DETECT

Developing Teachers' Critical Digital Literacies

Schools' perceptions and experiences of critical digital literacies across four European countries

DETECT project report 2

Co-funded by the Erasmus+ Programme of the European Union

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Introduction

Digital technology use has become an integral aspect of contemporary education and has created new opportunities and challenges for schools. A range of digital tools are now used by educators to facilitate teaching and learning (Selwyn et al., 2017) while social media platforms are often adopted to promote interaction with parents and other audiences (Kimmons et al., 2018). Furthermore, a range of digital tools and platforms have been used as a means of supporting everyday aspects of school organisation and management (Williamson, 2017). At the same time, children and young people are also increasingly spending more time online engaging in formal as well as informal contexts to support their learning, interaction and socialisation with peers and to play online games (Smahel et al. 2020). As such the reconfiguration of structures and processes of formal schooling and the increased online engagement of young people in a networked world requires new forms of digital literacies driven by both teachers and students' needs (Livingstone et al., 2020; Starkey, 2020). In particular, it is necessary to consider how schools not only provide training in relation to acquiring technical or other 'functional' skills in order to use digital technologies, but also to allow educators and students to consider the wider implications of digital technology use in their teaching, learning as well as in navigating digital worlds and networks.

In light of the above, the three-year DETECT project (2019-2021) funded by Erasmus+ KA2 focuses on supporting educators' with developing critical digital literacies. DETECT consists of a consortium of four Universities and one research institute with expertise in the fields of digital literacies, teacher training and e-learning as well as four partner schools who have been active adopters of a range of digital technologies and are looking to enhance their understanding and competences in relation to critical digital literacies.

This second project report summarises the initial empirical findings from a mixed methods study that was conducted during the first year of the project and aimed to develop an understanding of schools' readiness in relation to digital technology use and teachers' perceptions, experiences and needs in relation to critical digital literacies. This report outlines the research questions and research methods, and then goes on to present the key findings emerging from the collected data. It ends with discussing relevant policy implications and making recommendations for consideration by researchers, policy makers and educators.

Aims and Objectives

The DETECT project aims to raise awareness amongst educators and support them in developing critical digital literacies in relation to the use of digital technologies and social media. This involves reconceptualising the notion of digital literacies in order to look beyond functional ICT skills and e-safety and encompass instead a richer set of critical digital literacies that are tailored specifically to educators' personal and professional needs within a school context.

The project's rationale is aligned with a range of policies that focus on the importance of digital literacy at national and supranational level (European Commission, 2018; UNESCO, 2018). In particular, the project's objectives are the following:
- develop an understanding of teachers' needs in relation to critical digital literacies within a school context;

- raise educators' awareness regarding the complexity of using digital technologies and social media for educational and institutional purposes as well as for professional development and lifelong learning;
- empower educators so that they can take informed decisions regarding digital technologies and social media use and what they share online within the context of the school setting;
- provide training to educators so that they can make pedagogically meaningful and safe use of digital technologies;
- create and user-test in collaboration with educators a range of intellectual outputs and resources on the topic of critical digital literacies (e.g. MOOC and toolkit).

This second project report focuses on the first objective, that is to 'develop an understanding of teachers' needs in relation to critical digital literacies within a school context' and will present the empirical activities carried out as part of Intellectual Output 1 (IO1) and the relevant findings that emerged. One of the aims of IO1 was to develop a framework of critical digital literacies relevant to the needs of primary and secondary school teachers across Europe (see Gouseti et al., 2021). A range of activities were carried out in order to inform the creation of the framework: i) a review of literature in the field of critical digital literacies; ii) a quantitative survey of the partner schools and iii) qualitative focus-group interviews with the teachers from the consortium schools. This report focuses on presenting the findings from the survey and interviews while the findings from the systematic literature review can be found here (Ilomaki et al., forthcoming).

Methodology

A mixed methods approach was adopted in order to explore teachers' current understandings of critical digital literacies, gauge their needs and identify relevant gaps that would inform the conceptualisation and design of the Critical Digital Literacies framework. This comprised a quantitative survey as well as qualitative focus-group interviews and the participants were recruited from the project schools in Italy, Finland, Spain and the UK. Ethical permission was granted by the relevant HEIs in the different countries and national guidelines regarding ethical approval were adhered to throughout the study.

The SELFIE survey

The EU SELFIE self-reflection tool[1] was adopted as a means of evaluating how partner schools used digital technologies for teaching and learning and how digital technology use was perceived by teachers, students and school leaders. All partner schools signed up for the SELFIE tool and completed the relevant questionnaires. The SELFIE survey covers the following main areas:

A. Leadership
B. Infrastructure and Equipment
C. Continuing Professional Development
D. Teaching and Learning
E. Assessment Practices
F. Student Digital Competence

Each area includes several mainly Likert-scale (1= strongly disagree, 5 = strongly agree) questions through which the respondents evaluate their own and the schools' digital practices related to the area. SELFIE includes surveys for school leaders, teachers and students. In DETECT we agreed on collecting data only from school leaders and teachers, but some schools collected data also from students. As a result, each school received a report including average scores of each question as well as average scores of each area separately for school leaders, teachers and students. Original data from individual respondents is not made available to the participating schools, only the report is generated and shared with the schools completing the SELFIE survey .

Most questions in the surveys are fixed while some are optional and can be left out. There is also a possibility to add a maximum of eight new questions. As part of the DETECT study, the researchers and teachers from each partner organisation decided together which questions to include in the surveys. In addition, eight new questions were created together through an iterative process, focusing especially on the critical aspects of critical technology use in schools, based on the partners' understanding and expertise at the beginning of the project. The new questions were the following (see Appendix 2 for questions in different national languages):

1. https://ec.europa.eu/education/schools-go-digital/about-selfie_en

1. In our school, we discuss how data is collected, tracked and shared through the digital platforms and applications we use. (Data awareness)
2. In our school, we work towards minimizing discrimination (gender, sexual orientation, religion,...) in all forms of digital practices. (Non-discrimination)
3. Our teachers/I use digital technologies to facilitate student collaboration with other schools. (External collaboration)
4. Our teachers/I use digital technologies to develop students' critical thinking. (Critical thinking)
5. In our school, teachers/we promote actions to prevent cyber-bullying. (Cyber bullying)
6. In our school, students learn how to keep their personal data safe online. (Data literacy)
7. In our school, students learn to use their user accounts and passwords appropriately. (User access security)
8. In our school, students learn to control the time that they spend using technologies. (Time exposed to technology)

As part of the DETECT empirical data collection, the coordinating teacher in each school invited the school leaders and teachers to respond and co-ordinated the survey completion process. The total number of participants included 5 schools, 106 teachers, 16 school leaders (as well as 344 students). There were two primary schools (from Spain and the UK) and three secondary schools (from Finland, Italy and Spain) among the participating schools. Results were collected in a shared Google sheet including average results from each school separately for school leaders and teachers. Summary graphs were created from the results and are presented in the Summary of findings section.

Focus group interviews

Drawing on the findings of the literature review and the SELFIE reports, semi-structured, focus group interviews were conducted with teachers from the four consortium schools in Italy, Finland, Spain and the UK in order to gain a more in-depth understanding of the particular needs of the target group in relation to the topic of critical digital literacies. An email invitation to participate in a focus-group interview was sent to all the teachers of each partner school in the UK, Italy, Finland and Spain. In the Spanish case also a video explaining the activity's characteristics was shared to inform the prospective participants and get consentient engagement.

The interviews were organised and conducted by the researchers in the respective local HEIs between February-June 2020. A total of 7 focus-groups interviews took place with a total number of 39 participating teachers (7 from Finland, 6 from the UK, 9 from Spain and 17 from Italy). The interviews were conducted both face to face (schools in Spain) and online (schools in Finland, Italy and the UK) due

to pandemic-related restrictions imposed shortly after the start of the data collection period. The interview schedule in the different national languages can be found in Appendix 3.

The interviews were transcribed and analysed by researchers in the respective countries applying the qualitative content analysis method. In particular, the Critical Digital Literacy framework, developed in DETECT (see Gouseti et al., 2021) was used as a coding scheme for a thematic analysis and all interview data were coded according to the various sub-dimensions of the preliminary CDL framework. Researchers analysed the interviews in their national languages but for the reliability check, a representative sample of excerpts from each school and their codings were translated and discussed together among the researcher team in several consensus meetings and the final coding criteria were constructed based on those discussions. Details of the analysis and results will be reported in a scientific journal article (Gouseti et al., forthcoming).

