WG 2 Young children's digital literacy and multimodal practices in early years settings, schools and informal learning spaces

Draft Summary Report for Second Project Meeting

19-20 October 2015, Tallinn, Estonia

In preparation for the 2nd meeting of the MC in October and to achieve the overall objectives of WG2, the group focused on the identification of educational policies in early years settings and schools and in informal learning spaces, including libraries and museums. Members of the group were asked to gather information in their respective countries on the following issues:

1. Information on digital literacy in official curricula, including the reasons cited for the incorporation of digital literacy in official school knowledge; the subject-areas to which digital literacy is connected; explicit definitions of and indirect references to digital literacy.
2. Information on digital literacy in informal learning spaces (e.g., museums and libraries), including the type of official documents in which such information is presented, the audience and means of dissemination of such documents, the ways digital literacy is defined therein.
3. References to digital literacy in country reports on the Eurydice Platform and major points reported therein.
4. Publications that describe and/or compare country policies on digital literacy in the early years.

The present report constitutes an effort to summarize tentative findings and realizations from the distinct reports that were collected during the period May-September 2015 on the following participating countries (in alphabetical order): Croatia, Cyprus, Finland, Germany, Greece, Poland, Portugal, Romania, Spain, and the UK[1]. Findings and realizations were organized around the four axes delineated above and served as the basis for further elaboration and discussion. In this draft, attention is paid to the first two axes, which are presented below.

1. Digital literacy in official curricula – policy texts: Definitions, rationale, and contextualization in subject-area school knowledge

Across participating countries, there is abundant agreement that the term "digital literacy" is not widely used or adequately defined in official curriculum/policy texts. In fact, the very notion of "digital literacy" appears to be explicitly used and defined only in the preamble of the newly introduced curricula in Poland. Specifically, as the Polish Ministry of National Education has recommended changes in core curricula, including putting more emphasis on computer science and ICT-related aspects, digital/computer literacy (in Polish, alfabetyzacja komputerowa) is defined in the preamble as the ability to use available technology for personal and professional purposes. This is the first stage in the development of IT education, the next one is fluency with information technology and after that computational thinking. A few important notes need to be made here: first, that the given curriculum was issued in June 2015 and is available for public consultation till 31 October 2015; second, the term is not used in the *present* Polish core curriculum for children aged 0-8; third, curricula are determined at

[1] As decided in the 2nd meeting of WG2 in Tallinn (October 2015), this draft report will be revisited once a year to expand and refine information on participating countries, with the expectation that a comprehensive report with key messages to policy makers will be published by the end of the Action (approx. April 2019).

the school level, taking into consideration recommendations like the above as those are stated in the core curriculum; and, finally, that even when defined, digital literacy is connected to technology, informatics, and/or ICT-related skills. As will be discussed below, the latter appears to be one of the most common ways of indirectly approaching digital literacy in official discourse.

Before addressing the terms that constitute indirect references to digital literacy, it is important to note other mentions of the term "digital" in official policy texts. As reported, the term appears as an identifier for either the texts and materials used for learning or the skills children need to develop. For instance, in the program of study for Modern Greek Language (2010) in the Republic of Cyprus (comprehensive for ages 4-18), digital appears often along with oral and written to describe different forms of texts children come across in and out of school, and which should be part of their repertoire of learning materials. Similarly, in the curriculum guidance for Key Stage 1 (6-8 year olds) in Northern Ireland, Language and Literacy contains the following references to digital skills. Children should:

- re-tell, re-read and act out a range of texts, representing ideas through drama, pictures, diagrams and ICT;
- research and manage information relevant to specific purposes, using traditional and digital sources, and present their findings in a variety of ways.

