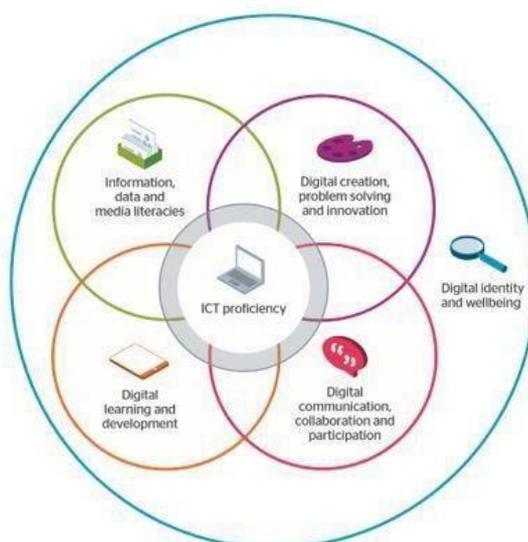
Figure 4: JISC Digital Capabilities Framework (JISC , 2018)

The Digital Teaching Professional Framework

The Digital Teaching Professional Framework (DTPF) is designed as a competency framework for teaching and training educators in the FET sector in the UK. It provides 'a set of professional standards for technology -enhanced learning and aims to establish a common understanding of digital skills development'(Education and Training Foundation,2019). There are seven elements in the framework, A to G, with progression mapped over three levels (Figure 5).
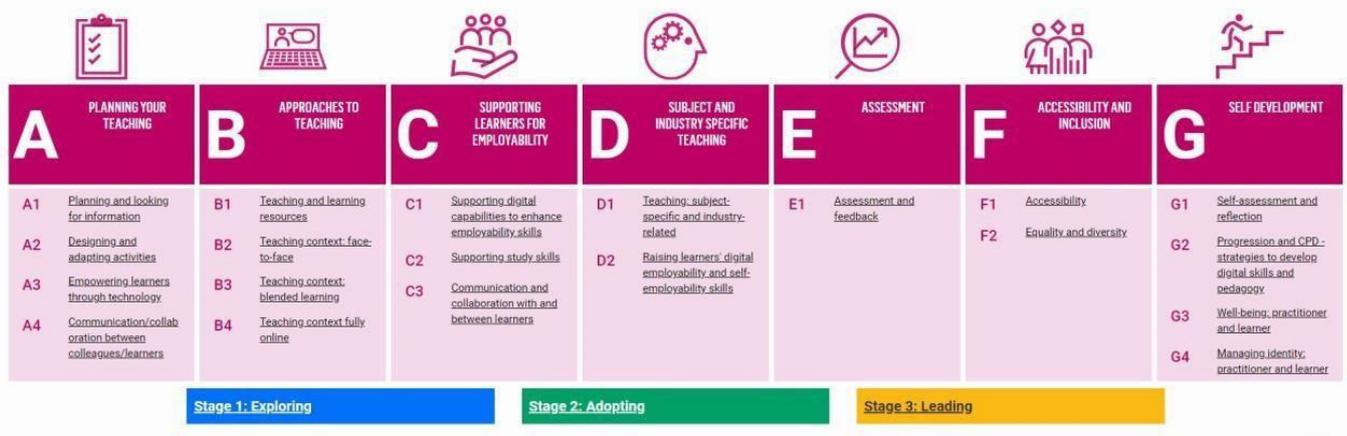
Figure 5: The Digital Teaching Professional Framework (Education and Training Foundation , 2019.).

DTPF is accompanied by free, online, bite-size training modules with certification. These modules are recommended for use alongside a digital competencies self-assessment tool, which enables educators to identify their training needs to assist them in developing their teaching and training practice. The framework sets out different teaching contexts and activities called elements (Figure 6). These elements and associated competency statements are mapped to DigCompEdu, JISC and the Education and Training Foundation Professional Standards.

The competency statements are mapped across three levels, with each of the seven elements within the framework, as shown in figure 6, mapped to progression through each of these levels:

- Stage 1: Exploring – practitioners assimilate new information and develop basic skills practice
- Stage 2: Adapting – practitioners apply their digital practices and expand them further
- Stage 3: Leading – practitioners pass on their knowledge, critique existing practice and develop new practices.
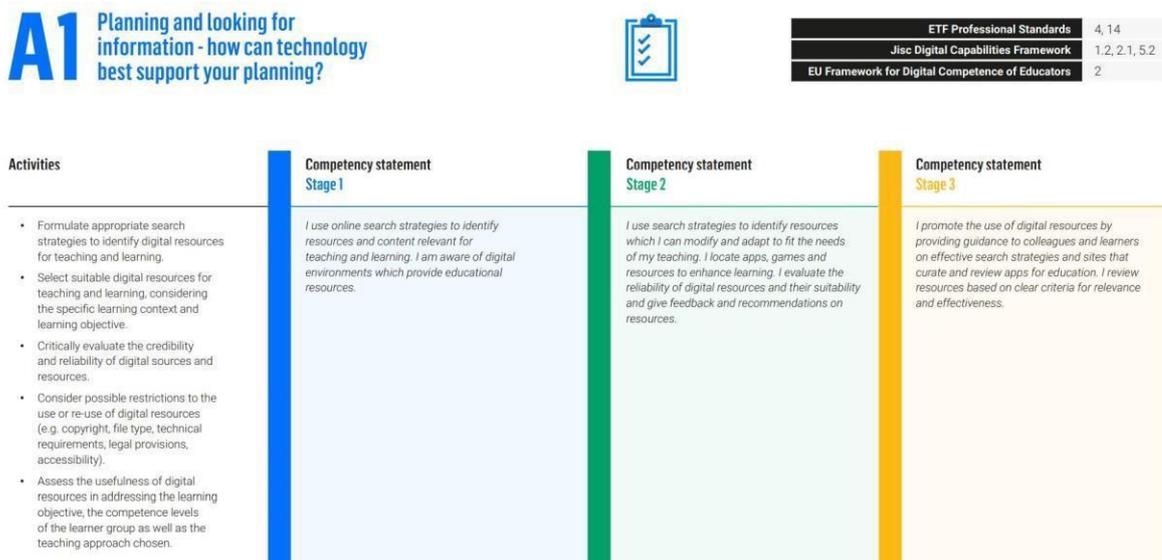
Figure 6: Example of Competency level statements in the Digital Teaching Professional Framework (Education and Training Foundation , n.d.).