Summary of findings

SELFIE findings

Overview

Exploring the data collected through the SELFIE process demonstrates that generally the areas of Leadership, Continuing Professional Development (CPD) and Assessment Practices attracted lower responses across the institutions that completed the activity (see Figure 1). School leaders generally had a more positive impression regarding Leadership, Infrastructure and Equipment, CPD and Student Digital Competence than the surveyed Teachers. There were also demonstrable differences between school leaders and teachers with respect to the Teaching and Learning, and Assessment Practices, with leaders generally having a reduced perspective of the strength of these activities, than the teachers. This coupled with differences in the perception of student digital competence may in essence just highlight a distance between the school leaders perceptions and actual practices.

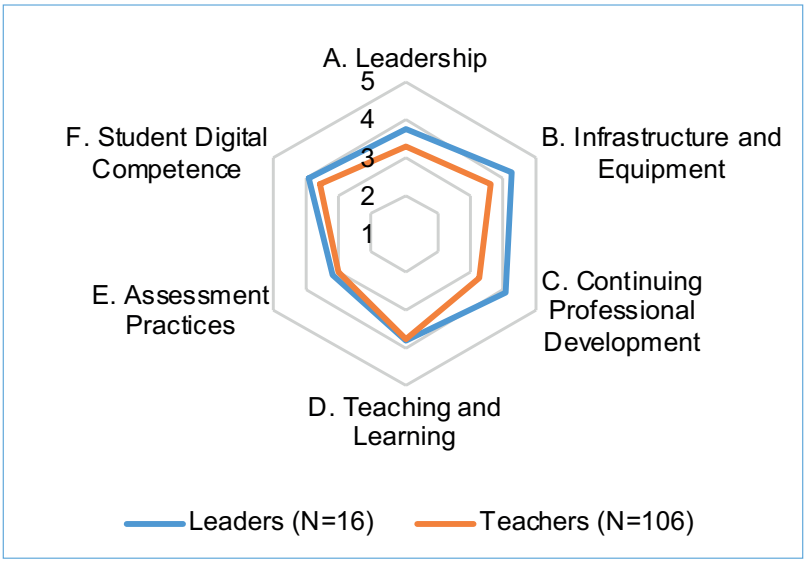


Figure 1. Results according to the main areas from school leaders and teachers.

In Figure 2, the results of each school are presented separately.

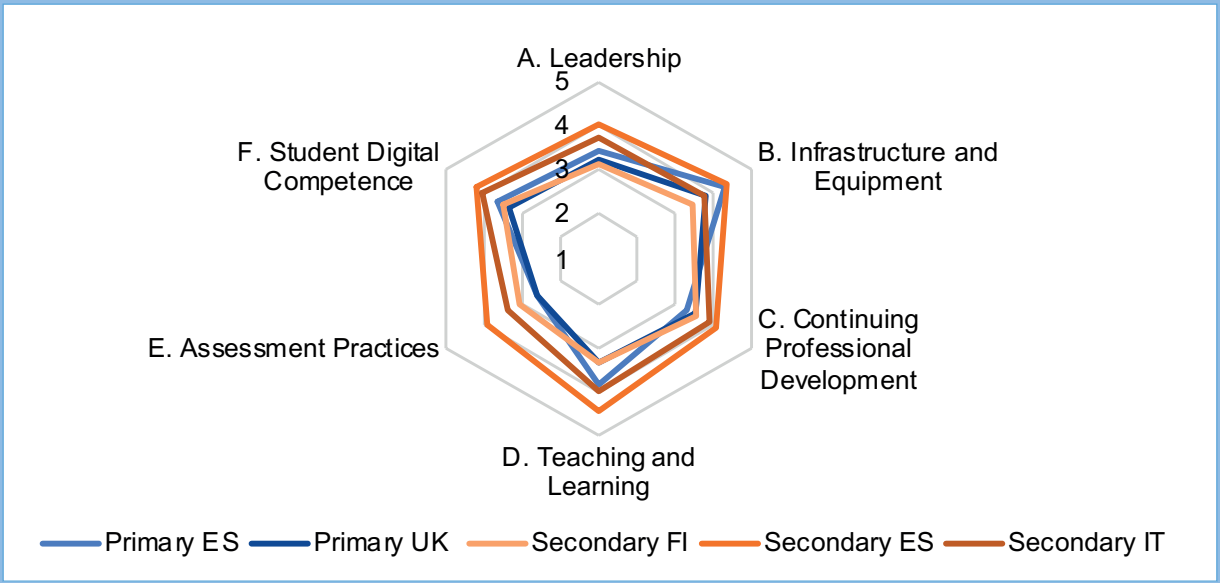


Figure 2. Results according to the main areas from each school.

Table 1 presents the individual SELFIE statements that received the lowest and highest scores in all responses across the schools.

Statement theme (response scale 1-5)	Teachers (N=106)
Bring your own device / B. Infrastructure and equipment	2.32
Time to explore digital teaching / A. Leadership	2.38
Feedback to other students / E. Assessment practices	2.78
Self-reflection on learning / E. Assessment practices	2.86
Assistive technologies / B. Infrastructure and equipment	2.88
Keeping data secure / D. Teaching and learning	4.02
Data protection / B. Infrastructure and equipment	4.04
Communicating with the school community / D. Teaching and learning	4.20
Internet access / B. Infrastructure and equipment	4.22
Online educational resources / D. Teaching and learning	4.34

Table 1. Individual statements with lowest and highest scores.

The following sections highlight findings across the different Areas of the SELFIE questionnaire.

Nonetheless, it should be acknowledged that being self-reported measures some teachers might be overconfident whereas others might be equally skilled but less confident in the area of performance measured by the SELFIE. The full table of results is available as open access data (DETECT, 2021a).

Area A: Leadership

Looking at the results in terms of the Area of Leadership there are effectively two items which stand out. One is the differences between school leaders perceptions and teachers perceptions of Digital Strategy and its development – with school leaders perceiving these items more positively than Teachers. The second item is perceived concerns by Teachers regarding having sufficient time for exploring digital teaching.

Area B: Infrastructure and Equipment

Looking across the institutions involved in collecting the results, the area attracting the lowest score relates to students' bringing and using their own devices in the classroom. It is clear why this item would attract a higher percentage of disagreement given concerns about usage for non-educational purposes and distraction in the classroom, security and safety, and concerns related to inclusivity. There were also some concerns particularly in Finland and Spain related to the integration of assistive technologies and access to online libraries and repositories.

Area C: Continuing Professional Development

Positively, across the majority of schools involved in the survey it is clear that there was a fair amount of discussion regarding CPD and opportunities provided for CPD linked to digital technologies. The most useful forms of CPD varied across the national contexts, possibly due to cultural differences and/or the availability/ integration of various practices. It is, therefore, worth exploring further whether there are lessons which can be learnt across the schools involved regarding the integration of CPD in practice.

Area D: Teaching & Learning

The majority of items in terms of digital competence demonstrate a good awareness of levels of skills in relation to digital technologies. The areas where perhaps there was a need at the time to increase knowledge was in relation to the use of virtual learning environments and open educational resources, though following the past 12 months transition to remote schooling this might have changed. In some national contexts it was also clear that teachers felt that more could be done in order to use and integrate technology into students' learning.

Area E: Assessment Practices

In the context of integration of digital technologies to better enable assessment it is clear across the majority of contexts that more could be done. Again some of this may have changed in the post Covid 19 landscape, but the picture points in general to more limited use of digital technologies at the time to enable assessment. Moreover, there is less confidence in using data to support the analysis of teaching and learning in primary schools as opposed to secondary schools.

Area F: Student Digital Competence

In general, the schools' perceptions of Student Digital Competence was positive across all contexts. Areas such as solving technical problems, giving credit to others' work and learning coding or programming were areas in some schools which could be improved, but in general there was agreement that students did have base levels of digital technology skills.

Other Areas

Table 2 presents the overview of results separately for primary and secondary schools about other areas included in the SELFIE survey.