Evident from the above is the connection of digital literacy to ICT or computers and technology, more generally. In fact, across participating countries, digital skills and competences often coincided with the use of ICT. Summarizing reports from the different countries, the following uses of ICT and/or the computer are mentioned: In Croatia, computer use is promoted for children's participation in planning, implementing, and evaluating the educational process. In Cyprus, digital literacy connects to children's abilities and practical/technical skills to use the computer or other technologies in order to become more socialized in practices of everyday life. The use of the terms "technology and/or "computer" appear often in the Greek Interdisciplinary Comprehensive Program of Study, published in 2003 and still valid despite the publication of new curricula in 2011, which were only piloted in a small number of schools. In the 2003 curricula for pre-primary/kindergarten education, technology appears in the general principles, where it is stated that for programs of study to be suitable and effective for all children, they should "incorporate technology, where it is possible and in different activities, and utilize different information sources, like the internet." In a similar vein, technology appears in the Greek program of study for the language arts (2003), where children (yet, older ones) are expected to familiarize themselves with technology so that they access information on the internet and through multimedia, and to design texts on the computer. Attention to the computer is also paid in the Portuguese curriculum guidelines for early childhood education (3-6 year olds), where computer language appears as a language with which the child should have contact in the early years. As part of the objectives for Expression and Communication, children's mastery of oral language and approach to writing involves computer and audio-visual languages. When appearing in objectives that adhere to World Knowledge, computers are perceived primarily as sources of information (or reference materials), while in early primary education technology is a tool and resource for advancing other educational goals (e.g., using a computer keyboard to transcribe letters and texts).

In the present core curriculum from primary education in Poland, the use of ICTs, including searching for and making use of information, is listed as one of the general learning outcomes to be achieved by all students by the end of that educational stage. The ability to use ICTs is thus perceived as one of the most important skills to be developed alongside skills in reading,

mathematics, scientific thinking, communication in mother tongue and in a foreign language, learning to learn and teamwork skills. Importance on ICTs is placed in the Catalan curriculum, given that, according to the present Spanish educational law [Ley Orgánica de Mejora de la Calidad Educativa (LOMCE)], ICT competence "involves the creative, critical and secure use of information and communications technologies to achieve objectives related to work, employability, learning, use of free time, inclusion and participation in the society. It requires basic related specific language skills: textual, numerical, iconic, visual, graphic and sound as well as their patterns of decoding and transfer. This involves knowledge of the main tools and also access to sources and information processing, as well as knowledge of the rights and freedoms of people in the digital world." (European School Net, 2015, p. 8). ICTs are also mentioned in the Finnish official texts, where ICT-related skills are seen as important civic skills. Finally, technologies and ICTs are used across the four UK countries as connected to the area of "Expressive Arts and Design" (England); as a tool and means for selecting and using information (Northern Ireland); as a separate strand for the development of competences in using a range of technologies (Scotland); and, as a holistic and integral goal across the curriculum, connected to children's abilities in finding, developing, creating and presenting information and ideas using a wide range of equipment and software (Wales).

A few other terms are indirectly connected to digital literacy. For instance, across the 16 German "states," digital literacy is inferred through references to *media* and children's media experiences. Key points from such references include the potentials of media as instruments for investigation, information, and children's communication with one another and the educator; the opportunities offered through media for creative and productive learning; and, the need for critical, responsible, and self-dependent engagement with media and media texts. In the Polish context, in one curriculum text for early childhood education and care, the following aim was defined: to familiarize children with modern multimedia (e.g. computer, mobile phone, tablet, iPod, DVD player, projector, MP3, internet), their roles in people's lives and the ways of using them, as well as potential threats. In the English curriculum and under the area of "Expressive Arts and Design," children are expected to use what they have learnt about media and materials in original ways, thinking about uses and purposes; and represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories. The utilization of different media is also promoted and appears as an indirect reference to digital literacy practice in the "Curriculum for Excellence" in Scotland.

