

Partners:



Combating Digital Exclusion

CHILDREN  
**EDUCATE**  
DIGITALLY ILLITERATE  
**ADULTS**  
IN SAFE & CREATIVE WEB



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## Deliverable O3A1

### Specification of educational material for teachers

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## Deliverable factsheet

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<p><b>Abstract:</b></p>	<p>Teachers need to be trained about safe and creative Internet use, by using specialized educational material in order to stimulate students to train adult members of their families, who are digitally illiterate, at Internet use. Based on the outcomes of O2 an analysis will be carried out in order to recognize, specify, and organize the required educational material that need to be taught by the teachers to the children about safe and creative Internet use.</p>
<p><b>Keyword List:</b></p>	<p>Use Cases, gamification in e-learning</p>

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v0.5	28/05/2017	Phil Wilkinson	Added more titles and Learning Outcomes, Incorporated Peda-Andragogic Rationale
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## List of Abbreviations

The following table presents the acronyms used in the deliverable in alphabetical order.

<i>Abbreviation</i>	<i>Description</i>
App	Application (software)
L-MITE	Learning Mite, a short learning course, with optional assessment
MOOC	Massive Open Online Course

## Executive Summary

### 1 Introduction

The activities included here are linked to one of the seven themes identified in previous documentations. Moreover, activities are also aligned with the EU's Digital Competence Framework (DigComp 2.0) to provide consistency with the broader EU digital skills research and training provision ecosystem. It is the intention of this document to act as a starting point for the learner-led production of digital activities. All activities included will be produced by the initial research team with participatory support from a group of learners, to provide desired learning opportunities, but also to act as an example, guide, and source of inspiration for the sustainable production of further activities.

### 2 Educational material specification

This section includes the material for all seven educational thematic categories identified for the EduWeb project. Materials are specified primarily in relation to indicative content, intended learning outcomes, and the DigComp 2.0 framework. Content specification follows the Pedagogic – Andragogic rationale outlined in the next section.

Indicative content is framed through questions that will be answered through the activity, thus reflecting adult learner's desire for agency and personal applicability in their learning. Unless stated otherwise, indicative content will be presented multi-modally – but primarily through audio-visual instructions.

Intended learning outcomes focus on what the learner will know and be able to do following completion of the activity. Again, to focus on the desire for applicability in what they have learnt these intended learning outcomes will be formatted to fit a grammatical presentation of "By the end of this activity I will be able to:"

The list specified is by no means exhaustive, but is intended to be used as an educational "bootstrap" process by providing indicative educational material so that the teachers will have a birds eye view and exposure to all seven thematic areas. This, combined with the multiplier and training events will allow a teacher to further contribute with educational material and facilitate the two-way, lifelong learning process.

#### 2.1 Andro-Pedagogic Rationale

Recent approaches in educational practices have moved toward encouraging children's agency and participation in their own learning (Holmes & Abington-Cooper 2000; King et al. 2015; Kafai 2012). Indeed, the premise of the child a 'blank slate' (Pinker 2003) has fallen out of favour, instead moving towards education through facilitated stage appropriate learning activities rather than didactic pedagogic practices (Collins & Halverson 2009; Buckingham 2007; Livingstone & Sefton-green 2016). Given the goals and approach of the EduWeb project, the intended pedagogic approach can be

framed as an instance of the constructionist pedagogy set forth by Seymour Papert.

Papert's (Papert & Harel 1991) constructionism is influenced by the Piagetian concept of knowledge structures. Piagetian constructivism suggests that children learning through the construction and negotiation of internal knowledge schemas (Piaget & Cook 1952). Constructionism builds upon this, suggesting construction of knowledge structures "happens especially felicitously in a context where the learner is consciously engaged in constructing a public entity" (Papert & Harel 1991, p.1). This is of relevance to the EduWeb project for three reasons. Firstly, it frames the learner as an active, reflective, participants in the learning process. Secondly, it builds upon the Piagetian notion of 'stage-based' of learning and promotes learner's reflection of their own learning process. Thirdly, it has a technological origin and rich, if short, history of promoting learning through the development of digital educational content (Kafai & Kafai 1995; Kafai 2012; Papert 1988; Papert 1980)

To operationalise this constructionist approach for this EduWeb project we can distil the following principles to put into practice (Kafai 2012) :

- **Authentic:** Base activities on production of authentic, real-world artefacts that have meaning for the learner.
- **Agency:** Give the learner choice and control over their own learning through control of the digital artefacts they produce.
- **Scaffolding:** Guide activities in relation to intended outcomes for the learner and existing knowledge schema.
- **Reflection:** Encourage reflection on their design decisions and the skills or knowledge they have developed through the activity.