DTPF illustrates what good teaching and learning with technology looks like and provides support for developing professional practice, accompanied by training, a needs analysis tool, bite-size training modules and certification. It is here that the DTPF represents a marked departure from the theoretical frameworks discussed previously, as it offers a practical application of these theoretical concepts by utilising the SAMR model to illustrate how educators can practically integrate technology into their teaching and learning practice (Figure 7).

Figure 7: How educators can use the SAMR model to design programmes using technology, (Education and Training Foundation , n.d.)

Therefore, the first part of this framework, provides a practical means for educators to understand what digital competencies are required, to assess their level of competency, and discover where they need to upskill in the use of digital technology in their teaching. While the second part of the framework is a means of showing educators how they can use digitaltechnology in their teaching for more effective learning outcomes. It is an example of how the theoretical frameworks of DigCompEdu and JISC can be transformed and applied practically in an educational setting.

Digital competencies for basic skills educators

There are several common themes within each of the different frameworks and they each focus on key aspects of an educator's professional activity. These common themes are relevant to the development of a train the trainer programme for basic skills educators as they pinpoint what general digital competencies and skills are required for educators and provide a practical base, which can be adapted for the basic skills context. The common themes can be used to develop an educator's competency in accessing and engaging with digital technologies, using digital technologies in meaningful and

beneficial ways, and then applying this for empowering and transformative learning outcomes.

These key common and relevant themes are as follows:

- **Planning:** Accessing and sourcing, critically evaluating and selecting suitable digital resources.
- **Creative digital production:** Creating, modifying, managing and sharing digital resources to engage learners in different learning contexts from face-to-face to fully online.
- **Teaching and learning strategies:** Managing and orchestrating the use of digital technologies in teaching and learning.
- **Accessibility and inclusion:** Using digital technologies to enhance inclusion, accessibility, personalisation and learners' active engagement. Ensuring that all learners can make full use of digital technology.
- **Self-development:** Using digital technologies for communication, collaboration, reflective practice, and professional development. Developing information, data and media literacies to enable learners to use digital technologies safely and responsibly.

The above themes section the digital competencies into understandable and concise categories that can not only inform the design and development of a train the trainer programme but can help educators to plan and structure their practice and continue their ongoing development. It also highlights the importance to recognise and develop digital competencies that go beyond just the use of digital technologies and the development of proficient technical skills.

The DTPF also includes a focus on learners' employability skills with specific activities and competencies tailored to meet this objective. This is a neat way to tailor the theoretical concepts of DigCompEdu and JISC to meet a specific training need. While

this module is not relevant for the purposes of this train the trainer programme, it could help guide thedevelopment of a module that supports teaching and learning strategies for basic skills educators.

With this in mind, and drawing on the three frameworks and the common themes that have been discussed above, the following areas would be relevant and should form the digital competency training modules for the train the trainer programme:

1. Planning your teaching
2. Teaching and learning digital resources
3. Supporting basic skills through technology (teaching and learning strategies)
4. Assessment and feedback
5. Accessibility and inclusion
6. Self-development

Technology and teaching practice

The DTPF illustrates how theoretical frameworks of DigCompEdu and JISC can be transformed and applied practically in an educational setting. The integration of the SAMR model in the DTPF provides a practical model for educators to implement these concepts and competencies into their day-to-day teaching practice. In the following section we will look at the SAMR model and some alternatives to see which model will best suit the basic skills context and the development of the train the trainer programme.

SAMR

The SAMR model was developed by Ruben Puentedura, which categorises four different degrees of classroom technology integration. It is a framework that shows how the use of digital technology can transform classroom-based teaching and learning. The SAMR Model is a powerful tool for educators to utilise when they are considering how they can use digital technology in their teaching practice (Jisc, 2020). The acronym stands for "Substitution, Augmentation, Modification, Redefinition" and the four different categories are shown below in Figure 8.
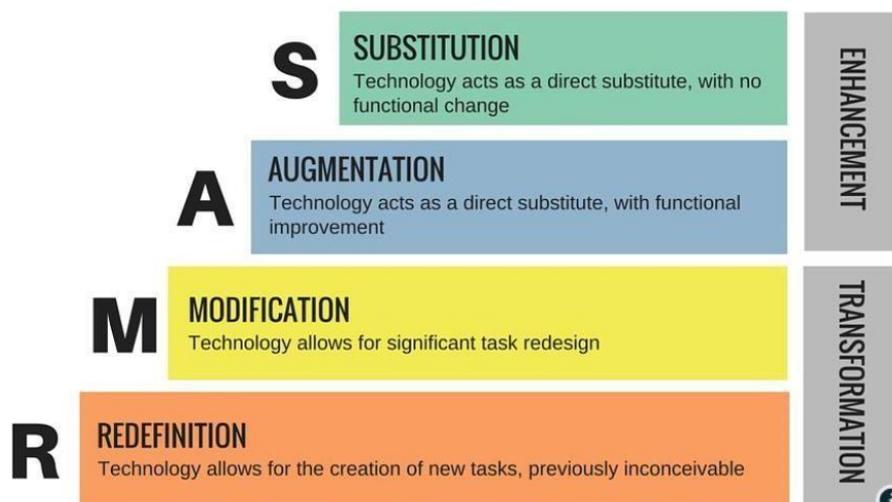
Figure 8: The SAMR Model (Jisc, 2020)

The first two categories, substitution and augmentation, is where technology is directly substituted for a more traditional teaching tool or method, but does not have a dramatic impact on learning. For example, the use of an interactive white board instead of an overheadprojector. The technology is more advanced but the lesson design and learning outcome is mostly the same. When digital use matches the substitution or augmentation, technology is seen as enhancing current teaching practice (Jisc, 2020).

The next two stages, modification and redefinition, illustrate how digital use leads to a '*significant change* in the way teaching and learning is planned and delivered. If the introduction of technology has created a brand-new practice, then redefinition has taken place' (Jisc, 2020). In this sense, these two stages are more inclined to create digital transformation and an actual change to the lesson's design and its learning outcome.

