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Digital competence as a boundary concept in the mediatization of the future of education[1]

A competência digital como conceito limite na mediatização do futuro da educação

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Abstract

Drawing on Hjarvard's institutional perspective on mediatization in combination with critical conceptual analysis, I suggest that *digital competence* should be analyzed as a "boundary concept" since it connects different political, industrial and educational interests through transnational policy making, by mediating and balancing the conditions and consequences of rapid digitalization and deep mediatization. This production of sociotechnical imaginaries and citizen making for the future is in this paper discussed with reference to EU:s *Digital Competence Framework* (DIGCOMP) and its dual function of suggesting at them same time adaptation to technology and maintenance of inalienable civic and democratic values.

Keywords: digital competence; mediatization; concept analysis.

Resumo

Com base na perspectiva institucional de midiatização de Hjarvard, combinada com uma análise conceitual crítica, sugiro que a competência digital deve ser analisada como um

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"conceito de fronteira", pois conecta diferentes interesses políticos, industriais e educacionais por meio da formulação de políticas transnacionais, mediando e equilibrando as condições e consequências da rápida digitalização e da midiatização profunda. Esta produção de imaginários sociotécnicos e a construção de cidadania para o futuro é discutida neste artigo com referência ao Quadro de Competência Digital da UE (DIGCOMP) e sua dupla função de sugerir, ao mesmo tempo, a adaptação à tecnologia e a manutenção de valores cívicos e democráticos inalienáveis..

Palavras-chave: competência digital; midiatização; análise conceitual.

1. Introduction

One recurring theme in mediatization research concerns how changes in the technologies, institutions and logics of the media directly or indirectly affect the educational sector. One side of this are critical examinations of how educational technologies (ed tech) changes and extends, substitutes and merges (c.f. Schutz 2004), previous practices of teaching and learning, school administration and classroom management (Breiter 2014). While others have focused more on indirect mediatization effects such as the impact of journalistic discourse on educational governance (Rawohle & Lingard 2014).

Another important aspect of the relation between education and mediatization is how the educational sector should respond (integrate or separate) to the deeply mediatized lives (smart phones, social media, gaming etc.) that students are embedded in their everyday life outside of the classroom. While life inside the classroom and the educational system in general at the same time is more and more dependent on digital solutions (platforms, personalization, datafication etc.) in their preparation of students for a future in an increasingly digital society (AI, AR, VR, automation, biometrics, etc.). It is in relation to the duality of this digital ecology that two partly overlapping concepts has emerged to cover and suggest what knowledge, skills, attitudes, and values that are needed to make us of the opportunities and handle the risks of rapid digitalization and deep mediatization; *Media- and information literacy* (MIL), launched by UNESCO in

2011, and *Digital competence*, originating from the policy circuits of EU and OECD (Forsman 2020).

This paper focuses on digital competence which is a concept that has been widely used over the last two decades – often in combination with the terms such as 21st Century Skill, employability, and lifelong learning. Several countries in Europe, Sweden is one of them, has also integrated digital competence in their national curriculum (see Bourgeois et al. 2019). The aim of this paper is not to describe this process and its outcomes, nor define or operationalize digital competence, but discuss digital competence as a "digital imperative" (c.f. Wormbs 2010) and "black box" that is related to dominant imaginaries regarding digital transformations and citizen making for the future (c.f. Rahm 2019; Selwyn 2016; Williamson 2017). This indicates that digital competence is connected not only to technological development and skilling but also to sociotechnical- and educational imaginaries (Jasanoff 2015, Rahm 2021), and what Flyverbom & Garsten (2021), in a discussion on international and transnational governance, describe as: "the capacity to guide organizational processes of anticipating the future". In line with this, I suggest that digital competence, in the context of policy making, can be described as a "moulding force" (Hepp 2013) that provides frameworks that institutions and individuals can use to reflect and guide their experiences and expectations regarding digitalization and deep mediatization (Hepp 2020).

This approach is informed by Hjarvard's (2013) institutional perspective on mediatization, meaning long-term structural changes on meso-level between media and other institutions (e.g. education). One side of Hjarvard's perspective is to discuss this in terms of resources and regulations that are related to cognitive scripts and key concepts that enables communication and alignments between different interests, organizations, institutions, and levels of governance. It is in line with this that I suggest a study of digital competence as a *resource* for transformative educational policies, and a *regulation* of the pros and cons of digitalization. I also acknowledge Hjarvard's proposition to advance mediatization theory by combining it with other heuristics; by suggesting that Hjarvard's institutional approach to mediatization is combined with concept analysis (Berenskoetter 2016), since digital competence functions as a *boundary concept*. Which means that it lacks a distinct definition and that it through a constant use by different parties has

become: “plastic[s] enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites” (Ilomäki et al. 2016:656).