The term andragogy was coined by Malcolm Knowles originally referred to the '*art and science of teaching adults*' – mirroring pedagogy's '*art and science of teaching children*' (Tiedeman & Knowles 1979). As discussed in the initial EduWeb project report, there are multiple conceptions of 'andragogy' though there are commonalities (Holmes & Abington-Cooper 2000). According to the work of LeNoue, Hall, and Eighmy there are common principles of adult education which are applicable to this EduWeb project. These principles can be synthesized as such:

- **Situated:** Adult learners draw on their real-world experience to identify learning needs and contextualise the future application of their current learning.
- **Autonomous:** Adults can identify their own learning needs and take agency in organising and assessing their own learning activities.
- **Agency:** Adults have a need to be self-directed in their own learning processes, and as such educators / instructors should be positioned as facilitators.
- **Collaborative:** Adults draw valuable learning contributions from relationships with peers and instructors through their learning process.

Interestingly, it is worth noting that in contemporary contexts, andragogy has come to refer to the learner-centred approach to educational practices, as opposed to 'educationalist' didactic, teacher-centred, approach in pedagogy (Holmes & Abington-Cooper 2000). This adult learner-centred approach of andragogy is therefore neatly paralleled in the constructionist pedagogic practice outlined above. Therefore, for the EduWeb project though children and adults will be engaging in

different ways, there is still a common learning approach of promoting agency and authenticity in their learning approaches.

There are however, some challenges inherent in this combination of andragogy and pedagogy. For instance, the adult-learner values autonomy and agency in their learning. An adult's desire to learn about subject typically comes from a real-world need, and the view themselves as having a degree of authority with their learning process. Here then, there is an issue with children's production of learning content which runs the risk of becoming prescriptive. In summary, the rationale operationalised in the following ways.

Indicative content is framed through questions that will be answered through the activity, thus reflecting adult learner's desire for agency and personal applicability in their learning. Unless stated otherwise, indicative content will be presented multi-modally – but primarily through audio-visual instructions. Intended learning outcomes focus on what the learner will know and be able to do following completion of the activity. Again, to focus on the desire for applicability in what they have learnt these intended learning outcomes will be formatted to fit a grammatical presentation of "By the end of this activity I will be able to:"

### 3 Educational Material Examples

The following tables summarise examples of educational material accross all 7 categories. It should be acknowledged that apart from the partners of the Eduweb Consortium, the following schools have contributed to the development of courses (l-mites):

- 1<sup>st</sup> Gymnasium of Sykaes “Odysseas Fokas” (GR)
- 5<sup>th</sup> Lyceum of Heraklion, Crete (GR)
- 7<sup>th</sup> Lyceum of Trikala (GR)
- 166 Sport school “Vasil Levski” Sofia (BG)
- Agia Barbara Gymnasium (CY)
- Agios Spyridon II-23rd Limassol Primary School (CY)
- General Church Lyceum Vellas (GR)
- Kokkinochoria-Photi Pitta Lyceum (CY)
- Latsia A’ Primary School (CY)
- Sport school “Dimitar Rohov” Sliven (BG)
- Sport school “Georgi Benkivski” (BG)
- Sport school “Kliment Ohridski” Vraza (BG)
- Sport school “Mayor Atanas Uzunov” Ruse (BG)
- Sport school “Uri Gagarin” Burgas (BG)
- Sport school “Vasil Levski” Plovdiv (BG)
- Stavrou Gymnasium (CY)