	Primary (N=20)	Secondary (N=83)
Adoption of technology (1-4), teachers 1 = I tend to use digital technologies after the majority of my colleagues 2 = I tend to use digital technologies at the pace of the majority of my colleagues 3 = I tend to be an early adopter where I see clear benefits 4 = I am usually among the innovators who try out new technologies	2.40	2.73
Confidence in using technology (1-5), teachers		
Preparing lessons	4.05	4.13
Class teaching	4.10	4.03
Feedback and support	3.70	3.73
Communication	3.45	4.00
Percentage of time for digital teaching 1=0-10%, 2=11-25%; 3=26-50%; 4=51-75%; 5= 76-100%	2.70	3.30

Table 2. Results of other areas included in the SELFIE survey

With respect to the adoption of technology, teachers' perceptions of technology adoption across all participants were fairly positive with between 30-50% of colleagues in institutions innovating and/or adopting where clear benefits of the technology could be perceived.

Key issues in terms of the negative aspects of technology use across many of the partners relate to having insufficient digital technology and having a lack of time for teachers. Other barriers were highlighted across the partners, but in general the above two were the key concerns.

Overall across all school contexts there was a positive perspective on teachers and their confidence in the use of technology, with teachers on average across all schools reporting at least some confidence in the use of technologies across each of the areas.

There were some differences between partner schools in terms of the amount of time dedicated to Digital Teaching. It is also clear from the survey that there were some substantial differences between schools in levels of integration. In addition, Figure 3 demonstrates a comparison between primary and secondary level responses across the main areas of the SELFIE tool, demonstrating that across the majority of areas the secondary responses showed increased levels of integration.

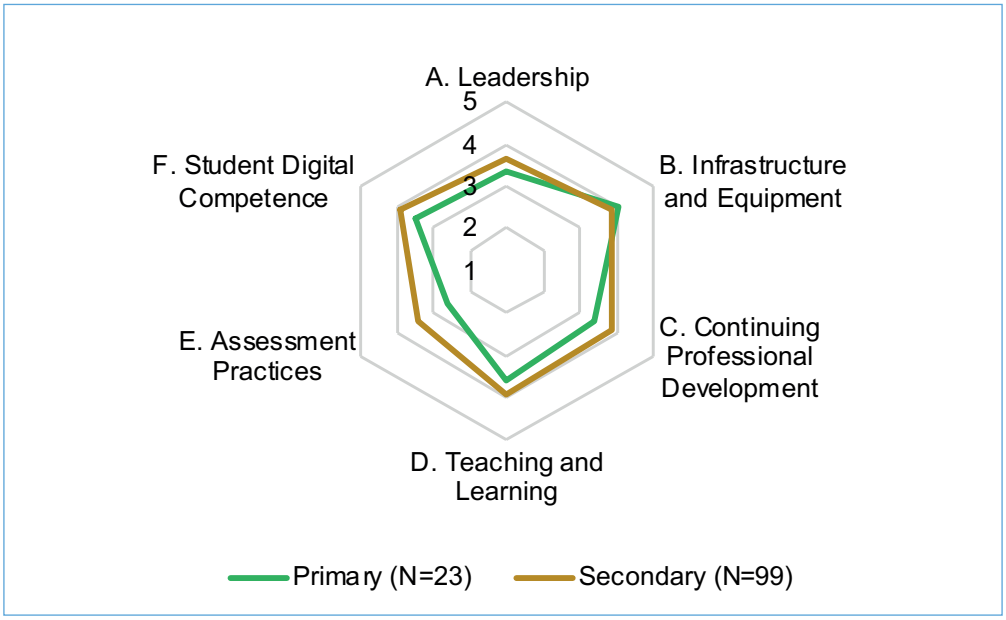


Figure 3. Results according to the main areas from primary and secondary schools.

Additional statements about critical digital literacy

Figure 4 includes the results based on the eight additional statements created in the SELFIE survey together by the project members to address aspects related to critical digital literacy.

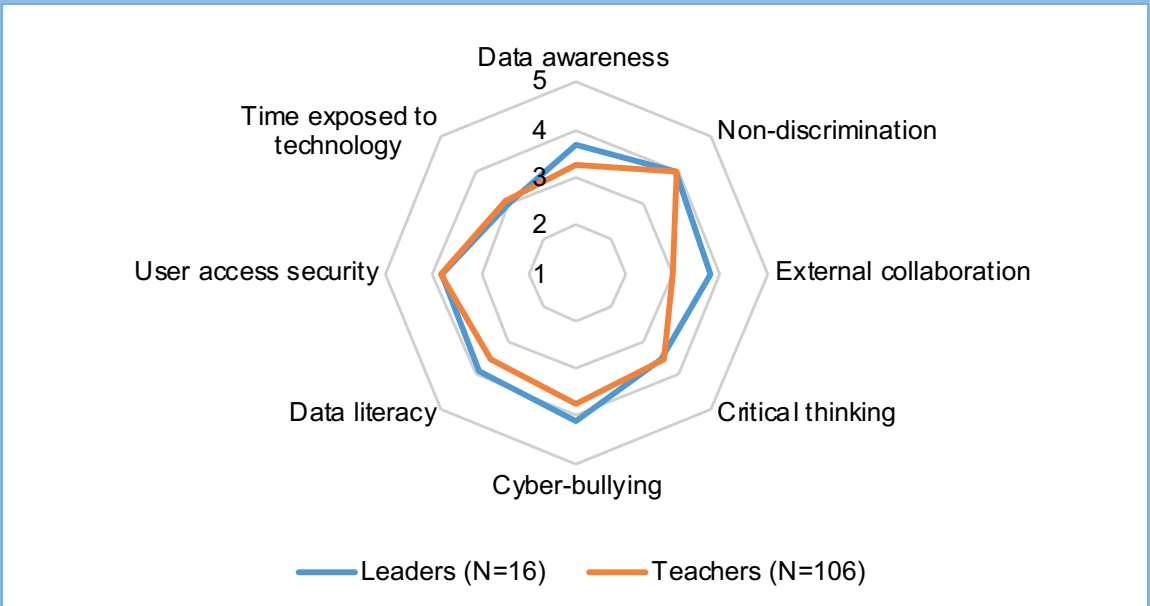


Figure 4. Results of the statements created in DETECT from school leaders and teachers

Tellingly, the school leaders and teachers' responses, which tended to be different when at the SELFIE standard questions, were mostly convergent in this case. The only case where there is a more positive opinion from the school leaders, as observed previously, relates to the external collaboration with other schools. There are slightly higher scores also for cyber-bullying, data awareness and data literacy. It appears that the leaders are more confident about their school's good approach or strategy relating to emergent or relevant topics. Overall, the teachers and leaders' concerns focus on critical thinking and the time students are exposed to technology use. Interestingly, the teachers' responses are always cautious (placed around 3, the middle point at the Likert scale). Nevertheless, we do not know the internal variance or the dispersion measures so as to consider the mean score as representative of the overall teachers' opinion.