Such an undertaking can on a transnational level be connected to discussions about soft power (c.f. Nye 2004) for which I use EU: s *Digital Competence Framework (DIGCOMP*) as exampel. *DIGCOMP* suggests what knowledge, skills, attitudes, and values that are relevant for digital competence to cover (Ala-Mutka 2011; Ferrari 2013; Vuokari et al. 2016; Carretero et al. 2019; Vuokari et al. 2022). The *DIGCOMP*-framework can also be described as a multi-dimensional framework that connects technological changes with cognitive, socio-emotional, and ethical dimensions. *DIGCOMP* also suggests a user-centered approach and it focuses on the empowerment of individuals to make them confident, effective and responsible in their usage of digital technologies in different personal and professional contexts. This is an operation that is expressed through an extensive use of tables, graphics, examples, indicators, and assessment criteria’s.

2. In a world of frameworks

The first *DIGCOMP*-framework, *Developing and Understanding Digital Competence in Europe* came in 2013 and suggested a foundation and platform for digital competence (Ferari 2013). *DIGCOMP 2.0.* Three years later, *The Digital Competence Framework for Citizens* was launched at here there was an emphazises on the grwoing impact of smart phones and ubiqtuous connections, indicating that we no longer talk about “being online” but rather discuss our existence as entwined in “digital environments” (Vuorikari et. Al 2016).

One year later *DIGCOMP 2.1* was annunced, and it presented 8 proficiency levels and many examples of how digital competence can be implemented in the field of learning and employment (Carretero et. al 2017). It also connected digital competence to cyber security, data privacy, and digital citizenship. *DIGCOMP 2.2* came in 2022 and suggested “new examples of knowledge, skills and attitudes”. This is the so far most recent version of the DIGCOMP-framework and it underlines the growing impact that AI

have on everything and it offers 250 new examples of what the digital competence is supposed to cover (Vuokari et.al 2022).

A number of other reports has also been launched under the DIGCOMP-umbrella such as *DigCompOrg* (2008) and *DigCompConsumers* (2017. *OpenEdu* (2016) is a framework for Higher Education. While *DigCompEdu* from 2017 is more focused on and has the ambition to: "Help Member States in their efforts to promote the digital competence of their citizens and boost innovation in education. The framework is intended to support national, regional and local efforts in fostering educators' digital competence, by offering a common frame of reference, with a common language and logic" (Punie, Redecker. 2017, p. 6).

As a whole, the DICCOMP-framework is characterized by an alignment of current technological development and certain focal areas and priorities. The underlying approach can be described as a form of technological determinism. Which makes digital competence not just a descriptive but also normative and regulative concept that prescribe a preferred way of thinking and relating to digitalization. This is largely done with reference to adjustments, adaptions, and a positive and flexible attitude to this transformative process. While at the same time emphasizing civic values and critical thinking, but mainly in an instrumental way (source criticism etc.) rather than as a debate about the financial, technical, political, environmental conditions and consequences of digitalization in relation to civic and democratic values and transparency (c.f. Selwyn 2016; Williamson 2017).

The complicated and complex undertaking of the *DIGCOMP*-framework is represented and organized through comprehensive of colorful graphics and visualizations. These often lengthy reports are also full of figures and matrixes, themes and levels, key words and arrows, indicators and assesment critiera's, that are meant to explain and clarify, prioritize and operationalize. However, after reading through these documents the feeling is that it is somewhat hard to "see the wood for the trees" and how to more concretely grasp how to go about and develop to be or become for example a digital competent teacher (c.f. fig. 1).