### 3.1 Communicate

The table below specifies the initial I-mites for the «Communicate» theme

ID	Title	Indicative Content	Intended Learning Outcomes	DigComp 2.0
L1.1	Introduction to Email	<ul style="list-style-type: none"> <li>- What are 'emails'?</li> <li>- Why is it important to know how to email?</li> <li>- How do I send and receive emails?</li> </ul>	<ul style="list-style-type: none"> <li>- Understand the Purpose of Emails</li> <li>- Understand Email 'Etiquette'</li> <li>- Understand and Use Different Email Clients</li> </ul>	2.1 Interacting through digital technologies 2.5 Netiquette 4.2 Protecting personal data and privacy
L1.2	Introduction to Social Media	<ul style="list-style-type: none"> <li>- What is Social Media?</li> <li>- What are the most common Social Media Platforms?</li> <li>- How do I connect, share, and create using Social Media?</li> </ul>	<ul style="list-style-type: none"> <li>- Understand Social Media</li> <li>- Understand Social Media 'Etiquette'</li> <li>- Understand and Use Different Social Media Platforms</li> </ul>	2.1 Interacting through digital technologies 2.2 Sharing through digital technologies 2.4 Collaborating through digital technologies 2.5 Netiquette 2.6 Managing digital identity 4.2 Protecting personal data and privacy
L1.3	Introduction to Video Chatting	<ul style="list-style-type: none"> <li>- What is Video Chatting?</li> <li>- What platforms can I use to Video Chat?</li> <li>- How do I set-up a Video Chat?</li> </ul>	<ul style="list-style-type: none"> <li>- Understand Video Chats</li> <li>- Understand and Use Video Chatting Platforms</li> <li>- Understand and Use Webcams</li> </ul>	2.1 Interacting through digital technologies 4.2 Protecting personal data and privacy 5.1 Solving technical problems

### 3.2 Stay Informed

ID	Title	Indicative Content	Intended Learning Outcomes	DigComp 2.0
L2.1	Introduction to Search Engines	<ul style="list-style-type: none"> <li>- What are 'Search Engines'?</li> <li>- What are the most common Search Engines?</li> <li>- How do I use search engines efficiently?</li> </ul>	<ul style="list-style-type: none"> <li>- Understand Search Engines</li> <li>- Understand Search Strategies and Techniques</li> </ul>	1.1 Browsing, searching and filtering data, information and digital content 1.3 Managing data, information and digital content
L2.2	Accessing News Stories	<ul style="list-style-type: none"> <li>- How do I access news stories?</li> <li>- How do I know what I can trust online?</li> <li>- How can I create a news feed?</li> </ul>	<ul style="list-style-type: none"> <li>- Use different strategies to access news stories</li> <li>- Understand how to identify 'Fake News'</li> <li>- Create a News Feed using Social Media and RSS Feeds</li> </ul>	1.1 Browsing, searching and filtering data, information and digital content 1.2 Evaluating data, information and digital content 1.3 Managing data, information and digital content 2.3 Engaging in citizenship through digital technologies
L2.3	Accessing Online Learning Courses	<ul style="list-style-type: none"> <li>- What are MOOCs can how can I use them?</li> <li>- Where can I access online tutorials?</li> </ul>	<ul style="list-style-type: none"> <li>- Understand and Use Moocs</li> <li>- Identify Learning Needs</li> <li>- Understand Appropriate Sources of Learning Content</li> </ul>	1.1 Browsing, searching and filtering data, information and digital content 1.2 Evaluating data, information and digital content 5.2 Identifying needs and technological responses 5.4 Identifying digital competence gaps

### 3.3 *Entertain*

ID	Title	Indicative Content	Intended Learning Outcomes	DigComp 2.0
L3.1	Access Streaming Content	<ul style="list-style-type: none"> <li>- How can I stream movies and TV?</li> <li>- Where can I stream movies and TV?</li> </ul>	<ul style="list-style-type: none"> <li>- Understand and Use Streaming Services</li> <li>- Understand Data Usage and Bandwidth Limitations</li> </ul>	1.1 Browsing, searching and filtering data, information and digital content 3.3 Copyright and licences 5.2 Identifying needs and technological responses
L3.2	Introduction to Copyright and 'Piracy'	<ul style="list-style-type: none"> <li>- What is Copyright and Piracy?</li> <li>- What does the law say?</li> <li>- What am I can I do and not do with digital content?</li> </ul>	<ul style="list-style-type: none"> <li>- Understand the Law around Copyright</li> <li>- Understand the Law around Piracy</li> </ul>	3.3 Copyright and licences
L3.3	Access Podcasts Audio Books	<ul style="list-style-type: none"> <li>- What are Podcasts and Audio Books?</li> <li>- Where can I download Podcasts and Audio Books?</li> <li>- How can I download Podcasts and Audio Books to my mobile devices?</li> </ul>	<ul style="list-style-type: none"> <li>- Understand and Use Different Podcast Platforms</li> <li>- Transfer Content from PCs to Mobile Devices</li> </ul>	1.1 Browsing, searching and filtering data, information and digital content 1.2 Evaluating data, information and digital content 1.3 Managing data, information and digital content