The model has been critiqued by some for its depiction of a line dividing educational enhancement from educational transformation, creating a hierarchical progression through the four stages, where redefinition is the ultimate goal. The SAMR model is often visualised as a ladder or staircase and this can be misleading. Depending on the context, substitution (the bottom rung or step) is sometimes the best choice for a particular lesson. This is why it isbetter to consider the SAMR model more as a spectrum. On one end, technology is used as aone-to-one replacement for traditional tools, and on the other end, technology enables experiences that were previously impossible without it.

Stevens (2020) also makes this observation and suggests the message given to educators is that they must teach above the line with a focus on modification and redefinition. She suggests erasing this line and uses the metaphor of a swimming pool to demonstrate how educators should 'swim laps' across the pool rather than 'treading water' in the deep end (thetransformation stage). The SAMR model should be flexible and educators should work acrossthe four different categories to support student-centred learning and to adapt their teachingpractice appropriately given the context and desired

learning outcome.

The model, viewed on a spectrum rather than as a hierarchical ladder, is useful for educatorsto assess how the use of technology can shape their teaching and learning practices. When educators understand how technology could complement their practice, it can be used to inform innovation in their training plans. Although the model does not measure an educator'sown digital competencies or provide an understanding of what digital competencies are required, it enables educators to apply their digital skills and capabilities to their own teachingand learning practice, and specific teaching context.

Subsequently, it is understandable that the DTPF integrated the SAMR model into their framework, as it gives educators a practical tool to apply the theoretical concepts and learnings as they develop their digital competencies.

Bloom's Digital Taxonomy

Educational psychologist Benjamin Bloom developed a taxonomy of learning objectives in 1956, as a structure to understand the learning process. The learning process was divided intothree psychological domains – cognitive (processing information), affective (attitudes and feelings) and psychomotor (physical skills). Bloom's taxonomy progressed from Lower Order Thinking Skills (LOTS) to Higher Order Thinking Skills (HOTS), and the framework consisted ofsix major categories: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation.

In 2001, a group of cognitive psychologists, curriculum theorists, instructional researchers, and testing and assessment specialists joined forces to revisit Bloom's Taxonomy, publishinga revised version, which reordered the sequence of categories and used verbs rather than nouns to describe each category. In this revised Bloom's Taxonomy, knowledge is the basis of the six cognitive processes: remember, understand, apply, analyse, evaluate, and create (Figure 9).
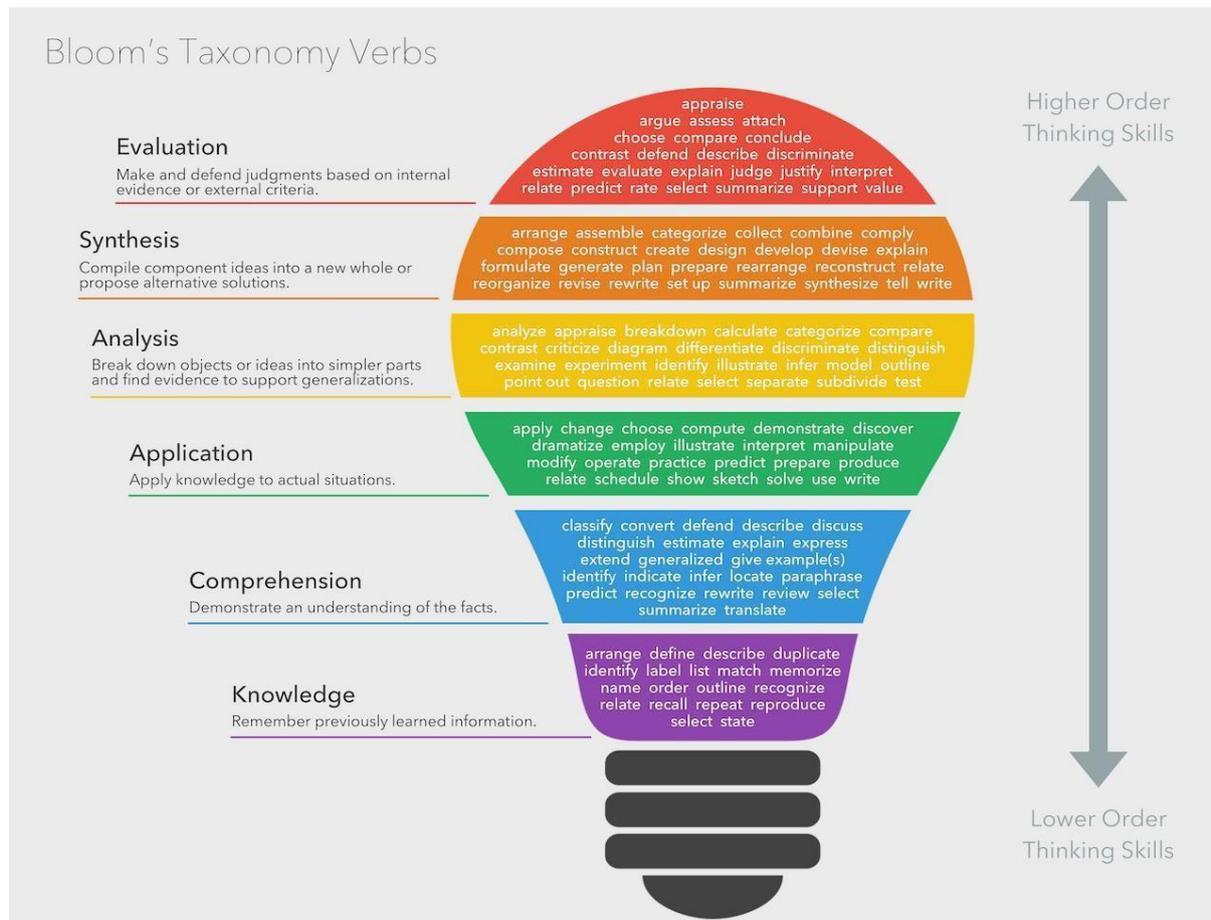
Figure 9: Bloom's Revised Taxonomy (Source: Fractus Learning)

It is this revised version that Andrew Churches (2008) used to develop his Bloom's digital taxonomy, keeping the categories of remembering, understanding, applying, analysing, evaluating and creating, and extending this into the digital environment. It constitutes an evolution of Bloom's, where the activities and outcomes associated with the six cognitive levels now move off paper and chalkboard to take on a digital form. The verbs associated with each level also now reflect actions taking place in the digital environment. It helps instructors to see how to use technology and digital tools to facilitate student learning experiences and outcomes. The power verbs are useful for lesson planning, assessment design, and the general planning of learning experiences that are based on thinking and complexity.