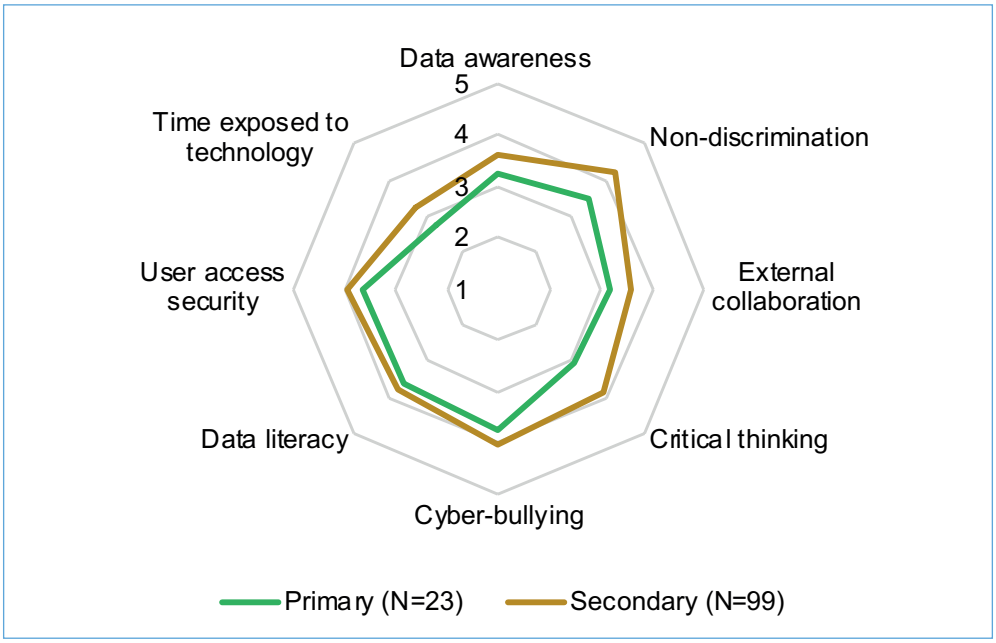
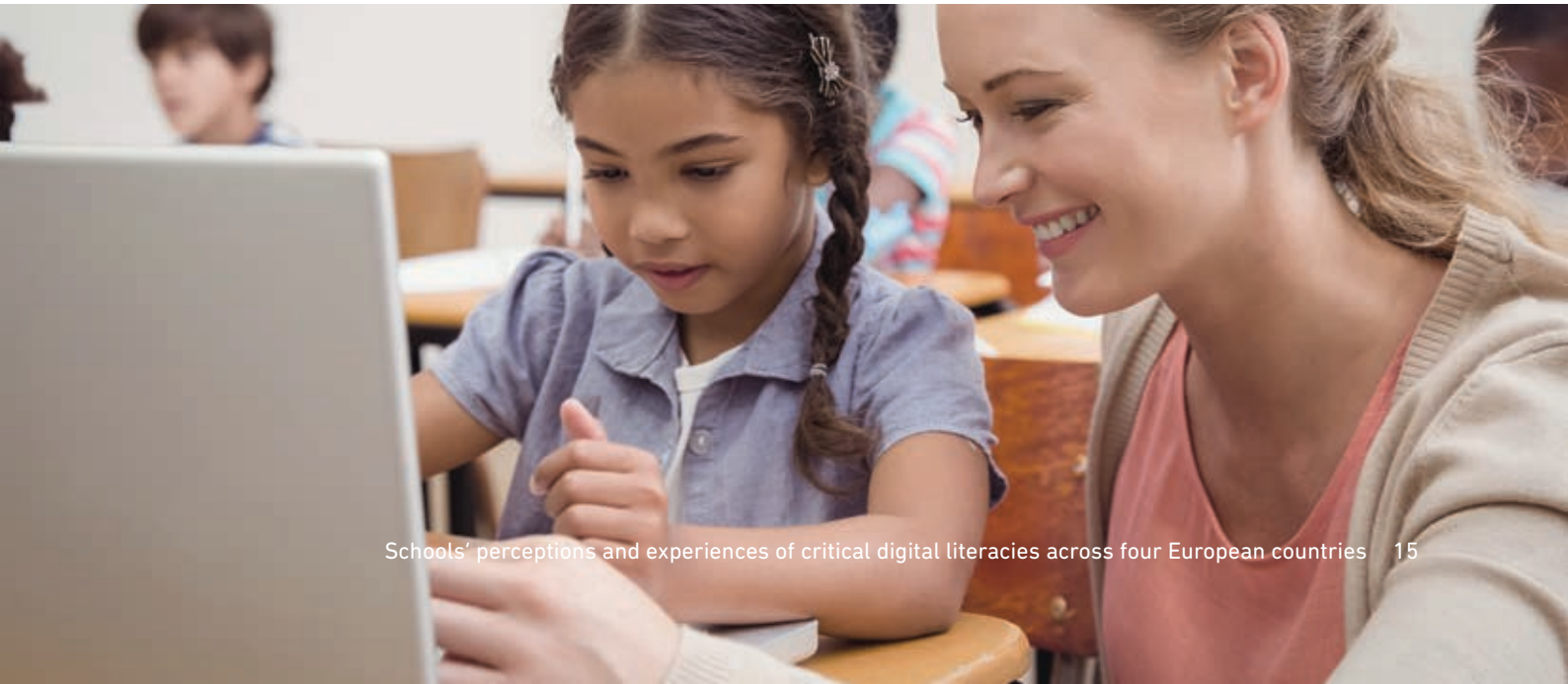


Figure 5. Results of the DETECT statements from primary and secondary schools

When comparing the primary and the secondary school results, we observe that the secondary school teachers are more confident about their practices overall. The areas where both primary and secondary school teachers tend to converge are the interventions to deal/develop approaches to prevent cyber-bullying; promote data literacy and user access security. The most relevant discrepancies can be seen at critical thinking which is a concern particularly for the primary school teachers. There are differences too in relation to the area of 'time exposed to technology', but this is an issue for both the secondary and the primary school teachers.



Focus-group interviews findings

According to the interview data analysis, the preliminary CDL framework shared with the teachers was seen to capture all aspects of critical digital literacies relevant within primary and secondary education. While different sub-dimensions of CDL were reported to be more prevalent across different school contexts, the framework facilitated focusing on specific transversal issues which require attention across European schools. The detailed results of the interview analyses, showing the number of mentions in each CDL sub-dimension from each country have been published as open access data (DETECT, 2021b).

Teachers' perceptions of critical digital literacies will now be presented across the five school contexts in Finland, Italy, Spain and the UK in order to gain qualitative insights regarding the teachers' understanding of the various dimensions and sub-dimensions of CDL and the role of CDL in their teaching and learning practices.

Finland

The Finnish school is a comprehensive school in a suburban, detached house area in Espoo, near Helsinki, the capital of Finland. The school was founded in 1998. There are about 400 students in the school in grades 1-9. The teachers participating in the DETECT project are from the lower secondary level, which includes grades 7-9, students are 13 to 16 years of age. In all, seven subject teachers participated in the two interviews. The contact teacher informed all teachers in the lower secondary schools about the interviews, and these seven teachers volunteered to participate. The teachers teach varying subject domains with different combinations: Native language and literature; Mathematics, Physics and Chemistry; English and Swedish (2); French, English and Drama pedagogy; History and Social studies as well as Music and Drama pedagogy.

Many aspects mentioned in the focus group interviews of the Finnish school were discussed from the viewpoint of how to teach the CDL practices; therefore the sub-dimension *Digital pedagogical methods (under Digital teaching and learning)* was most frequently used in the analysis. Usually the pedagogical aspects were associated with some other CDL dimension, e.g. teaching , but usually together with some other sub-dimension - in the following example related to *Multimodal production (under Digital content creation)*:

Then it occurred to me that it is the next step to start with the students, that when they do the experimental work they would do it … First you, of course, have to show yourself how to make those videos, then they themselves could make them for one of our own publications. That [making videos] could very well substitute some kind of written exam.

Also issues associated with *Digital learning ecologies (under Digital teaching and learning)* were often mentioned, especially addressing the availability and use of high-quality digital teaching and learning materials as well as the access to adequate technical resources for teachers and students in the school.

Most frequently discussed CDL sub-dimensions other than issues of *Digital teaching and learning* were *Online inquiry process* and *Source validation and verification* (both under *Information literacies*), and *Rights and responsibilities* (under *Digital citizenship*).

Discussions about *Online inquiry* highlighted students' low skills in searching for information from the web, the importance of teaching students better online information seeking skills and diverse use of information sources besides Wikipedia as well as the teachers' own pedagogical competence to teach online inquiry skills. For example:

Of course Wikipedia is used and so but, really, [teaching] information search and processing of information from the beginning; that is the major issue if one has to be mentioned.

I tried to catch up with X's comment that, when doing the study [task] that we have - on the other hand, we have that social studies-mathematics study, and then there is that literature study in Native language and literature - so, one criterion that we have there is, what kind of sources have been used in them. From there we come to the issue that, actually, students' information seeking skills are quite inadequate.

Also *Source validation and verification* was mentioned frequently, related to strategies that students should learn when evaluating information sources as well as taking a critical stance towards information sources in general - also related to the teachers own competence; for example:

I have to judge for myself what kind of material I can use in teaching. Is it Aftonbladet [a tabloid from Sweden] or is it SVT [a Swedish television channel], which one is more reliable. Or what kind of texts are good to use, that is something I have had to think for myself.