Indirect references to digital literacy are also made through notions of multiliteracy and multimodality. In the Core Curriculum for Pre-primary Education (age 6) and the Core Curriculum for Basic Education (age 7) in Finland, multiliteracy refers to skills in interpreting and producing various types of messages. It is essentially connected to thinking and communication skills and the ability to acquire, edit, produce, present, evaluate and appraise information in different environments and situations. Information can be produced and presented with the help of verbal, visual, numerical or other symbolic systems or combinations of these. Multiliteracy comprises different types of literacy, such as basic literacy, numerical literacy, visual literacy and media literacy, while a broad conception of text is adopted to encompass, among others, written, spoken, audiovisual or digital texts. Children's familiarization with different types of text also connects to multimodality (e.g., see the 2011 Primary Education Curriculum in Greece). In the UK, such emphasis is placed in the Scottish "Curriculum for Excellence" where the following intended outcomes are listed for pre-school and primary children: the regular selection, reading, listening and watching of texts that children enjoy and find interesting; and, the consideration by children of the impact of layout and presentation (including lettering, graphics and other features) on audience.

In official policy/curriculum texts in many participating countries, the development of digital literacy competences on behalf of children – in the form of ICT-related skills and practices, media experiences, and children's engagement with multimodal or multiple forms of text – appears to be a cross-curricular goal in pre-primary and early primary education. This connects to the interdisciplinary nature of pre-primary learning and the need to consider early childhood education not in terms of separate subject areas but as an integrated experience (see e.g., Cyprus, Finland, Germany, Greece, Portugal). In these cases, ICTs and other technologies appear to be the means for achieving other objectives or, more generally support the overall orientation of education. For instance, in Finland, this connects to the emphasis on developing transversal competence, which is comprised of competences that cross boundaries and link different fields of knowledge and skills.

In the cases when ICT-related skills and practices are connected to specific subject-areas or knowledge domains, those domains fall mostly in two domains: language- and literacy-related subjects, on one hand, and math and/or science education, on the other. Examples of the former are evident in the reports of countries like Wales, where digital literacy is not directly referenced but is mostly connected to writing on screen, as this appears in the curriculum for Language, Literacy, and Communication. Similarly, in Portugal, digital literacy practices (in the form of technologies) in early primary education are integrated into the teaching of Portuguese. Countries like Croatia locate the use of technologies primarily in the teaching of natural sciences. Similarly, in the curriculum for Greek pre-primary education (2003) direct mentions to technologies are included in the objectives for math education and environmental studies, even though those statements co-exist with recommendations that language, communication and technology cut across subject-areas. In official texts from countries like Spain (Catalan curricula) and Cyprus, there are direct references to technologies and their use in literacy, the language arts, and mathematics (and even theatre education and literature, which along with the language arts, were combined into a single course in the 2010 curriculum in Cyprus).

In addition, ICTs and the use of computers was considered as a separate knowledge domain in official texts from Greece (Pre-primary/kindergarten education, 2003) and England. In the former case, this was defined through the notion of informatics that appears as a separate section in the curriculum to refer to children's familiarization with basic operations of the personal computer and understanding of its uses as an instructional medium and a tool for discovery, creation and expression in their everyday activities. In the case of England, there is a separate curriculum for computing, but it is focused largely on coding, i.e.:

Pupils should be taught to:

- understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Despite absences in explicitly defining digital literacy and variation in the ways that could be understood in its relation to technology and multiple forms of texts, there are significant similarities in the reasons cited across policy documents in regards to the necessity of incorporating technology (and multiliteracy/multimodality) in early years educational settings. Those reasons include: the consideration of technology- and ICT-related skills as basic civic skills that are required for children's advancement and development in school and in the broader society; the necessity to bridge the gap in children's everyday and school practices; the ubiquity of media and technologies in children's everyday lives; the potentials of technologies for enhancing communication and play in school, but primarily with family and other people outside school; the affordances of technologies for supporting children to develop as self-directed learners.

2. Digital literacy in official documents relating to informal learning spaces

Policies relating to digital literacy in informal learning spaces appear to be less frequent and systematic than those adhering to formal educational settings. Information presented in this section derives from national policies, but also policies and practices of local and other organizations that place their work in museums, libraries and other informal learning spaces.