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BLOOM'S DIGITAL TAXONOMY VERBS

Bloom's Digital Taxonomy is about using technology and digital tools to facilitate learning. This kind of student engagement is defined with power verbs that can be used for everything from lesson planning and rubric making, to doing curriculum mapping and more.

You can use these verbs which cover the span of the taxonomy from LOTS (lower-order thinking skills) to HOTS (higher-order thinking skills). It begins with *Remembering* and ends with *Creating*. Listed beneath are the power verbs that apply to each stage.

← LOTS　　　　　　　　　　　　　　　　　**HOTS →**

| REMEMBERING	UNDERSTANDING	APPLYING	ANALYZING	EVALUATING	CREATING
Remembering is when memory is used to produce definitions, facts, or lists or to retrieve information.	Understanding is all about constructing meaning from many different types of functions, be they written or graphic.	Applying refers to situations where the learned material is used in products such as diagrams, models, interviews, simulations, and presentations.	Analyzing is about breaking materials into parts, and then determining how the parts interrelate to each other or to an overall structure or purpose.	Evaluating is about making judgements based on criteria and standards through checking and critiquing.	Creating is about combining elements to form a whole, and also reorganizing elements into new structures or patterns by planning and producing.
Bookmarking	Advanced search	Acting out	Advertising	Arguing	Adapting
Bullet pointing	Annotating	Administering	Appraising	Assessing	Animating
Copying	Associating	Applying	Attributing	Checking	Blogging
Defining	Boolean search	Articulating	Breaking down	Criticizing	Building
Describing	Categorizing	Calculating	Calculating	Commenting	Collaborating
Duplicating	Classifying	Carrying out	Categorizing	Concluding	Composing
Favouring	Commenting	Changing	Classifying	Considering	Constructing
Finding	Comparing	Charting	Comparing	Convincing	Designing
Googling	Contrasting	Choosing	Concluding	Critiquing	Developing
Highlighting	Converting	Collecting	Contrasting	Debating	Devising
Identifying	Demonstrating	Completing	Correlating	Defending	Directing
Labelling	Describing	Computing	Deconstructing	Detecting	Facilitating
Liking	Differentiating	Constructing	Deducing	Editorializing	Filming
Listening	Discussing	Demonstrating	Differentiating	Experimenting	Formulating
Listing	Discovering	Determining	Discriminating	Grading	Integrating
Locating	Distinguishing	Displaying	Dividing	Hypothesizing	Inventing
Matching	Estimating	Examining	Distinguishing	Judging	Leading
Memorizing	Exemplifying	Executing	Estimating	Justifying	Making
Naming	Explaining	Explaining	Explaining	Measuring	Managing
Networking	Expressing	Implementing	Illustrating	Moderating	Mixing/remixing
Numbering	Extending	Interviewing	Inferring	Monitoring	Modifying
Quoting	Gathering	Judging	Integrating	Networking	Negotiating
Recalling	Generalizing	Editing	Linking	Persuading	Originating
Reading	Grouping	Experimenting	Mashing	Posting	Orating
Reciting	Identifying	Hacking	Mind mapping	Predicting	Planning
Recognizing	Indicating	Loading	Ordering	Rating	Podcasting
Recording	Inferring	Operating	Organizing	Recommending	Producing
Retelling	Interpreting	Painting	Outlining	Reflecting	Programming
Repeating	Journalling	Playing	Planning	Reframing	Publishing
Retrieving	Paraphrasing	Preparing	Pointing out	Reviewing	Roleplaying
Searching	Predicting	Presenting	Prioritizing	Revising	Simulating
Selecting	Relating	Running	Questioning	Scoring	Solving
Tabulating	Subscribing	Sharing	Separating	Supporting	Structuring
Telling	Summarizing	Sketching	Structuring	Testing	Video blogging
Visualizing	Tagging	Uploading	Surveying	Validating	Wiki building
	Tweeting	Using			Writing

WABISABI *W* LEARNING

Figure 10: Bloom's Digital Taxonomy (Wabisabi Learning, 2020)

SAMR and Bloom's Taxonomy

Educators design their teaching practice to target specific cognitive skills, as well as to design tasks that have a significant impact on learner outcomes. The SAMR model helps educators reimagine how they might design, develop, and infuse technology into learning experiences. However, by linking Bloom's Digital Taxonomy to the SAMR model educators are able to create tasks with specific objectives linked to curricula that deeply embed technology and are enhanced by its use rather than using technology for the sake of it. Figure 11 illustrates how this integration can be depicted using a simple structure for educators to follow and apply to their own practice.

Redefinition
Tech allows for the creation of new tasks, previously inconceivable

Modification
Tech allows for significant task redesign

Augmentation
Tech acts as a direct tool substitute, with functional improvement

Substitution
Tech acts as a direct tool substitute, with no functional change

Create

Evaluate

Analyze

Apply

Understand

Remember
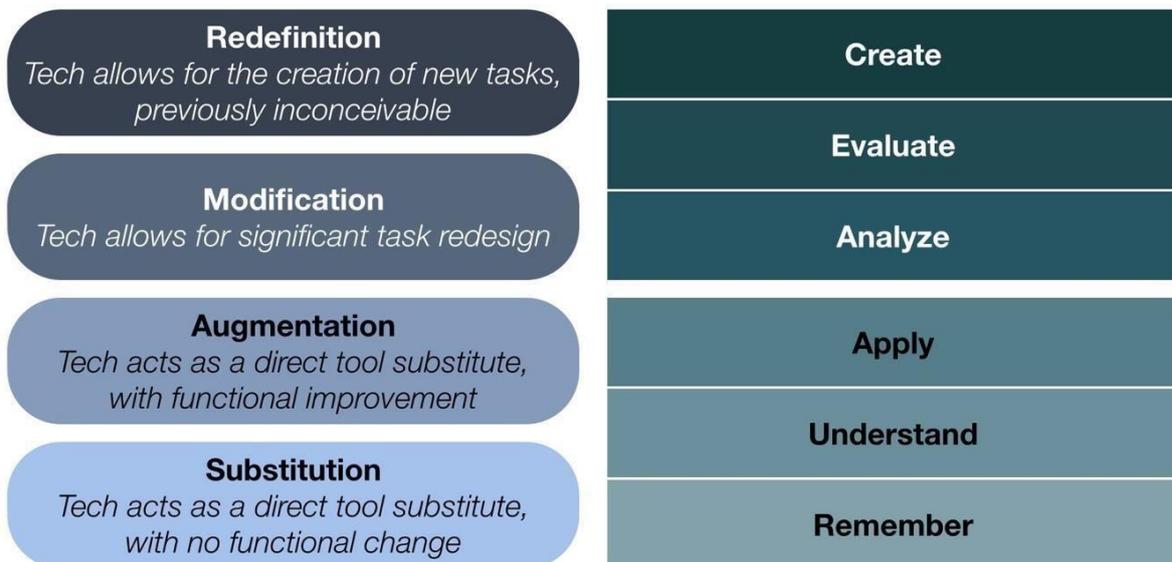
Figure 11: SAMR and Bloom's Integration (Puentedura, 2014)