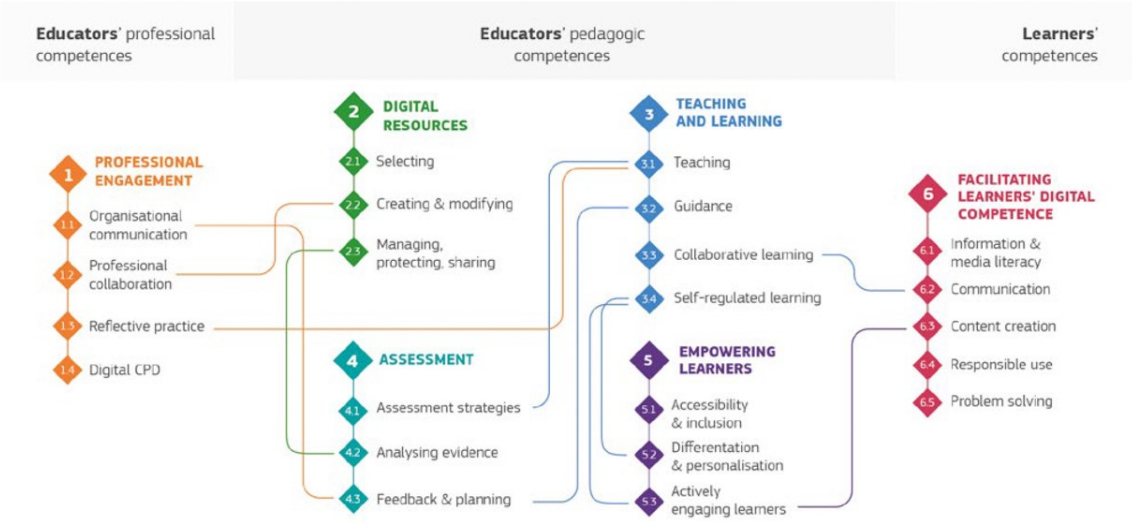

FIGURE 1: THE DIGCOMPEDU FRAMEWORK

3. Three approaches to concept analysis

This is not the place to go further into the details of the DIGCOMP-framework but the question remains –What can a study of documents as these bring to mediatization research? My answer is that digital competence functions as a barometer for how rapid changes in technology and industry are negotiated through policy making. I would also suggest that a continued conceptual investigation of digital competence should be done by combining three different forms of concept analysis. Firstly, what Berenskoetter (2016:164f) call a "scientific approach" which focuses on linguistics, semantics, etymology. We can for example note the connection between digital competence and digital literacy (Gilster 1997) which is a term previously used to discuss digitalization in a less instrumental way than what we are used to today. It should also be noted that digital competence is composed by a combination of digital and competence, where the semantic cluster for "digital" relates to technology, while the semantic cluster for "competence" denote a behaviouristic understanding of how subjects perform in non-standard situations (Pikkarainen 2014). This qualification, socialization and subjectification of future citizens should be further investigated with the means of another form of concept analysis that is

strongly connected to Michel Foucault's discussion of power and bio-politics (Berenskoetter 2016:168f).

A third form of concept analysis should also be applied, and this is mainly associated with German historian Reinhard Koselleck's (2002, 2004) temporal hermeneutics and his discussion about how certain concepts becomes hegemonic and transformative. According to Koselleck certain concepts (e.g. democracy) can be described as being "basic concepts" (Grundbegriffe) which means that they are foundational to political communication since they articulate and negotiate power, identity, and social order with reference to a wider semantic field, that encapsulate multiple temporal layers reflecting historical experience as well as future expectations, in relation to modernity and progressions. Among the basic concepts that Koselleck proposes we find: State, Revolution, Crises, Development, Future, Utopia, Democracy, Citizenship. It can be debated if digital competence qualifies as a basic concept. Yet it is noticeable that it seems hard to discuss present and future education without referring to digitalization and digital competence. Another interesting fact is that "digital" often features as a prefix to concepts like revolution, citizen, democracy, future.

4. Final words

The *DIGCOMP*-framework does not reflect the actual and total situation of EU in terms of access to digital infrastructure and use of digital tools. Even less so from a global perspective. However there are other and similar frameworks for other parts of the world. Which the UNESCO-UNEVOC:s database for *Digital competence frameworks* shows since this is a "global reference point for information on how digital competencies are being defined for citizens, learners and educators through the use of competence frameworks".[3] It would thus be interesting to make cross-national comparisons of how digital competence is discursively constrcuted to connect national identity and school system with "the future" in this phase of the Anthropocene which by some is describe as being "postdigital" (Jandric et al. 2022) as it is characterized by ´seamless blendings of

[3] UNESCO. *Digital competence frameworks for teachers, learners and citizens.* https://unevoc.unesco.org/home/Digital+Competence+Frameworks (June 11, 2024).

digital and non-digital elements. Which requires us to think, analyze and conceptualize in new ways.

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