All opinions and remarks made by teachers that were associated with the category *Digital rights and responsibilities*, related to copyright issues and plagiarism. For example:

> *Colleagues talk a lot that there is insanely much plagiarism. Do the students realize how serious a crime plagiarism is and if you use the text directly. That I see as almost the major problem.*

The focus groups included a few comments under the dimension *Digital well-being and safety* that concerned *Online safety* (all on cyberbullying), and some mentions under the dimension *Digital content creation* focusing on *Multimodal production* (mostly including examples of student tasks designed by the teacher that represented multimodal production), otherwise these dimensions received little attention. Themes related to *Data literacies* were hardly mentioned, similarly as sub-dimensions *Co-creation*, *Remixing*, *Online collaboration*, *Networking*, or *Learning analytics* under multiple dimensions of the CDL framework.

As a summary, the teachers participating in the focus groups in the Finnish school emphasized aspects associated with epistemic and knowledge-related competencies and practices, such as online inquiry, source validation, copyright, multimodal production or the availability of teaching and learning materials. They were less concerned about technical, social or well-being and safety issues in the students' use of digital technologies. In the Finnish lower secondary schools, teaching is organized according to subjects and the curriculum emphasizes the learning of domain content and subject-specific skills, which might explain the teachers' interests when they spoke about their teaching practices associated with the use of digital technologies.

Italy

The Italian school is a vocational and technical urban school in Florence. It was founded at the beginning of the previous century and has more than 1,000 students on roll and the staff members are more than 150. It accounts for several training specializations: social system, economic system and touristic services. The interviews were conducted during May 2020 online, due to the COVID-19 lockdown, and involved 17 teachers divided into three focus groups. After the transcription of the interviews, they have been analysed according to the framework dimensions and sub-dimensions.

Teachers' discussions mainly focused on the following areas of the DETECT framework: *Critical technical skills* (under the dimension *Technology use*), *Digital pedagogical methods* (under *Digital teaching and learning*), *Source Validation and Verification* (under *Information literacies*.

In relation to the dimension of *Critical technical skills*, interview findings highlighted how before the pandemic, there were some differences in the use of digital technologies by teachers, according to their level of digital competence, thus some used them for most

for most of their learning activities, others occasionally. However, the Covid-19 period forced the adoption of digital tools for remote teaching, providing the acquisition of new competences by teachers, even if with some difficulties at first, due to the self-training needed for using them and for the choice of the proper tool for each class:

> *Teacher: Before online teaching I used the suggestions from the online book; thanks to the screen we had also watched some videos and movies in the original language. Actually I use Meet.*
> *Interviewer: Therefore an epochal change.*
> *Teacher: Yes, sure.*

Furthermore, the difficulties faced during the pandemic period generated specific training needs from teachers to improve their level of digital competence:

> *I would like to deepen the remote teaching methods, even if it doesn't replace the in presence teaching, but could be an opportunity for professional development.*

Another interesting aspect discussed was the teacher's perception of students' digital competence, that is high when dealing to what interests them (video games, social,...) but low when related to uploading a file, sending an email, thus requiring the teachers' guide:

> *The first surprising thing is that students have digital gaps, some of them didn't know how to send an email. I had to explain it to them. Others asked me how to attach a file to an email or how to send it to me. They were totally lost. And this is quite surprising, since I was convinced that students of this generation were able to use them easily.*

Furthermore, teachers claimed some difficulties in carrying out Critical Digital Literacies activities, since they require constant exercise and direct experience with real situations. This constant exercise is not always possible to have, due to time constraints, limited availability of digital equipment and teacher's ability, as reported in focus group discussion:

> *The problem is that these are not things that could be taught in one hour of lesson, they are competencies and abilities to be acquired day by day, directly experiencing the situations.*

Lastly, the pandemic situation also highlighted the hurdles experienced by teachers in relation to the students with special needs, due to the lack of educational resources and practices available online:

> *Distance learning is selective towards the weakest students (e.g. special needs students), because all learning activities are left to teachers' initiatives and the family feels abandoned.*

Teachers' discussions in relations to the sub-dimension of *Digital pedagogical methods* were focused on digital technologies use before and during the COVID-19 pandemic, sharing good practices as the adoption of flipped classroom for

teaching history, or web writing activities to learn creating effective messages, and the short texts for Twitter:

> *Since we discussed tweets and web language, I worked on how to write effective messages with the students of the 1st class… We started with a problem (e.g. how to write an effective message) and they have to solve it by working collaboratively in groups. At the end, I highlighted what emerged from each group.*

Regarding their pedagogical practices during the pandemic, some difficulties in online lessons management were underlined, particularly on assignments' review and class management:

> *I received assignments to be revised at all hours, sometimes even in the evening, also due to the low availability of students' devices at home, that they have to share with other family members.*

> *I had a lot of difficulties in the management of online lessons, since students preferred to not show them during the synchronous lessons, especially in the lower class level.*

Another important aspect that emerged was related to the cross-curricula characteristics of digital literacies, that cannot be taught in a frontal lesson, but required also practical experience:

> *These digital competences, concerning all subjects, cannot be taught through a frontal lesson. It is necessary to engage students by giving them the opportunity to be updated and to have digital tools to experience the situation learnt… these are not simple concepts to be taught. You give the proper tools to students, but they have to experience them.*

Finally, teachers discussed the need to understand how to carry out an online assessment, searching for an approach that would guarantee objectivity, as explained by a teacher:

> *I'm searching for a method supporting online assessment, while enabling reliable results, avoiding students' cheating, and evaluating abilities and competencies.*

The topic of informed use of information was the third most discussed within the three focus groups and falls under the CDL dimension of *Source Validation and Verification.* The challenge of fake news and the need for checking the source of online information is very relevant and is associated with the 'critical' aspects of digital competences:

> *[Referring to what is the critical digital competence] There is the fake news problem; when students elaborate what they found on the web, they often are not aware of what they have found, thus they need to learn how to evaluate the information.*

> *In my opinion, digitalization is not teaching the use of a specific platform… The digital concerns teaching students to develop a sensibility in information searching.*

Finally, some activities were shared during the discussions on searching for and selecting information:

> *I carry out an activity called 'The world tour through 90 click', an awareness search using the tools for advanced search, that foster their awareness search and deal with all subjects.*

Spain

This is a comprehensive school founded in 1959 with four levels of education from kindergarten to Baccalaureate. Its main aim is to promote an educational approach that is inclusive, open, and respectful of cultural diversity. The school also introduces itself as focused on continuous learning, reflection and improvement, to face the new challenges of an ever-changing world. Overall, the engagement in several school networks and innovative projects support the school assumption that there is attention on educational excellence to ensure relevant educational outcomes. Moreover, the school has obtained quality certifications (EFQM +500 excellence model; First school in Spain to be certified in the Healthy School Model).

Currently, there are 1,275 students on the roll, mainly from the nearby districts. Most of the families have a middle socioeconomic status and are highly involved in their children's education. The staff comprises 86 teachers in the teaching staff and 15 collaborators in the administration and services staff. Technology is present in the school in a broad-based way, almost invisible, as a resource to aid the learning process. The ICT coordinators sharply expressed the need to move beyond learning to use technology. Instead, they considered that the students not only have to make use of the technology as users, but they also have to use it to recreate it, making the leap from users to digital creators. Code teaching forms a part of this strategy. During the school stage, the student must learn to manage their digital identity ethically and with respect towards others while always being aware of security aspects. These skills are essential for the future professional and personal lives of our students.

The two focus group interviews were transcribed, yielding a corpus of 7,933 words for the primary level case and 7,244 words for the secondary level case.. Since the groups come from the same case, and the corpus is comparable in size, we make some comparative comments on the results.