As discussed earlier, it is important to highlight that this should not be viewed as a hierarchical relationship. It is possible to use extremely powerful redefinition-level approaches to make certain types of memorization tasks possible; conversely, it is also possible to undertake novel create-type tasks that only make basic substitution/augmentation use of the technology.

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The Padagogy Wheel

The integration of Bloom's digital taxonomy and SAMR can be seen in action through the Padagogy Wheel. This was designed to help educators think 'systematically, coherently, and with a view to long term, big-picture outcomes – about how they use mobile apps in their teaching' (Teachthought , 2016). The underlying principle of the Wheel is that pedagogy should determine the educational use of apps. It is recommended for use in curriculum planning and development, writing learning objectives and designing learner-centred activities.

Educators are encouraged to respond to the challenges that the Wheel (Figure 12) presents for teaching and learning practices, and to question themselves on choices and methods used. 'It situates mobile apps within this integrated framework, associating them with the educational purpose they are most likely to serve. It then enables teachers to identify the pedagogical place and purpose of their various app-based learning and teaching activities in the context of their overall objectives for the course' (Teachthought , 2016).
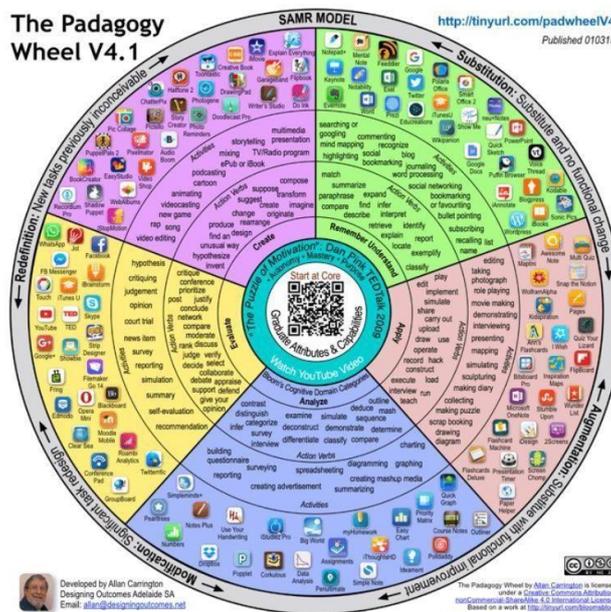

Figure 12: The Padgogy Wheel V4.1

There are five grids in the model.Graduate Attributes are at the centre of the learning design. They involve 'thinking about the type of people that emerge from our educational programs – their ethics, responsibility, and citizenship, for example – and their employability in our current and future society' (teachthought , 2016). It says educators should ask themselves how does everything they do support these attributes?

1. Motivation- which is seen as a key to achieving learner outcomes.
2. Bloom's Taxonomy Wheel which shows the cognitive domain categories which are; remember, understand, apply, analyse, evaluate and create. It is suggested there should be at least one learning outcome from each domain. Only after an educator has developed and decided the learning outcomes for a session or task are they thenready to consider technological enhancement.
3. Technology Enhancement- the model suggests apps that can support the learning objectives and activities currently depicted. The Wheel is frequently updating with apps as they are released and educators are prompted to ask if there a better app or tool for the job of enhancing their pedagogy.
4. The SAMR model- as described earlier, "Substitution, Augmentation, Modification, Redefinition". The framework that assists educators to assess the degree to which digitally-empowered learning and teaching can transform their practice.

The model presents a comprehensive and practical tool for educators that maps technologiesto learning outcomes and transformational teaching and learning through technology. It usestheoretically sound models to build a framework for educators to integrate technology apps into their practice. The model is an excellent resource for curriculum planning and development, designing learning objectives and integrating learner-centred activities. However, the Wheel is specific to these applications and does not inform the educators owndigital capabilities or provide support for developing digital resources in their practice.

In isolation these practical models do not help develop educators' digital competencies or

highlight what skills and capabilities are required. However, they provide the means for an educator to apply their newly developed skills and understanding of technology, which will continue to grow and change over time. Therefore, it is vital, as implemented by the DTPF, that a practical model such as this is provided alongside an educator's digital competency development and should form an integral part of the design and development of a train the trainer programme. Furthermore, it would be beneficial to integrate both the SAMR and the Bloom's digital taxonomy to create a well-rounded approach to integrating digital media intoteaching practice, by recognising the need to consider learning outcomes before applying technological enhancement to teaching practice.

Guidelines for Basic Skills

Educators

This programme aims to support basic skills educators in integrating technology into their practice. Therefore, good adult literacy frameworks and principles would be of benefit to support this objective. The National Adult Literacy Agency (NALA) has specialised in tackling unmet literacy needs experienced by adults in Ireland for over 40 years. NALA's literacy publications and research offer professional guidelines and curriculum development models that could assist the design and development of a professional development programme for integrating digital media into teaching practice.

NALA Guidelines for Good Adult Literacy Work

The NALA Guidelines for Good Adult Literacy Work (2012) provide a clear expression of what adult literacy work is about and where it came from. NALA'S visions statement says that strategy 'should have a clear vision that everyone in Ireland has the right to develop their literacy, numeracy and digital literacy skills to reach their full potential and that these skills should be valued and supported throughout society' (NALA, 2020).