A first observation pertains to the diversity of entities and sources for delineating official relevant policy and practice. In particular, the production and publication/dissemination of relevant official documents (and thus, policies and guidelines) fall under the work of national ministries and departments, including the Ministry of Infrastructure and Development, the Ministry of Administration and Digitization of Poland, and the Ministry of Culture and National Heritage in Poland; and, the Ministry of Education and Culture in Cyprus, where information is provided on museum education. In Spain, where education is decentralized, each regional Educational Department includes information on informal learning spaces in digital literacy. Finland presents a case, where a number of national policies indirectly address issues relating to digital literacy in informal spaces, yet from different perspectives and objectives: the Library Policy provides guidelines for public libraries; the Child and Youth Policy Program (2012-2015) contains national objectives for child and youth policy programs at the provincial and local level; the Good Media Literacy draws on objectives in the Government Program on media education and related aspects. Policies are also set by associations, including, for instance, the Croatian Library Association and the Chartered Institute of Library and Information Professionals in the UK. Through those documents, the promotion of digital literacy (even when not named as such) connects to specific spaces like the libraries and the museums. The example of Portugal is further telling of the diversity of informal learning spaces where digital literacy may be promoted by non-profit institutions, associations, organizations and foundations (see excel sheet for a comprehensive list).

A realization from the reports across participating countries is that the term "digital literacy" is seldom mentioned and when so, is rarely defined. For instance, in Poland, the term digital literacy is mentioned only once in the policy Digital Poland, yet without the provision of a definition. Similarly, the campaign "Network Library" in Germany (Netzwerk Bibliotek) supports libraries to educate people in digital literacy and information literacy, but does not provide a clear definition of the term despite description of practices that might fall under that (e.g., pupils' reading with digital media). Notions of digital literacy might be instantiated as in the use of ICTs for connection and information retrieval (as in the case of museum education in Cyprus or the emphasis on contact with technologies in the Catalan case) or replaced by "information literacy" that may refer to: people's ability to read and understand hypertext or multimedia texts, including images, sounds, and verbal text (Croatia); the identification of

information needs and the searching, reviewing, and using of information (Germany); or, the fostering of research and selection of information on the internet, as well as the production of digital text like blogs, school newspapers, and so on (Portugal).

A second point to be made is the extent to which such policies and practices address early age children and in what ways. As reported on Spain, while there seems to be attention to digital literacy in informal learning spaces across Education Departments, the space for Early Childhood Education is reduced/considerably limited as compared to other age groups. A similar observation may be made for programs in Portugal, which include funded projects on children but also expand to address the needs and enhance the potentials of people across age groups or with specific sociocultural characteristics.

Issues raised for further consideration from the development of this report and the advancement of the WG objectives:

- Definition of digital literacy: whilst there is no agreement on (or mention of) the term in official policy texts (national and regional curricula, in particular), do we need a shared definition of the term to guide our own work in the project? How would this definition as well as findings from our readings of official texts change, if we also consider, e.g., multimodal literacy practices?

- Given that references to the "digital" are indirect, one might consider (a) the different terms used to describe digital tools, skills and practices, (b) the assumptions upon which the use of each term may rest, and (c) considerable similarities and differences across countries, especially when the use of particular terms and thus the delineation of policies and recommendations are considered vis-à-vis the time/year of publication of different curriculum/policy texts.

- From the above raises the question of the value and necessity of identifying (and naming) digital practices in official policy texts when those are not defined as such. One may discuss the potentials and limitations of this approach, especially in relation to identifying key messages for policy makers (see WG2 Objective vi).

- Beyond the absence of a shared definition or the limited use of the term digital literacy, understanding relevant policy across participating countries is further complicated by the different ways in which policy is communicated through official texts, as well as the structural characteristics of educational systems and the ways curriculum design/development is conceptualized therein (e.g., see the UK, Germany and Spain, which present cases of decentralization to the member-states/countries/regions, as well as Poland, where curriculum decentralization reaches the school level). How do we talk about different policies (and their potential impact), given this diversity?

- Accuracy and expansion of information: Members from participating countries may wish to check the accuracy of information, particularly as transferred in this summary report. They might also consider revisiting some of the points raised in this document to more accurately and extensively discuss digital skills and practices that are indirectly promoted in policy texts, as well as consider the organization of information on informal learning spaces.

