

## APPENDIX 11 ASSIGNMENT OF DIGITAL COMPETENCE TO KEY COMPETENCES ACCORDING TO VAN LAAR et al.\*

<b>Dimensions of digital competences</b>	<b>Conceptual definition with operational components</b>
Technical management	<p>Ability to use (mobile) devices and applications to accomplish practical tasks and recognize specific online environments to navigate and maintain orientation.</p> <p>Key components:</p> <ul style="list-style-type: none"> <li>- ICT skills: understand the characteristics of (mobile) devices or applications.</li> <li>- ICT use: Perform basic (mobile) application operations and access resources for daily use.</li> </ul> <p>Avoid getting lost while navigating/surfing the web.</p>
Information Management	<p>The ability to use ICT to efficiently search, select, and organize information to make informed decisions about the most appropriate information sources for a given task.</p> <p>Key components</p> <ul style="list-style-type: none"> <li>- Define: Using ICT to formulate a research statement to facilitate the search for information.</li> <li>- Access: using ICT to find and retrieve information from a variety of online sources.</li> <li>- Evaluate: use ICT to assess the usefulness and appropriateness of information for a particular purpose.</li> <li>- Manage: Using ICT to organize information for later retrieval.</li> </ul>
Communication	<p>Ability to use ICT to communicate information to others and ensure that meaning is expressed effectively.</p> <p>Key components:</p> <ul style="list-style-type: none"> <li>- Transmission of information: Using ICT to effectively communicate information and ideas to multiple audiences using a variety of media and online formats.</li> </ul>
Cooperation	<p>The ability to use ICT to build a social network and work in a team to share information, negotiate agreements, and make decisions with mutual respect for each other to achieve a common goal.</p> <p>Key components:</p> <ul style="list-style-type: none"> <li>- Interactive communication: create meaningfulness through exchange with a range of modern ICT tools.</li> <li>- Participation in discussions: Use of ICT to exchange ideas (e.g., on online platforms).</li> </ul>
Creativity	<p>The ability to use ICT to generate new or previously unknown ideas, or to treat familiar ideas in new ways, and to transform such ideas into a product, service, or process that is recognized as novel in a particular field.</p> <p>Key components:</p> <ul style="list-style-type: none"> <li>- Content creation: Using ICT to generate ideas or develop new ways of doing things.</li> </ul>
Critical thinking	<p>Ability to use ICT to make informed judgments and decisions about information and communications received, using reflective thinking and sufficient evidence to support claims.</p> <p>Key components:</p> <ul style="list-style-type: none"> <li>- Clarification: using ICT to ask and answer questions to clarify the problem.</li> <li>- Evaluation: using ICT to assess the suitability of a source for a particular problem.</li> <li>- Justification: Using ICT to make arguments for claims based on their consistency with other knowledge claims (e.g., personal, memory, testimony, coherence, rationality, replication).</li> <li>- Linking ideas: Using ICT to link facts, ideas, and concepts.</li> <li>- Novelty: using ICT to propose new ideas for discussion.</li> </ul>
Problem solving	<p>The ability to use ICT to cognitively process and understand a problem situation, combined with the active use of knowledge to find a solution to a problem.</p> <p>Key components:</p> <ul style="list-style-type: none"> <li>- Knowledge acquisition: using ICT to acquire tacit and/or explicit knowledge about the problem.</li> <li>- Knowledge application: using ICT to apply tacit and/or explicit knowledge about the problem to find a solution.</li> </ul>
Ethical awareness	<p>The ability to behave in a socially responsible manner by demonstrating awareness and knowledge of legal and ethical aspects of ICT use.</p> <p>Key components:</p>

	<ul style="list-style-type: none"> <li>- Responsible ICT use: Making decisions about the legal, ethical and cultural boundaries of personally and socially responsible ICT use based on an understanding of potential risks that exist on the Internet when using ICT.</li> <li>- Social impact of ICT: Understanding, analyzing and evaluating the impact of ICT in social, economic and cultural contexts when using ICT.</li> </ul>
Cultural awareness	<p>The ability to demonstrate cultural understanding and respect for other cultures when using ICT.</p> <p>Key components:</p> <ul style="list-style-type: none"> <li>- Intercultural communication: attitudes towards online communication and collaboration experiences with people from different cultures when using ICT.</li> </ul>
Flexibility	<p>The ability to adapt one's thinking, attitude or behavior to changing ICT environments.</p> <p>Key components:</p> <ul style="list-style-type: none"> <li>- Adaptation to frequent and uncertain situations: Setting to change thinking, attitudes, or behavior to better adapt to current or future ICT environments.</li> </ul>
Self-control	<p>The ability to set goals for yourself and manage your progress in meeting those goals in order to assess your own progress in using ICT.</p> <p>Key components:</p> <ul style="list-style-type: none"> <li>- Objective: state learning or time objectives when using ICT.</li> <li>- Control: willingness of individuals to take control of their own learning when using ICT.</li> <li>- Initiative: proactively take steps toward decisions and/or actions in the use of ICT.</li> <li>- Monitor progress: Assessing whether previously set goals for ICT use have been met.</li> </ul>
Lifelong learning	<p>The ability to constantly explore new possibilities in the use of ICT that can be integrated into an environment to continuously improve one's skills.</p> <p>Key components:</p> <ul style="list-style-type: none"> <li>- Efficiency of knowledge generation: Use of ICT to create individually useful knowledge.</li> </ul>

\*own presentation on the basis of VAN LAAR et al. (2017)