### 3.4 Protect One's Self and Others

ID	Title	Indicative Content	Intended Learning Outcomes	DigComp 2.0
L4.1	Understanding Passwords	<ul style="list-style-type: none"> <li>- What are passwords?</li> <li>- What makes a good password?</li> <li>- What happens if I lose my password?</li> <li>- What do I do if I think someone else knows my password?</li> </ul>	<ul style="list-style-type: none"> <li>- Understand Passwords and Password Strength</li> <li>- Understand How to Reset Passwords</li> <li>- Understand Actions to Take In Case of Unauthorised Password Access</li> </ul>	1.3 Managing data, information and digital content 4.1 Protecting devices 4.2 Protecting personal data and privacy 5.2 Identifying needs and technological responses
L4.2	Identifying Phishing Attempts	<ul style="list-style-type: none"> <li>- What is a Phishing attempt?</li> <li>- What different types of Phishing Attempts are there?</li> <li>- How can I identify Phishing attempts?</li> <li>- What do I do if I think something is a Phishing attempt?</li> </ul>	<ul style="list-style-type: none"> <li>- Understand and Identify Phishing Attempts</li> <li>- Understand How to Respond to Phishing Attempts</li> </ul>	1.2 Evaluating data, information and digital content 1.3 Managing data, information and digital content 4.1 Protecting devices 4.2 Protecting personal data and privacy 5.2 Identifying needs and technological responses
L4.3	Understand Common Threats	<ul style="list-style-type: none"> <li>- What are the most common threats when accessing online content?</li> <li>- What is the difference between different types of malware?</li> <li>- How can I protect myself from these different threats?</li> </ul>	<ul style="list-style-type: none"> <li>- Understand Different Types of Malware</li> <li>- Understand Different Dangers When Going Online</li> <li>- Understand Pre-emptive and Reactionary Actions to be Taken</li> </ul>	1.2 Evaluating data, information and digital content 1.3 Managing data, information and digital content 4.1 Protecting devices 4.2 Protecting personal data and privacy 5.2 Identifying needs and technological responses
1.4.4	Respond to ransomware	nomoreransom.org	- Learners will be able to apply rudimentary incident response for a PC that has been infected by ransomware	

### 3.5 Create

ID	Title	Indicative Content	Intended Learning Outcomes	DigComp 2.0
L5.1	Introduction to Image and Photo Editing	<ul style="list-style-type: none"> <li>- How can I edit images?</li> <li>- What is the best software to use for image editing?</li> <li>- What images am I allowed to edit?</li> </ul>	<ul style="list-style-type: none"> <li>- Understand Image Editing</li> <li>- Evaluate Appropriate Software for Image Editing</li> <li>- Understand Creative Commons Licensing</li> </ul>	<ul style="list-style-type: none"> <li>3.1 Developing digital content</li> <li>3.2 Integrating and re-elaborating digital content</li> <li>3.3 Copyright and licences</li> <li>5.2 Identifying needs and technological responses</li> </ul>
L5.2	Blogging with WordPress	<ul style="list-style-type: none"> <li>- What is a blogging?</li> <li>- How can I set-up a blog?</li> <li>- What are the rules around blogging?</li> </ul>	<ul style="list-style-type: none"> <li>- Understand Blogging</li> <li>- Understand and Use WordPress</li> <li>- Publish Blogs</li> </ul>	<ul style="list-style-type: none"> <li>2.2 Sharing through digital technologies</li> <li>2.3 Engaging in citizenship through digital technologies</li> <li>3.1 Developing digital content</li> <li>3.2 Integrating and re-elaborating digital content</li> <li>3.3 Copyright and licences</li> <li>5.2 Identifying needs and technological responses</li> </ul>
L5.3	Introduction to Programming	<ul style="list-style-type: none"> <li>- What is programming?</li> <li>- Why is programming important?</li> <li>- How can I get started with programming?</li> </ul>	<ul style="list-style-type: none"> <li>- Understand Programming</li> <li>- Understand Computational Thinking</li> <li>- Identify Online Learning Resources</li> </ul>	<ul style="list-style-type: none"> <li>3.1 Developing digital content</li> <li>3.4 Programming</li> <li>5.1 Solving technical problems</li> <li>5.2 Identifying needs and technological responses</li> </ul>