The NALA Guidelines aim to establish the right to develop literacy skills as a fundamental human right for adults who wish to improve their literacy and numeracy. It was developed for those working in the adult literacy field and it aims to be used as a reference for teaching and learning. Since publication, these guidelines have been used by basic skills and literacy educators in many contexts and settings.

The guidelines set out five principles (Figure 13) that emphasise a learner-centred approach to adult literacy work, encouraging collaboration, and a developmental, participative approach to curriculum. Learners' knowledge, skills and context are considered as vital components for the effective organisation of adult literacy, and this is underpinned by a set of values that promote inclusivity, trust, and confidentiality.

Figure 13: NALA- Principles for Good Adult literacy work (NALA, 2012).

This set of guidelines can be utilised to support basic skills educators in integrating technology into their practice. They provide a foundational set of principles from which basic skills educators can implement their digital teaching and learning strategies. It

allows educators tomove beyond just developing their technical proficiency and encourages them to adopt a learner centred approach to their curriculum development, whilst considering the wider context for their learners, taking into consideration their learning context and motivation forlearning.

Curriculum Development: an evolving model for adult literacy and numeracy education

The NALA Guidelines for Good Adult Literacy Work underpin several publications that could also help inform the design and development of a train the trainer programme for integratingdigital media into teaching practice. An evolving model for adult literacy and numeracy education describes a process for curriculum development (Figure 14). It identifies how the principles, philosophy, values and practice described in NALA's publication Guidelines for Good Adult Literacy Work apply to curriculum development in adult literacy work.It holds the view that designing curricm is a participative process, carried out by learning partners such as educators, learners, managers and education centres.

The framework does not prescribe the curriculum and views that it should be created by the educator, to suit the learners. There is an emphasis on how learning partners can work together to decide 'how and when to learn' (NALA, 2009). The model is a learner centred approach to curriculum development, which it states is the foundation of good adult literacy and numeracy work. These are sound principles that should run through the development of a train the trainer programme and help inform how educators integrate digital media into their practice.
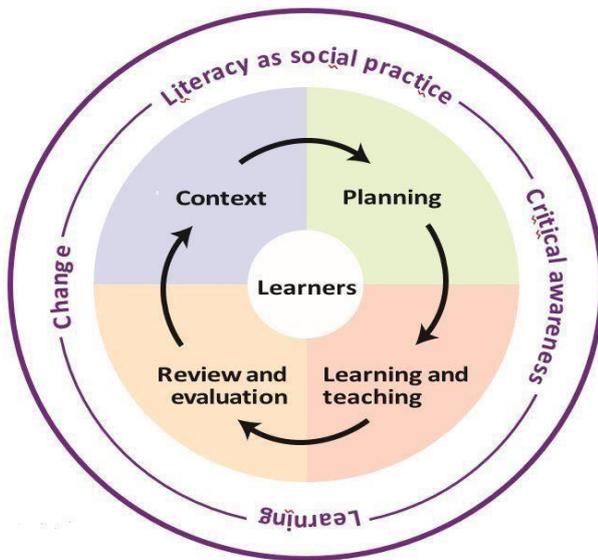
Figure 14: Curriculum Development an Evolving Model for Adult Literacy and Numeracy Education (NALA, 2009)

This framework incorporates all the fundamental principles for incorporating literacy into curricula. It has the learner at its core to signify learner-centred pedagogy. 'The model starts with the **context** of learning and how understanding and acting on context is integral to adult literacy work. **Planning** for learning builds on and arises out of our understanding of context. **Learning and teaching** flow out of context and planning. **Review and evaluation** are part of teaching and learning and feed back into context and planning' (NALA, 2009).

The circles all interact with one another to signify a dynamic framework of curriculum development. They are not viewed as separate parts of the curriculum process, developed one after the other or independently of each other. Each part influences and changes one another. In the model learning is viewed as a **social practice,** respecting and valuing learners. **Critical awareness** is seen as closely connected to social practice, being aware of how literacy and curriculum are shaped through how and where learning takes place in society. **Change** is viewed as creating change in the learner and in their literacy confidence and skills to meet their own goals. It promotes self-directed learning for change. **Learning,** is looked at as an active process and is based on prior knowledge, experience and learner perspective. This includes informal learning involved in everyday life. If curriculum development in adult literacy is participative and

collaborative, then all parties, tutors and students learn through taking part.

The evolving model provides practical supports for the process described in the model. Each element of this model involves sound and ethical adult education literacy principles. It is builtaround the learner and their personal development through active involvement. It respects their knowledge and skills as well as their beliefs.

The evolving model provides valuable principles and a model for the personal development of the basic skills educators and for teaching and learning in adult literacy. It is specifically designed to assist literacy educators in curriculum development. Since it has been used to assist various basic adult education programmes, in a variety of contexts, it could also assist in the design and development of a professional development programme for integrating digital media into practice. The model itself along with the 'Principles for Good Adult Literacy Work' could be incorporated as guiding principles that underpin the train the trainer programme and serve as a central reference point for educators when they are developing their curriculum, considering their learners' context, and developing their digital competencies.

The Wealth Model

The principles discussed above, reflect the importance of student-centred learning, literacy as a social practice and a humanistic approach to adult learning. According to the Guidelines for Good Adult Literacy Work '…adult basic education in Ireland is based on a belief that effective learning builds on the wealth of life experience which adults bring to their work on literacy development'. (NALA, 2012, p:14)

The wealth model approach to education (NALA, 2018) aims to help the learner realise their own knowledge and strengths. Learners are encouraged to explore opportunities for furtherlearning from an understanding of their own life experience and the questions this raises (NALA, 2012). The wealth model approach was developed as a practical resource

for educators engaged in the delivery of adult literacy tuition. It provides examples of practice under themes relating to a wealth model approach to adult literacy practice.

The themes are:

- Tutor approaches;
- The learner's goals and interests;
- Working with different beliefs, cultures and ways of being;
- Learners' knowledge and skills; and
- The learning environment.