References to Official Documents - Primary Sources

- *Teaching Reading in Europe: Contexts, Policies and Practices* (2011). Eurydice Report. Brussels: Education, Audiovisual and Culture Executive Agency (EACEA P9 Eurydice). Retrieved from http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/130en.pdf

Cyprus

- Ministry of Education and Culture. (2010). Πρόγραμμα Σπουδών Νέας Ελληνικής Γλώσσας [Program of Study for Modern Greek Language/Language Arts]. Nicosia, Cyprus: Cyprus Pedagogical Institute.
- Ministry of Education and Culture. (2011). Πρόγραμμα Σπουδών Προσχολικής Εκπαίδευσης [Program of Study for Preschool Education]. Nicosia, Cyprus: Cyprus Pedagogical Institute.

Finland

- Finnish Public Library Policy 2015 - http://www.minedu.fi/export/sites/default/OPM/Julkaisut/2009/liitteet/opm31.pdf?lang=en
- Child and Youth Policy Programme 2012–2015 - http://www.minedu.fi/export/sites/default/OPM/Julkaisut/2012/liitteet/OKM8.pdf?lang=fi
- Good Media Literacy - National Policy Guidelines 2013-2016 - http://www.minedu.fi/export/sites/default/OPM/Julkaisut/2013/liitteet/OKM13.pdf?lang=en
- Audiovisual Culture in the Digital Era. Set of Policies - http://www.minedu.fi/OPM/Julkaisut/2012/av_linjaukset.html?lang=fi&extra_locale=en

Germany

- Curriculum; Focus: primary school (age 6-10) (original title*: Lehrplan für die Grundschule*) - http://www.schulentwicklung.nrw.de/lehrplaene/lehrplannavigator-grundschule/
- Educational Promotion for children aged 0-10 (in day-care centres and primary schools) - (original title: Grundsätze zur Bildungsförderung für Kinder von 0 bis 10 Jahren in Kindertageseinrichtungen und Schulen im Primarbereich in Nordrhein-Westfalen) - http://www.bildungsgrundsaetze.nrw.de/fileadmin/dateien/PDF/Mehr_Chancen_durch_Bildung.pdf
- http://www.bibliotheksportal.de/themen/bibliothek-und-bildung/informationskompetenz.html
- http://www.informationskompetenz.de/glossar/?term=344
- http://www.netzwerk-bibliothek.de
- http://www.kmk.org/fileadmin/veroeffentlichungen_beschluesse/2004/2004_06_03-Fruehe-Bildung-Kindertageseinrichtungen.pdf

- http://www.kultusportal-bw.de/site/pbs-bw/get/documents/KULTUS.Dachmandant/KULTUS/import/pb5start/pdf/KM_KIGA_Orientierungsplan_2011.pdf
- http://www.ifp.bayern.de/imperia/md/content/stmas/ifp/bildungsplan.pdf
- http://www.gew-berlin.de/public/media/berliner_bildungsprogramm_2014.pdf
- http://www.mbjs.brandenburg.de/media/lbm1.c.312232.de
- http://www.soziales.bremen.de/sixcms/media.php/13/Jugendsenatorin_Rahmenplan_2012_web.pdf
- http://www.hamburg.de/contentblob/118066/data/bildungsempfehlungen.pdf
- https://bep.hessen.de/irj/BEP_Internet
- http://www.bildung-mv.de/export/sites/bildungsserver/downloads/Bildungskonzeption_0bis10jaehrige.pdf
- http://www.mk.niedersachsen.de/portal/live.php?navigation_id=25428&article_id=86998&_psmand=8
- http://www.bildungsgrundsaetze.nrw.de/fileadmin/dateien/PDF/Mehr_Chancen_durch_Bildung.pdf
- https://kita.bildung-rp.de/fileadmin/dateiablage/Bildungsempfehlungen/BEE/Downloads/bildungs-und-erziehungsempfehlungen.pdf
- http://www.saarland.de/dokumente/thema_bildung/Saarland_Programm.pdf
- http://www.saarland.de/dokumente/thema_bildung/Saarland_Handreichung.pdf
- http://www.kita-bildungsserver.de/downloads/download-starten/?did=37
- http://www.ms.sachsen-anhalt.de/fileadmin/Bibliothek/Politik_und_Verwaltung/MS/MS/Presse_Dialog_Kita/2014/bildungsprogramm_2014.pdf
- http://www.schleswig-holstein.de/DE/Fachinhalte/K/kindertageseinrichtungen/downloads/download_leitlinien_bildungsauftrag_kindertagesstaetten.pdf;jsessionid=D54A389A554007F33EAFD701B872BCAF?__blob=publicationFile&v=3
- http://www.thueringen.de/imperia/md/content/tmbwk/kindergarten/bildungsplan/th_bp_2011.pdf