### 3.6 Shop

ID	Title	Indicative Content	Intended Learning Outcomes	DigComp 2.0
L6.1	Basic steps for shopping online	A pptx presentation showing how to shop online	<ul style="list-style-type: none"> <li>Learners will have the knowledge how to create and maintain an account at an online retail entity.</li> <li>Learners will know how to create out an end-to-end transaction online.</li> </ul>	1.1 Browsing, searching and filtering data, information and digital content 1.3 Managing data, information and digital content 2.3 Engaging in citizenship through digital technologies 4.2 Protecting personal data and privacy 5.2 Identifying needs and technological responses
L6.2	Basic steps for paying bills online	A video on how to pay utility bills online	Learners will know the options available for paying bills online.	1.1 Browsing, searching and filtering data, information and digital content 1.3 Managing data, information and digital content 2.3 Engaging in citizenship through digital technologies 4.2 Protecting personal data and privacy 5.2 Identifying needs and technological responses

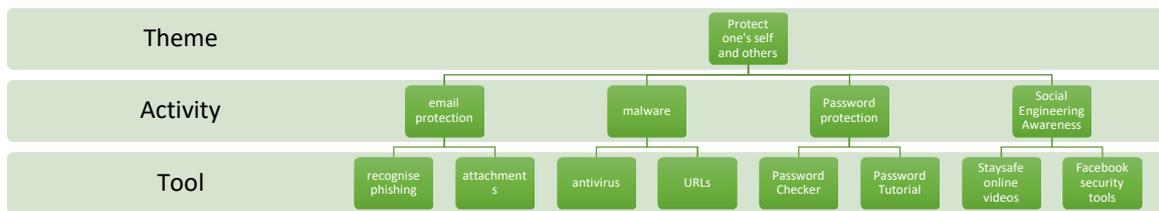
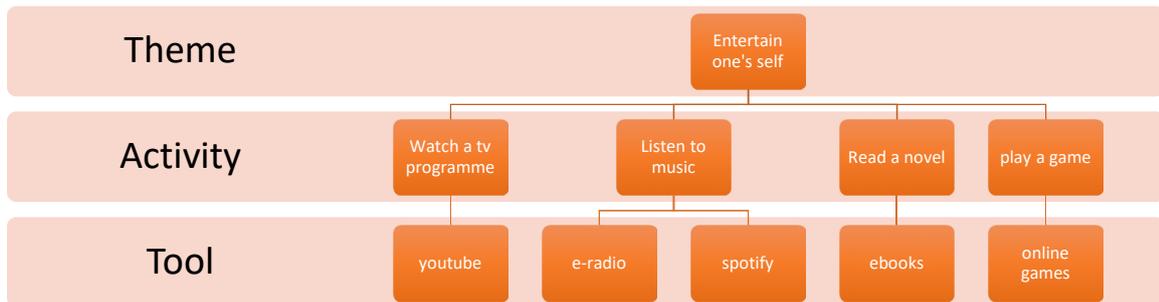
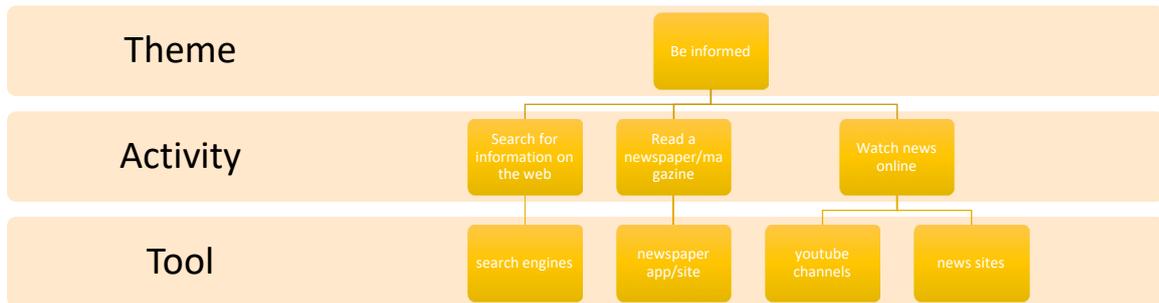
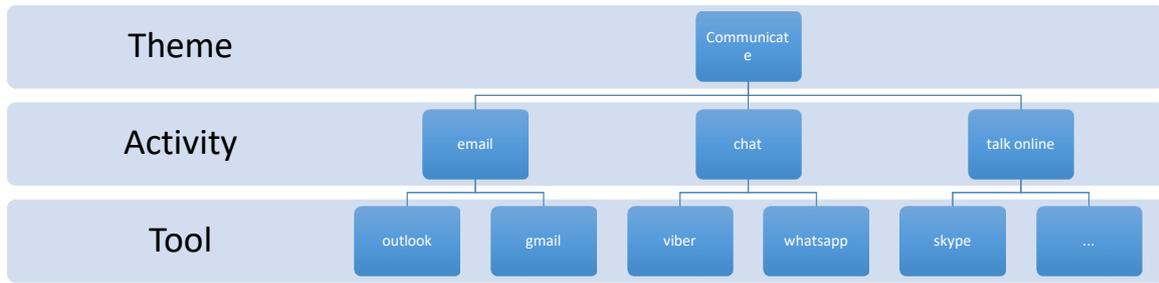
### 3.7 Technical skills