The model fosters a non-judgemental approach and emphasises that adult learners have a wealth of strengths, learning styles, experiences and skills and they bring these different experiences and strengths to a learning experience. These experiences and strengths constitute a resource, a good starting point for meeting new challenges. The wealth model holds that 'the ability to learn can be activated by the belief that the ability exists, and often the tutor holds that belief even if the learner does not. Negative self-beliefs can result in a learner not being aware of their strengths. Expressing them can be part of the transformational learning journey they are undergoing. Mezirow (2000) describes transformative learning as making it possible for learners to take action and develop new perspectives on themselves, their families and wider society.' (NALA, 2018). The model looks to contradict negative self-belief, and replace it with a positive and realistic one.

There are some valuable insights to learner beliefs in this model. It emphasises the importance of a non-judgemental approach and believes that adult learners have a wealth of strengths, learning styles, experiences and skills that they bring into the learning experience. These experiences and strengths can be seen as a resource and could be a good starting point for meeting the new challenges educators may encounter in integrating technology into practice. Through this model the educator could be assisted to take action and develop new perspectives on themselves and their ability to integrate

technology into teaching. The model could assist educators to contradict negative self-belief, and replace it with a positive one when integrating technology into practice. The relevant parts of the model here could also be mapped to various sections of the programme and form part of the central reference point for educators when they are developing their curriculum

Guiding Principles for a Train the Trainer Professional Development Programme on Integrating Digital Media into Practice.

Educators need to be equipped with digital skills and competences to participate in society, both personally and professionally. They need to be able to clearly demonstrate their digital competence to learners and to pass on their creative and critical use of digital technologies. Additionally, educators need to develop educator-specific digital competences to be able to effectively utilise digital technologies in a critical, collaborative, and creative way for teaching.

The following guiding principles for a train the trainer development programme set out how this programme should be designed and developed to both improve an educator's digital competencies and effectively integrate digital media into their teaching practice:

1. The design of the programme will be supported by guidelines for basic skills educators, which will form a central reference point for educators in their personal development, as well as supporting the development of their teaching practice. These guidelines will include:

    a. The five principles set out in NALA's Guidelines for Good Adult Literacy Work (NALA, 2012). These principles will be at the core of the basic skills educator's professional development programme as it benefits teaching and learning in a variety of contexts, as well as curriculum development.

b. The principles set out in the Wealth Model Approach (NALA 2018) will also form a foundational basis of these central guidelines. The programme will have a non-judgemental approach, promoting the core belief that adult learners have a wealth of strengths, learning styles, experiences and skills that they bring into the learning experience. These experiences and strengths will be seen as a resource and could be a good starting point for meeting the new challenges educators may encounter in integrating technology into practice. Through this model the educator is assisted to take action and develop new perspectives on themselves and their ability to integrate technology into teaching. The model will assist educators to contradict negative self-belief, and replace it with a positive one when integrating technology into practice.

c. NALA's Curriculum Development: an Evolving Model for Adult Literacy and Numeracy Education (NALA, 2009) will be used to assist the basic skills educators in developing their curriculum. It is specifically designed to assist literacy educators in this area. As it has been used to assist various basic adult education programmes, in a variety of contexts, it should also assist this professional development programme on integrating digital media into curriculum. It also supports the learner-centred principles and values of the Guidelines for Good Adult Literacy Work and the Wealth Model approach by promoting a participative curriculum development process.

2. The design of the programme will be underpinned by a number of digital competencies frameworks to pinpoint what digital competencies are required by educators and these identified competencies will form the basis of a modular style training approach for the programme:

a. The DigCompEdu framework and JISC Digital Capabilities framework (JISC) set out what digital competencies are required by educators and offer a theoretical basis from which training programmes can be developed. The Digital Teaching Professional Framework (DTPF) echo these digital competency requirements and provides a practical model to apply digital competency development in a practical setting. There are several common themes that appear throughout these frameworks, and they can be used to develop an educator's competency in accessing and engaging with digital technologies, using digital technologies in meaningful and beneficial ways, and then applying this for empowering and transformative learning outcomes:

   i. **Planning:** Accessing and sourcing, critically evaluating and selecting suitable digital resources.

   ii. **Creative digital production:** Creating, modifying, managing and sharing digital resources to engage learners in different learning contexts from face-to-face to fully online.

   iii. **Teaching and learning strategies:** Managing and orchestrating the use of digital technologies in teaching and learning, and for specific educational contexts.

   iv. **Accessibility and inclusion:** Using digital technologies to enhance inclusion, accessibility, personalisation and learners' active engagement. Ensuring that all learners can make full use of digital technology.

   v. **Self-development:** Using digital technologies for communication, collaboration, reflective practice, and professional development. Developing information, data and media literacies to enable learners to use digital technologies safely and responsibly.

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b. Drawing on the digital competencies and skills highlighted in
    DigCompEdu, JISC, and DTPF and these common themes, the
    following areas should be usedas modules for this train the trainer
    programme:

    i.   Planning your teaching
    ii. Teaching and learning digital resources
    iii. Assessment and Feedback iv. Accessibility and Inclusion
    v.   Self-development.
    vi. Supporting basic skills through technology (teaching and
         learning strategies)

c. DigCompEdu, JISC and DTPF can also be drawn on to develop content
    for boththe modules and competency levels, as these frameworks
    provide sample activities, descriptors, and competencies statements for
    each digital competency area.

d. Both DigCompEdu and DTPF provide competency levels so that
    educators canself-assess their competency levels, which are mapped
    across each of the digital competency areas. The DTPF opts for a
    concise three level competencyprogression, which simplifies the self-
    assessment process for educators. Therefore, this programme will
    adopt a similar approach, using a three-step progression level, for
    example:

    i.   Stage 1: Exploring
    ii. Stage 2: Adopting iii. Stage 3: Leading

3. The 4Cs (critical thinking, collaboration, communication, and creativity)
    featureheavily and form the foundational basis of a number of digital
    competencies and teaching professional frameworks. They are seen as

integral to the development of digital skills and competencies of both educators, and learners. Therefore, this programme will include the 4Cs in the development of an educator's digital competencies but also will ensure that the 4Cs form part of the learning outcomes when integrating digital media into teaching practice and developing curriculum.