Greece

- Pedagogical Institute. (2003). Διαθεματικό Ενιαίο Πλαίσιο Προγραμμάτων Σπουδών [Interdisciplinary Comprehensive Framework for Programs of Study]. Athens, Greece: Ministry of Education and Religious Affairs.
- Pedagogical Institute. (2011). Πρόγραμμα Σπουδών Νηπιαγωγείου [Program of Study for Preschool Education]. Athens, Greece: Ministry of Education and Religious Affairs.

Poland

- http://men.gov.pl/wp-content/uploads/2015/07/propozycja-zmian-w-podstawie-programowej.pdf
- Operational Programme Digital Poland for 2014-2020

Portugal

- Curriculum guidelines for early childhood education (original name: "orientações curriculares para a educação pré-escolar" (3 a 5-6 anos de idade) (Ministério da Educação, 1997) - http://www.oei.es/inicial/curriculum/orientacoes_portugal.pdf

- *Educative Referential for the Media* http://www.dge.mec.pt/sites/default/files/ficheiros/referencial_educacao_media_2014.pdf
- **Specific Ongoing Reforms and Policy Developments at National Level – Digital Portugal Agenda (**https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Portugal:Specific_Ongoing_Reforms_and_Policy_Developments_at_National_Level)
- **Improving the Quality and Efficiency of Education and Training (**https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Portugal:Improving_the_Quality_and_Efficiency_of_Education_and_Training)
- Resolução do Conselho de Ministros nº 68/2012: https://infoeuropa.eurocid.pt/opac/?func=service&doc_library=CIE01&doc_number=000050177&line_number=0001&func_code=WEB-FULL&service_type=MEDIA
- Despacho normativo nº 17/2012: https://infoeuropa.eurocid.pt/opac/?func=service&doc_library=CIE01&doc_number=000050177&line_number=0002&func_code=WEB-FULL&service_type=MEDIA

Spain

- Catalan Curricula 2009/2012
- Educalab (http://www.educalab.es/)
- European Schoolnet Spain (2015) Country Report on ICT in Education http://www.eun.org/c/document_library/get_file?uuid=f81e3194-6969-4382-b3bb-c3504bedf0be&groupId=43887

UK

- https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/335504/EYFS_framework_from_1_September_2014__with_clarification_note.pdf
- http://www.nicurriculum.org.uk/docs/foundation_stage/areas_of_learning/statutory_requirements/ fs_language_literacy.pdf
- http://ccea.org.uk/sites/default/files/docs/curriculum/area_of_learning/the_world_around_us/progression_framework_sci_tech.pdf
- [1]http://www.educationscotland.gov.uk/learningandteaching/curriculumareas/languages/litandenglish/eandos/index.asp
- [1]http://www.educationscotland.gov.uk/learningandteaching/curriculumareas/technologies/eandos/index.asp
- [1] http://learning.gov.wales/docs/learningwales/publications/130424-framework-for-childrens-learning-en.pdf
- http://www.cilip.org.uk/cilip/advocacy-awards-and-projects/advocacy-and-campaigns/information-literacy
- http://www.cilip.org.uk/cilip/advocacy-awards-and-projects/advocacy-and-campaigns/ebooks
- http://www.nationalmuseums.org.uk