The primary school teachers were predominantly concerned about *Technology use* and *Digital well-being and safety* as critical issues when dealing with technology (25% and 19% of the total codes in their interview). In fact, the comments related to the problem of teaching the students to live as an 'educational community' in the sense of taking care of the available IT resources. Therefore, within this dimension, the more densely coded sub-dimension was *Critical technical skills* (10/21 codes), which entailed

the relationship between the digital and the material side of technologies. The teachers' concern related to the invisibility of the 'wealth of resources the school and the families provide'. Since the children are used to getting the needed devices for their work, and in the earlier stages of school, these are school-community resources, they often disregard how difficult it might be for others to access devices. This is also connected with another frequent theme in the teachers' discourse, *Digital communication and collaboration* (11.9%), and more specifically, *Digital identities and profiles* (4/10). Indeed, they also mentioned the difficulties in coordinating collaborative activities. As a result, the amount of attention devoted to teaching the students to 'live together' is consistent and emerged clearly in the 'teaching and learning' theme, which generated 22.6% of code groundedness, and within it the *Digital learning ecologies* (12/19) referring to the organisation of resources to learn in a continuum between the classroom, the informal groups and the families. In the teachers' words:

> *In high school, we use the computer a lot, and in sixth grade, for example, they are very aware of how to take care of the computer, in fifth grade also because it is their computer; but in the middle cycle, since they use community computers, they do not have the same care, and we often find that they do not know how to use them (T3).*

> *In the middle cycle or the initial cycle, we find that the material must be shared, and in things like group work, it can go well, but relating to some tasks, the children are not able of sharing and here (...) well (silence implying a problematic situation) (T4).*

> *I (...) would say that we have the introduction, what tools are introduced at what time. That is, tools (gesture indicating the shape of a device like a tablet) What devices are introduced at any given time, we have it very patterned, very sequenced, and somehow with a logic behind it. When we introduce the iPad tablets, when the Android, when the common computer, when the personal computer, when the mobiles ... (T1).*

As for the least commented dimensions, these were *Digital content creation* and *Data literacy*. There was only one code per category (1.2% of the code groundedness). The teachers only commented on the problems relating to understanding authorship and licences' limitations to the re-use of content for the first code and data privacy for the second.

On the whole, we observe primary school teachers very concerned about the materialities in dealing with technology, particularly in understanding that the digital activity entails the presence of devices and attitudes to their use and care. It appears that the kids come from homes with consolidated habits of using digital devices, which might overlook the material side of technology. This requires considerable attention and work by the school teachers.

The secondary school teachers showed a more distributed discourse pattern, focusing in a balanced way on several dimensions of CDL. In any case, for them, also *Technology use* was deemed the most relevant dimension (17.5% of the code groundedness), with a prominent representation within it of the sub-dimension *Critical technical skills* (12/22). This dimension was followed, as in the primary case, by Digital communication and collaboration (15.1%), represented mainly by the sub-dimension *Networking* (8/19) and *Online collaboration* (4/19). Teaching and learning also got relevant attention, with 15.9% of codes. In this case, the problem observed by the teachers was mainly technology troubleshooting, namely, the lack of effort to solve software usage problems since these fundamental issues are solved by the assistance provided by the school. At this age, the students work either with their own devices or school devices. As the teachers' pointed out, the careless attitude relates to both owned and school devices:

> *For me, especially students, the laziness at the time of problem-solving. It means 'I have a problem with the computer. I don't need to be self-sufficient in this, (...). I go and give it to the support technician and he makes it work for me ». And this also involves a little care - especially I speak in the first cycle of ESO - in the materials they use. That is, 'My computer crashes', and nothing happens. 'There's the computer, and they change it for me, or they give me a loan while they send it to the factory, and that's it.' They don't care about the material (T5).*

As for the 'communication and collaboration', the problem of using 'channels' that cannot be controlled by the teacher, leading to conflicting situations, was highlighted: '*we'll get to a point where we do everything via WhatsApp... it's easier, but we don't see them, the group dynamics that can hurt...they are teens...'* (T2).

As mentioned, the teachers' discourse spread over several dimensions. There were relevant comments on social media usage, privacy and safety (digital well-being and safety, 11.9%, specifically online safety, 9/15), which we might deem to be connected to 'networking' mentioned earlier (under *Digital communication and collaboration*). 'Digital safety' also led to consider the problem of data privacy (data literacy, 12.7%, specifically 4/16):

> *We always work with safe environments, controlled environments and of course, we don't have situations where things happen that may be outside, yes. So I think we should generate these situations and somehow make students realise that it's one thing to explain it and it's another thing for students to come across such a situation. For example, thinking that you are talking to a ... that you are communicating with a partner from another place and it turns out that you are an adult or something like that, and you don't realise it. And simulating these situations, I think, would be interesting (T4).*

> *Likewise, to raise awareness, in the first cycle of ESO, when we do these hours of*

tutoring and PAT and talk about screens, mobile phones and such, we try to make them aware of where the data is going to end up; that mobile apps that are free are not free; we put them in a Basté (a journalist) program called 'Això no potser' (This Can't Be), which talked about data, and this impacted them a lot, and we try to make this little awareness in the students (T2).

As for *Data literacy*, the teachers' discourse also touched on the more technical skills required in developing technological scenarios (data visualisation, 5/16; data analytics, 4/16), where such literacy is deemed relevant. The topic has been dealt with in science and social subjects, in students' inquiry activities requiring data elaboration, interpretation, and visualisation. However, more recently the social subjects have started to comment on the problem of bias in data usages for AI purposes.

The secondary school project is focused on this: analysing how artificial intelligence analyses... The concept, not in detail, but the concept of how algorithms often control us and how to control from the point of view of personal security what data we give and such ... At least we launch it from here ... (T3).

The dimensions which raised less concern were *Digital content creation* (4.8%) and *Digital citizenship* (10.3%). In any case, the comments made by the teachers were relevant and around licences and plagiarism in the first case; and the rights and responsibilities in adopting technological equipment as well as using digital environments 'to be' (a student within the school, a son/daughter in the family, a citizen overall).

On the whole, secondary school teachers are very concerned about teenagers' awareness of the technologies and the digital spaces they live in as students and citizens. Their discourse moved around the problem of mere usage for immediate needs and the lack of reflection on maintaining and adequately using digital tools and even technological devices. On the other side, they are also increasingly focused on developing cognitive abilities deemed relevant to take part in an evolving technological scenario.

In the two cases, the teachers' discourse focused on technology use and digital communication and collaboration. One might consider the school peculiarities in this sense. In fact, the school places relevant efforts into working as a learning community (sharing and re-using devices) and working collaboratively. As a result, the teachers' talk about their practices was concurrent with these two dimensions. The results do not inform us about a general Spanish or regional situation since this is not a characteristic school, but rather an institution pushing towards innovation and critical thinking. Nonetheless, the children and teenagers' behaviour around technologies (some careless, difficulties in collaborating, using channels to communicate that are not appropriate for the educational situation) can be generalised in Spain and Europe.

UK

The English primary school is a large school in an inner-city area in London with approximately 735 pupils aged 3-11 years old on roll and over 100 staff. The focus-group interviews were conducted in June 2020 via Zoom with six teachers (5 teachers of students aged 7-9 and one music teacher with students from across the school). The interviews were audio recorded, transcribed verbatim and analysed with NVivo software.

The interview findings across both focus groups suggest that teachers' discussions predominantly focused on the dimension of *Digital teaching and learning* and in particular the sub-dimension *Digital pedagogical methods*. In particular, they talked about how they adopted a range of digital technologies to support their planning and teaching activities. These included amongst others the use of Interactive Whiteboards to facilitate teaching and laptops used by students for independent research in the classroom as well as the use of various educational software and schemes of work for creating lessons. With the move to remote schooling Google classroom was adopted to facilitate remote schooling and the teachers' emphasised how this marked a transition to greater engagement with digital tools to support teaching and learning:

> *I think with our school, because we didn't have the online learning section ever, like [T2] said, we just sent out bits of paper every week, I don't think we had what this would look like, and so this has just been a completely new thing for all of us[...] But I feel like this now could be a thing that we could use [...] now that we have used Google Classroom and online learning, I think it will be really...hopefully it won't just drop out of the box again, and we will continue to be able to reach kids digitally, hopefully (T1-FG1).*

Issues associated with the sub-dimension of *Learning ecologies* were also emphasised since with the move to remote teaching parental support was vital for young students engaging with online schooling and this was often hard to provide due to parents' limited digital literacies:

> *I think pupils not being able, not having the skills is a big... and parents, especially now they're at home, parents not having the skills is quite hard too (T2-FG1).*

Another CDL dimension which featured prominently in the teachers' descriptions and reflections of their practices was that of *Digital well-being and safety* with a particular emphasis on *Online Safety*. As this teacher explains:

> *We try and do an internet safety lesson at least once a term or we relate it, if we're using the computers, you know, we'll talk about how we should keep passwords secret and things like that, and talk about cyberbullying. So yeah, we hadn't mentioned that yet, but I feel like that's a big part, even with children as young as year three, we have to talk to them about how to use the internet safely. (T2-FG1).*