4. The design of the programme will utilise instructional design models for integrating digital media into teaching practice and will allow educators to apply their developing digital competencies and skills to their teaching practice.

    a. The SAMR model, will be used to enhance teaching and learning, assessment and the use of digital technology, and as a result aim to transform an educator's current practices. The 4 areas of the model are Substitution, Augmentation, Modification and Redefinition, which provides a framework that show how the use of digital technology can transform classroom-based teaching and learning. The SAMR Model is a powerful tool for educators to utilise when they are considering how they can use digital technology in their teaching practice. It is important to note that the SAMR model should be flexible and educators should work across the four different categories to support student-centred learning and to adapt their teaching practice appropriately given the context and desired learning outcome. The model should therefore be viewed on a spectrum rather than as a hierarchical ladder as described by Stevens (2020) who suggests that educators should be allowed to 'dip in and out' of these different lanes without a divide, and that the use of technology depends on what is being taught at a given time.

    b. Bloom's Digital Taxonomy, represents the evolution of Bloom's revised taxonomy, which was developed to structure learning processes. There are six cognitive learning processes; remembering, understanding,

applying, analysing, evaluating and creating. This was extended into the digital environment where the activities and outcomes associated with the six cognitive levels now move off paper and chalkboard to take on a digital form. The verbs associated with each level also now reflect actions taking place in the digital environment. It helps educators to see how to use technology and digital tools to facilitate student learning experiences and outcomes. The power verbs are useful for lesson planning, assessment design, and the general planning of learning experiences.

c. The SAMR model helps educators reimagine how they might design, develop, and infuse technology into learning experiences. However, by linking Bloom's Digital Taxonomy to the SAMR model, educators are able to create tasks with specific objectives linked to curricula that deeply embed technology and are enhanced by its use rather than using technology for the sake of it. It would therefore be beneficial to integrate the both the SAMR and the Bloom's Digital Taxonomy to create a well-rounded approach to integrating digital media into teaching practice, by recognising the need to consider learning outcomes before applying technological enhancement to teaching practice.

d. The Padegogy Wheel (Figure 12) provides an example of how this integration can work in practical terms. It highlights how learning outcomes dictate what technological enhancement is appropriate. Integrating both SAMR and Bloom's Digital Taxonomy enables educators to identify the pedagogical place and purpose of their various technology-based learning and teaching activities, and within their specific learning and teaching context.

Figure 15 visually demonstrates how these guiding principles integrate and form the

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foundational basis for the development of a train the trainer programme for basic skills educators to integrate digital media into their teaching practice. At the core, this programme will be based on a set of values and principles that inform good basic skills work and educational practice. This is then followed by the six key digital competency areas that will form the modular training style approach for this programme. Surrounding these areas of digital competency development, the implementation of the 4Cs, SAMR and Bloom's Digital Taxonomy will allow educators to apply their learnings and integrate technology into their teaching practice.
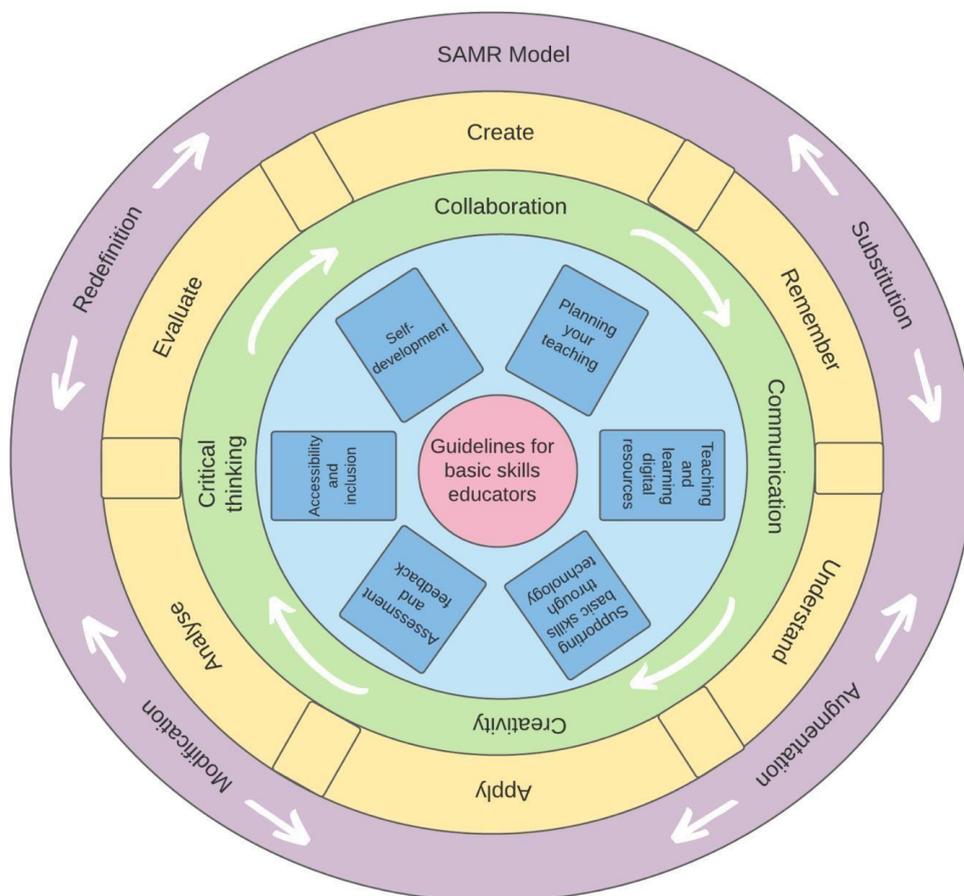

Figure 14: Guiding Principles for a Train the Trainer Professional Development Programme on Integrating Digital Media into Practice.

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The National Adult Literacy Agency (NALA) is a charity and membership based organisation. We work to support adults with unmet literacy, numeracy and digital literacy needs to take part fully in society and to have access to learning opportunities that meet their needs. NALA does this by raising awareness of the importance of literacy, doing research and sharing good practice, providing online learning courses, providing a tutoring service and by lobbying for further investment to improve adult literacy, numeracy and digital skills.

ABEDiLi (Adult Basic Education Digital Literacy) project partners:

Visit the project website for further information: https://abedili.org/

National Adult Literacy Agency (NALA)
Sandford Lodge
Sandford Close
Ranelagh, Dublin 6
D06 YF65

Phone: 01 412 7900

Freephone: 1 800 20 20 65

Websites:
nala.ie
learnwithnala.ie

Email: info@nala.ie

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