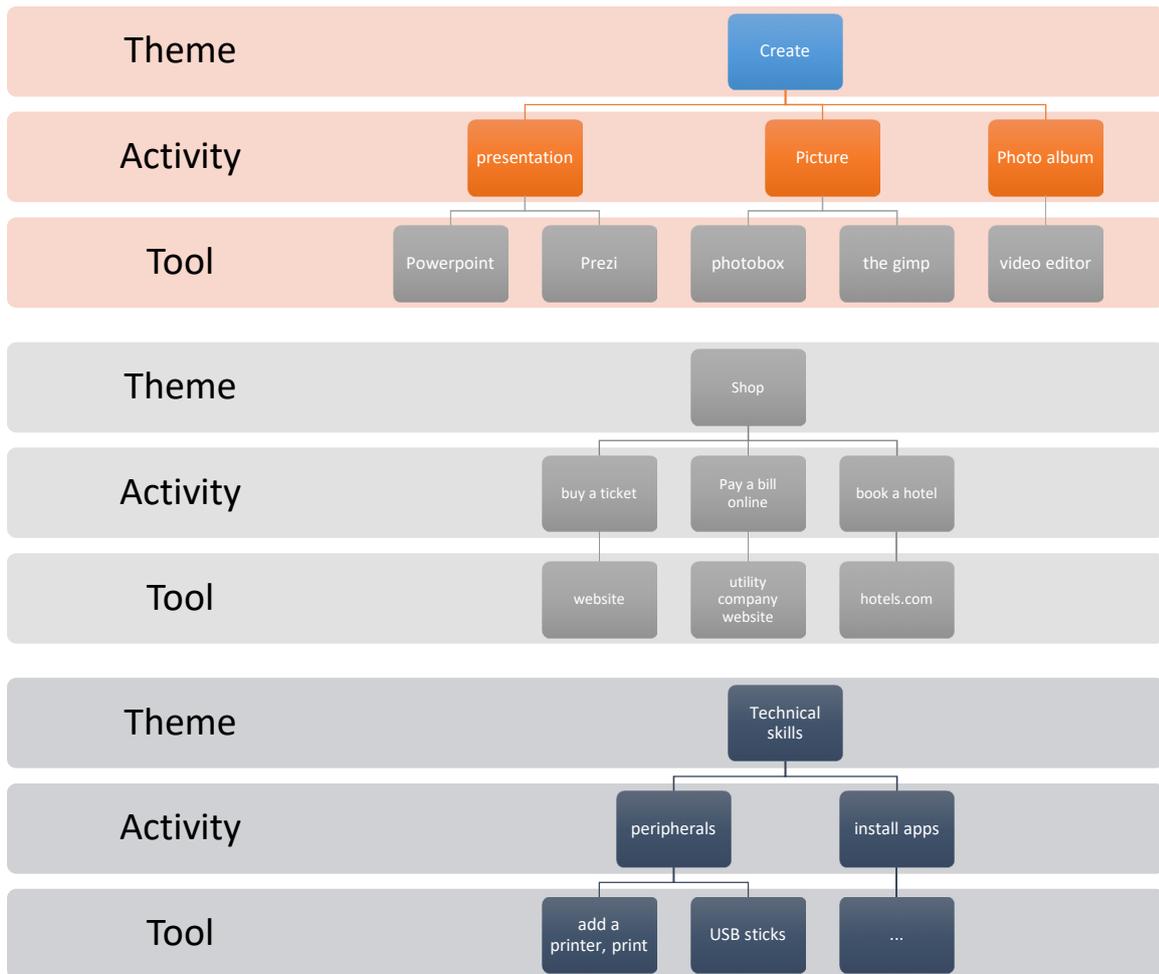
ID	Title	Indicative Content	Intended Learning Outcomes	DigComp 2.0
L7.1	Device Maintenance	<ul style="list-style-type: none"> <li>- How can I effectively maintain my devices?</li> <li>- What are some of the common issues that may affect my computer and how can I pre-empt them?</li> </ul>	<ul style="list-style-type: none"> <li>- Understand the Importance of Computer Maintenance</li> <li>- Develop a Device Maintenance Routine</li> </ul>	4.1 Protecting devices 5.1 Solving technical problems 5.2 Identifying needs and technological responses
L7.2	Diagnosing Common Problems	<ul style="list-style-type: none"> <li>- What are common problems that might affect my devices?</li> <li>- How can I identify what is wrong with my device?</li> <li>- How can I fix my device?</li> <li>- What do I do if I can't fix my device?</li> </ul>	<ul style="list-style-type: none"> <li>- Understand Basic Diagnostics</li> <li>- Identify and Solve Common Problems</li> <li>- Evaluate Problems and Appropriate Escalation Scenarios</li> </ul>	1.1 Browsing, searching and filtering data, information and digital content 1.2 Evaluating data, information and digital content 4.1 Protecting devices 5.1 Solving technical problems 5.2 Identifying needs and technological responses 5.4 Identifying digital competence gaps
L7.3	Upgrading Hardware	<ul style="list-style-type: none"> <li>- What is computer hardware?</li> <li>- When should I upgrade my computer?</li> <li>- How much does it cost to upgrade a computer and can I do it myself?</li> </ul>	<ul style="list-style-type: none"> <li>- Understand Basic Computer Architecture</li> <li>- Evaluate Computational Needs</li> <li>- Perform Computer Upgrades</li> </ul>	4.1 Protecting devices 4.3 Protecting health and well-being 4.4 Protecting the environment 5.1 Solving technical problems 5.2 Identifying needs and technological responses 5.4 Identifying digital competence gaps
L7.4	Installing an App	A hands-on step by step guide as to how to install an App	<ul style="list-style-type: none"> <li>- Learners will know where to locate Apps depending on their operating system</li> <li>- Learners will know how to install Apps on different operating systems.</li> </ul>	