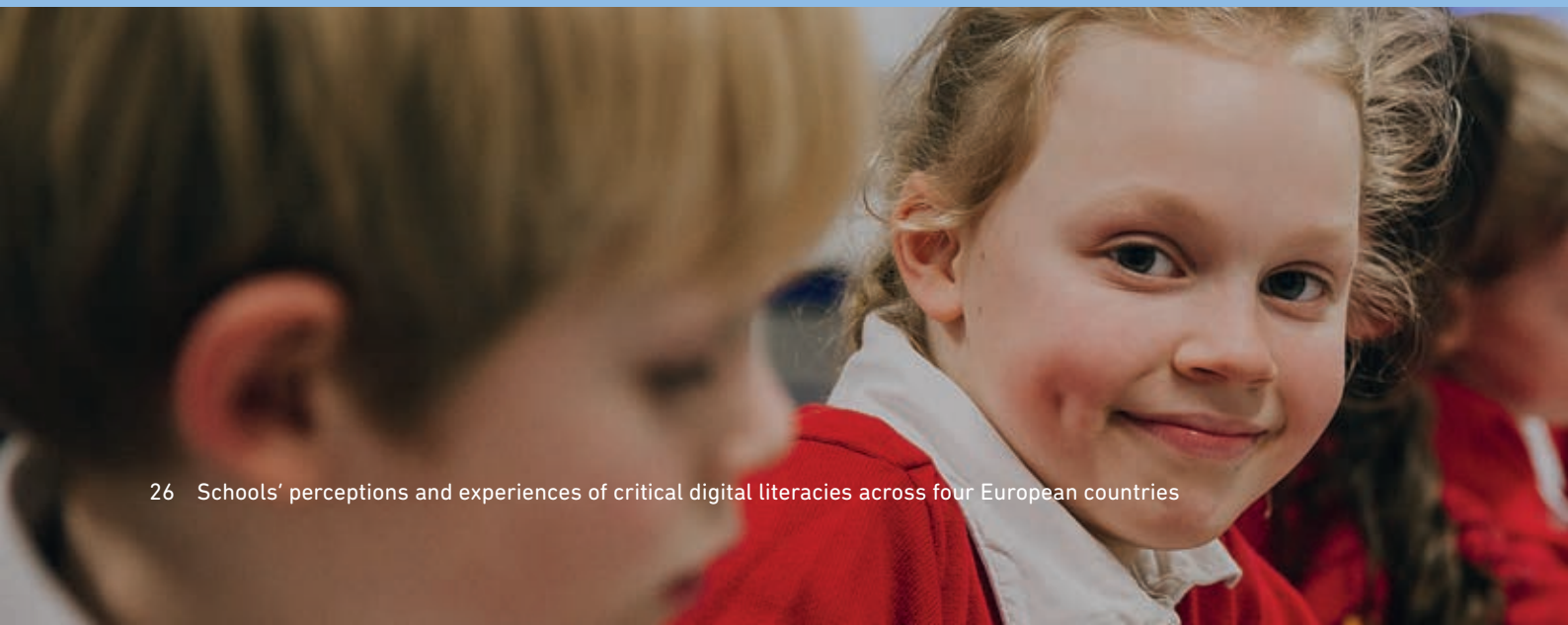
Similarly another teacher pointed out how there was a need to raise awareness regarding mental health and digital wellbeing:

> *I don't think a lot of kids or adults realise that mental health can be affected by…not necessarily even what you say to someone else, but just what you see online, it's okay to…you know, tell someone if you've seen something you don't necessarily like or if someone says something to you, it's okay, that you should go and tell someone that this person has said this, not just keep it to yourself. Like, not even really in school, I just think in general, a lot of people don't consider cyberbullying as big a thing as actual bullying in school (T3-FG1).*

The dimension of *Technology use* also featured largely in the teachers' group discussions with a strong focus on the sub-dimensions of *Technology risks and troubleshooting* and *Computational thinking*. In particular, teachers talked about how they frequently had to spend valuable time overcoming technical issues and engaging in effective troubleshooting. Furthermore, they mentioned how teaching computing is part of the National Curriculum in England, however, they also acknowledge how although computing exists as a stand-along subject area in the curriculum it does not appear to bear the same weighting as foundation subjects. As one teacher describes:

> *Computing and generally IT as a subject is just so low down on the pecking order, it's all about English and maths, especially at our school. It's come on to the foundation subjects being a bit more important, science and history and geography, but computing, it's, like, 'Oh, we've got an event on,' the first thing to go off the timetable (T1 - FG1).*

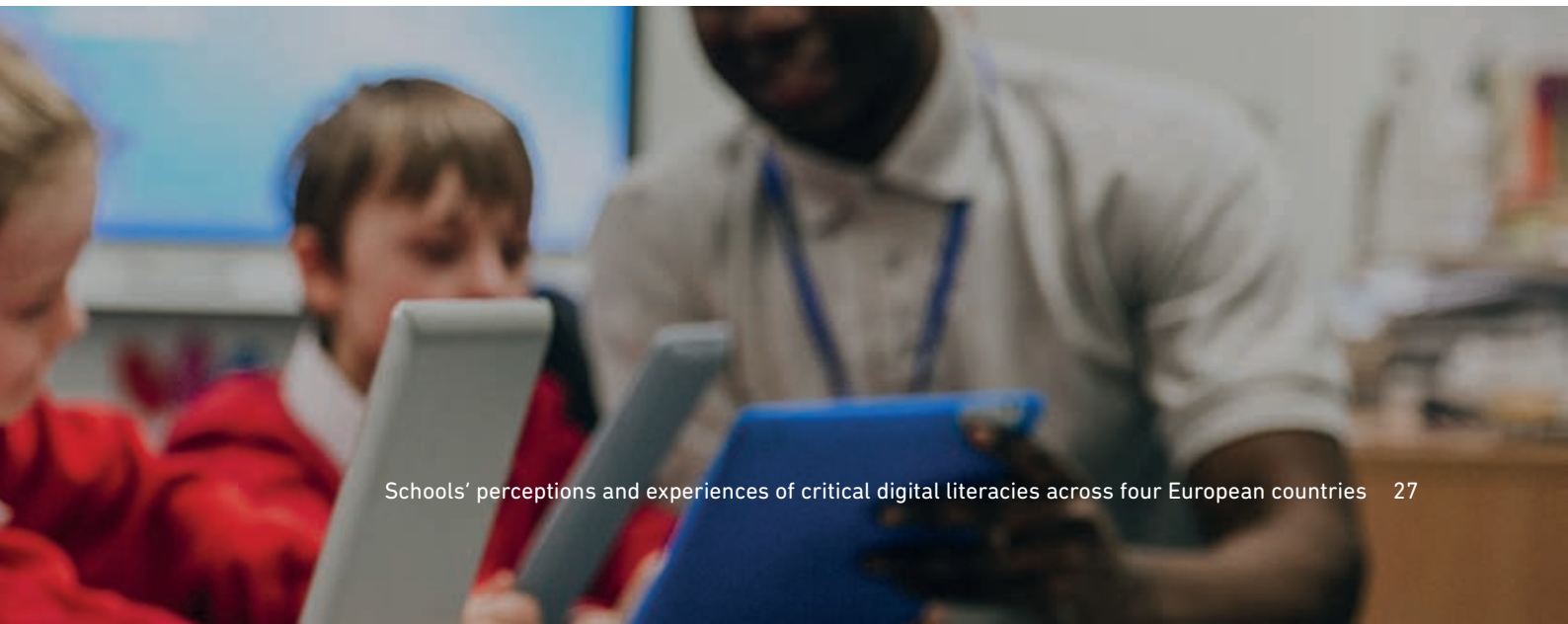
It is also worth pointing out that despite the prominence of computing in the National Curriculum teachers reported limited confidence in teaching this subject area as they felt they were 'not well trained on computing' (T2 - FG1) or as another teacher put it 'I get quite panicked because I know nothing about coding' (T4 – FG2).



