Embedding Digital Competences in Curriculum Development

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Defining Digital Competence

- Ferrari (2012; p.4) defines Digital Competence as ‘...the set of **knowledge, skills, attitudes** (thus including abilities, strategies, values and awareness) that are required when using ICT and digital media to **perform tasks; solve problems; communicate; manage information; collaborate; create and share content; and build knowledge** ...’

- **... build knowledge** effectively, efficiently, appropriately, critically, creatively, autonomously, flexibly, ethically, reflectively for work, leisure, participation, learning, socialising, consuming, and empowerment’.
Overview
Why? - Digital Competence

- Digital skills are the most transferable generic skills applicable to 90% of professions (European Commission, 2011).

- 95% of all businesses had access to the Internet; **53% of the workforce was using a computer at work** out of which 44% used a computer connected to the Internet (Eurostat, 2013).
Janssen’s and Stoyanov’s study (2012) was conducted as an iterative Delphi-type survey that recorded the views of 95 experts, was part of the wider EU Digital Competence (DIGCOMP) framework project.

Work on a review of the literature (Ala-Mutka, 2011) and the analysis and synthesis of existing digital competence frameworks (Ferrari, 2012) preceded this study and established a baseline of the prevailing digital competence and digital literacy theories.
Curriculum Development Framework

EU DIGCOMP Framework Investigation

DC Interventions

DC Metrics

How?
Overview

- A case study on **qualitative exploration of the EU Digital Competence framework** within Healthcare Education.

- The research was conducted through **semi-structured interviews according to the hermeneutic methodologies** allowing for a dialectic approach;

- it aimed at **gaining a better understanding of the digital skills** which are considered as the most generic and transferable skills, and the training needs of healthcare professionals.
Methodology

- Participants completed a bespoke online digital competence self-assessment questionnaire.

- Five academics, three students and three admin professionals self-selected for interview.

- The themes were mapped onto the appropriate DIGCOMP framework area to investigate its suitability.

DIGCOMP Framework Areas

- General knowledge and functional skills
- Use in everyday life
- Specialized and advanced skills for work and creative expression
- Technology mediated communication and collaboration
- Information processing and management
- Privacy and security
- Legal and ethical aspects
- Balanced attitude towards technology
- Understanding and awareness of the role of ICT in society
- Learning about and with digital technologies
- Informed decisions on appropriate digital technologies
- Seamless use demonstrating self-efficacy
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Results (Highlights)

- Overall twenty-two themes emerged; twelve of them were mentioned by most of the participants.

- Students were mainly preoccupied with the use of technology for academic study and in their personal lives.

- Most academics stated that they are engaging with technology on a regular basis as they use it for work and leisure.

- Administrative professionals seemed to be using technologies as a matter of routine in their day-to-day lives, to carry out their work and for personal use.
Self-Assessment Toolkit I

- This study identifies 12 digital competencies and comprises of 5 statements per classification area.

- These statements have been selected from a wider variety expressed by experts on the basis of the highest average scores at the validation stage.
**8. General knowledge and functional skills**

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Agree somewhat</th>
<th>Disagree somewhat</th>
<th>Disagree</th>
<th>Strongly disagree</th>
<th>No response</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Checkbox" /></td>
<td><img src="image2" alt="Checkbox" /></td>
<td><img src="image3" alt="Checkbox" /></td>
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<td><img src="image7" alt="Checkbox" /></td>
</tr>
<tr>
<td>I am able to use a digital device, which may be one of many types (e.g. Desktop PC, Laptop, Tablet, Smartphone).</td>
<td><img src="image8" alt="Checkbox" /></td>
<td><img src="image9" alt="Checkbox" /></td>
<td><img src="image10" alt="Checkbox" /></td>
<td><img src="image11" alt="Checkbox" /></td>
<td><img src="image12" alt="Checkbox" /></td>
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<tr>
<td>I possess general computer skills (typing, using computers, getting into a new programme).</td>
<td><img src="image14" alt="Checkbox" /></td>
<td><img src="image15" alt="Checkbox" /></td>
<td><img src="image16" alt="Checkbox" /></td>
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<td><img src="image18" alt="Checkbox" /></td>
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</tr>
<tr>
<td>I understand the difference between hardware and software.</td>
<td><img src="image20" alt="Checkbox" /></td>
<td><img src="image21" alt="Checkbox" /></td>
<td><img src="image22" alt="Checkbox" /></td>
<td><img src="image23" alt="Checkbox" /></td>
<td><img src="image24" alt="Checkbox" /></td>
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</tr>
<tr>
<td>I am familiar with the meaning of terms commonly used in user manuals for the operation of hardware and the installation and configuration of software.</td>
<td><img src="image26" alt="Checkbox" /></td>
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<td><img src="image28" alt="Checkbox" /></td>
<td><img src="image29" alt="Checkbox" /></td>
<td><img src="image30" alt="Checkbox" /></td>
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</tr>
<tr>
<td>I know about the existence of various operating systems.</td>
<td><img src="image32" alt="Checkbox" /></td>
<td><img src="image33" alt="Checkbox" /></td>
<td><img src="image34" alt="Checkbox" /></td>
<td><img src="image35" alt="Checkbox" /></td>
<td><img src="image36" alt="Checkbox" /></td>
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</tbody>
</table>

**Figure 1 - General Knowledge**

**Self-Assessment Questionnaire**
Digital Competence Map (Group)

- General knowledge and functional skills, 5
- Use in everyday life, 6
- Specialised and advanced competence for work and creative expression, 5
- Technology mediated communication and collaboration, 5
- Information processing and management, 4
- Privacy and security, 2
- Informed decisions on appropriate digital technologies, 5
- Learning about and with digital technologies, 5
- Understanding and awareness of role of ICT in society, 5
- Balanced attitude towards technology, 5
- Seamless use demonstrating self-efficacy, 5
- Legal and ethical aspects, 5
Further Work

- EU DIGCOMP Framework Investigation
- DC Self-Assessment Toolkit (early results)
- DC Self-Assessment Toolkit (final version)
- DC Curriculum Intervention I (Activity)
- DC Curriculum Intervention II (Assessment)
- Curriculum Development Framework (QAQE)

- Completed
- Analysing
- Pending
Questions?
Bibliography

Thank you very much!

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