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**Appendix 1. Themes, topics & activities (I-mite subjects)**





**Appendix 2: Digital Competence Framework 2.0**

Competence areas Dimension 1	Competences Dimension 2
<p><b>1. Information and data literacy</b></p>	<p><b>1.1 Browsing, searching and filtering data, information and digital content</b></p> <p>To articulate information needs , to search for data, information and content in digital environments, to access them and to navigate between them. To create and update personal search strategies.</p>
	<p><b>1.2 Evaluating data, information and digital content</b></p> <p>To analyse, compare and critically evaluate the credibility and reliability of sources of data, information and digital content. To analyse, interpret and critically evaluate the data, information and digital content.</p>
	<p><b>1.3 Managing data, information and digital content</b></p> <p>To organise, store and retrieve data, information and content in digital environments. To organise and process them in a structured environment.</p>
<p><b>2. Communication and collaboration</b></p>	<p><b>2.1 Interacting through digital technologies</b></p> <p>To interact through a variety of digital technologies and to understand appropriate digital communication means for a given context.</p>
	<p><b>2.2 Sharing through digital technologies</b></p> <p>To share data, information and digital content with others through appropriate digital technologies. To act as an intermediary, to know about referencing and attribution practices.</p>
	<p><b>2.3 Engaging in citizenship through digital technologies</b></p> <p>To participate in society through the use of public and private digital services. To seek opportunities for self-empowerment and for participatory citizenship through appropriate digital technologies.</p>

Competence areas Dimension 1	Competences Dimension 2
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### 2.4 Collaborating through digital technologies

To use digital tools and technologies for collaborative processes, and for co-construction and co-creation of resources and knowledge.

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### 2.5 Netiquette

To be aware of behavioural norms and know-how while using digital technologies and interacting in digital environments. To adapt communication strategies to the specific audience and to be aware of cultural and generational diversity in digital environments.

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### 2.6 Managing digital identity

To create and manage one or multiple digital identities, to be able to protect one's own reputation, to deal with the data that one produces through several digital tools, environments and services.

## 3. Digital content creation

### 3.1 Developing digital content

To create and edit digital content in different formats, to express oneself through digital means.

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### 3.2 Integrating and re-elaborating digital content

To modify, refine, improve and integrate information and content into an existing body of knowledge to create new, original and relevant content and knowledge.

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### 3.3 Copyright and licences

To understand how copyright and licences apply to data, information and digital content.

Competence areas Dimension 1	Competences Dimension 2
	<p><b>3. 4 Programming</b></p> <p>To plan and develop a sequence of understandable instructions for a computing system to solve a given problem or perform a specific task.</p>
<p><b>4. Safety</b></p>	<p><b>4.1 Protecting devices</b></p> <p>To protect devices and digital content, and to understand risks and threats in digital environments. To know about safety and security measures and to have due regard to reliability and privacy.</p> <hr/> <p><b>4.2 Protecting personal data and privacy</b></p> <p>To protect personal data and privacy in digital environments. To understand how to use and share personally identifiable information while being able to protect oneself and others from damages. To understand that digital services use a “Privacy policy” to inform how personal data is used.</p> <hr/> <p><b>4.3 Protecting health and well-being</b></p> <p>To be able to avoid health-risks and threats to physical and psychological well-being while using digital technologies. To be able to protect oneself and others from possible dangers in digital environments (e.g. cyber bullying). To be aware of digital technologies for social well-being and social inclusion.</p> <hr/> <p><b>4.4 Protecting the environment</b></p> <p>To be aware of the environmental impact of digital technologies and their use.</p>
<p><b>5. Problem solving</b></p>	<p><b>5.1 Solving technical problems</b></p> <p>To identify technical problems when operating devices and using digital environments, and to solve them (from trouble-shooting to solving more complex problems).</p>

Competence areas Dimension 1	Competences Dimension 2
	<hr/> <p data-bbox="488 414 1177 452"><b>5.2 Identifying needs and technological responses</b></p> <p data-bbox="488 472 1445 573">To assess needs and to identify, evaluate, select and use digital tools and possible technological responses to solve them. To adjust and customise digital environments to personal needs (e.g. accessibility).</p> <hr/> <p data-bbox="488 689 1037 728"><b>5.3 Creatively using digital technologies</b></p> <p data-bbox="488 748 1362 882">To use digital tools and technologies to create knowledge and to innovate processes and products. To engage individually and collectively in cognitive processing to understand and resolve conceptual problems and problem situations in digital environments.</p> <hr/> <p data-bbox="488 999 1034 1037"><b>5.4 Identifying digital competence gaps</b></p> <p data-bbox="488 1057 1445 1191">To understand where one’s own digital competence needs to be improved or updated. To be able to support others with their digital competence development. To seek opportunities for self-development and to keep up-to-date with the digital evolution.</p>



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