Another CDL dimension that was discussed by interviewees although to a lesser extent was that of *Digital Communication and Collaboration*. Teachers, for example, explained how with the move to remote schooling they were able to use digital tools in order to facilitate online interaction both amongst staff and students on Google Hangouts while they also reported that 'it is really handy to use the Google Docs and the Google Slides and it's so much easier to share with each other' (T2 – FG1). Teachers also reflected on how the move to remote schooling created an increased need to support students with developing an understanding of a relevant netiquette for online communication:

> *We've definitely had some issues with comments being inappropriate on Google Classroom. Or they're just not commenting, or they're sort of spamming the Google Classroom page with sort of unnecessary information and clogging it up (T3 - FG1).*

The dimension of *Information literacies* appeared to be less prioritised in English teachers' practices and this can be to some extent justified by the young age of their students. Similarly, other lower priority dimensions included *Digital content creation*, *Digital citizenship* and *Data literacies*. Although the teachers recognised the relevance of these, these informed their teaching practices very little if at all.



Discussion and conclusions

The initial phase of data collection through the SELFIE tool yielded relevant findings about the leaders and teachers' self-perceptions of digital literacy and practice. We observed overall that school leaders tended to have a more positive perception compared to teachers in relation to how digital technologies were used at their setting for teaching and learning. Nevertheless, those differences tended to be less relevant when dealing with emergent issues, which represent the school frontier of innovation and/or the unknown. In that regard, the opinion was mostly good.

It should also be noted that there were relevant differences between primary and secondary schools with the latter appearing to be more self-confident and to evaluate their interventions positively. Instead the primary school teachers might be more overwhelmed by the daily activity and perceive their approach to digital technology use as less sufficient. Another possible interpretation is that they see their focus of activity less closer to the development of technological skills and more related to socio-emotional habits to start dealing with the overall classroom (and academic tasks) activities. It could be observed, nonetheless, that there is an increasing concern regarding students' overexposure to digital technologies, which is clearly something that the teachers might perceive beyond their sphere of influence, particularly happening within the families but strongly conditioning the students' approach to the technologies. Also critical thinking deemed attention: the results highlight the perceived need for focusing more substantially on this key competence at both school levels.

Furthermore, there appears to be clear similarities but also differences regarding which dimensions and sub-dimensions of CDL featured more prominently in the focus group discussions across the different contexts, but because of the small number of cases, generalizations cannot be made about the reasons underpinning these (e.g. emphases in individual schools, national curriculums, school level, etc.).

In particular, teachers across all four countries discussed CDL largely from the perspective of how digital technologies are used to facilitate teaching and learning. This can be to some extent justified since the majority of interviews were conducted during the first pandemic lockdown in spring/summer 2020 when online teaching and learning became the predominant means of remote schooling for schools. Mastering the online inquiry process and source validation were topics emphasized in the Finnish teacher groups while the CDL dimensions of Digital well-being and safety and Technology use featured more prominently in the English interviews. In the Spanish case, teachers' discussions also included reflections about the material care of computers and devices within the school as an educational community. The work beyond the school with families to support appropriate use of technologies was also deemed relevant, related particularly to technology overexposure and online safety as teachers felt unable to influence students beyond the school walls. Digital collaboration practices (external collaboration, feedback to other students, co-creation, online collaboration, networking) featured very little in teachers discussions. Last, the interview data highlight that phenomena that are, in general, only emerging in society were not frequently mentioned by teachers. For example, the dimension of data literacy, which is raising emerging concerns in relation to data privacy and data ethics, was at large overlooked by teachers in the focus group interviews .

Policy implications

The above report has presented and discussed the findings from quantitative data collected through the SELFIE tool from school leaders and teachers as well as qualitative data emerging from focus groups with teachers in relation to their understandings of CDL. The findings from these processes have policy implications at local, regional, national and international levels as detailed below:

At a local level there is potential from the SELFIE and the focus group findings for school leaders and teachers to reach shared understandings on the items analysed. Reducing the distance between the perception of school leaders and teachers could help to better identify areas for further development and to target improvements within the school contexts. The impact of COVID has created additional focus on the application and integration of digital technology within primary and secondary school contexts, an increasing amount of effort has needed to be placed in the use of technology in teaching practices by teachers and school leaders. The question post the impact of Covid at local levels will be whether this investment in technology integration will lead through to a more critical engagement with digital literacies moving forward.

At a national/regional level there are a number of items of interest in order to strengthen the integration of an understanding of Critical Digital Literacies in the classroom. It is clear from the SELFIE analysis and the focus group interviews that targeted CPD to support core issues of direct relationship to teachers and their practice, coupled with issues which are emerging in society (e.g. data literacy) would help teachers to understand how to engage students practically with the associated skills, knowledge and concerns. The DETECT project will deliver materials of direct relevance to this issue through the open access toolkit and the MOOC, and should help to start to address this training need.

Internationally, whilst it is difficult to compare and contrast across the findings in the study above, it is clear that there were different needs and perceptions across the participant schools relating to their engagement with technology, digital literacies and critical aspects of these. Finding opportunities through international collaboration and shared policy, building on schools demonstrating leadership with technological integration could help to strengthen policy making and cooperation at a global level. Indeed, the critical adoption of technologies is generating concern at a planetary scale, opening debates around the so called 'infodemic' era and its implications for political, civic participation and scientific literacy; digital sovereignty; the ethical use of data; the appropriate, safe and secure use of technologies to prevent social, psychological and physical harm. Nowadays, these topics are in the agenda of transnational and national governments, and require research and practice informing their decision and policy making processes.

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Appendices

Appendix 1: SELFIE Questionnaire (additional questions created by the DETECT researchers)

English Version

SELFIE new questions added relating to DETECT project				
Area	**Item title**	**School leaders**	**School teachers**	**Students**
A	Data awareness	In our school, we discuss how data is collected, tracked and shared through the digital platforms and applications we use.	In our school, we discuss how data is collected, tracked and shared through the digital platforms and applications we use.	
A	Non-discrimination	In our school, we work towards minimising discrimination (gender, sexual orientation, religion,...) in all forms of digital practices.	In our school, we work towards minimising discrimination (gender, sexual orientation, religion,...) in all forms of digital practices.	
D	International collaboration	Our teachers use digital technologies to facilitate student collaboration with other schools	I use digital technologies to facilitate student collaboration with other schools	In our school, I use digital technologies to collaborate with students from other schools
D	Critical Thinking	Our teachers use digital technologies to develop student critical thinking.	I use digital technologies to develop student critical thinking	
A	Cyber-bullying	In our school, teachers (or we) promote actions to prevent cyber-bullying.	In our school, teachers (or we) promote actions to prevent cyber-bullying.	In our school, I learn how to behave to prevent cyber-bullying.
F	Data literacy	In our school, students learn how to keep their personal data safe online.	In our school, students learn how to keep their personal data safe online.	In our school, I learn how to keep my personal data safe online.
F	User access security	In our school, students learn to use their user accounts and passwords appropriately.	In our school, students learn to use their user accounts and passwords appropriately.	In our school, I learn how to use our user accounts and passwords appropriately.
F	Time exposed to technology	In our school, students learn to control the time that they spend using technologies.	In our school, students learn to control the time that they spend using technologies.	In our school, I learn to control the time that I spend using technologies.

Italian Version

SELFIE new questions added relating to DETECT project				
Area	**Item title**	**School leaders**	**School teachers**	**Students**
A	Data awareness	Nella nostra scuola, noi discutiamo sulle modalità di raccolta di dati, di tracciabilità e condivisione attraverso le piattaforme digitali e le applicazioni che usiamo.	Nella nostra scuola, noi discutiamo sulle modalità di raccolta di dati, di tracciabilità e condivisione attraverso le piattaforme digitali e le applicazioni che usiamo	
A	Non-discrimination	Nella nostra scuola lavoriamo per minimizzare la discriminazione (genere, orientamento sessuale, religione,...) in ogni forma di pratica digitale	Nella nostra scuola lavoriamo per minimizzare la discriminazione (genere, orientamento sessuale, religione,...) in ogni forma di pratica digitale	
D	International collaboration	I nostri insegnanti utilizzano la tecnologia digitale per facilitare la collaborazione degli studenti con scuole di altri paesi	Io utilizzo la tecnologia digitale per facilitare la collaborazione degli studenti con scuole di altri paesi	Nella nostra scuola, Io utilizzo la tecnologia digitale per collaborare con studenti di scuole di altri paesi
D	Critical Thinking	I nostri insegnanti utilizzano le tecnologie digitali per sviluppare il pensiero critico degli studenti	Io utilizzo le tecnologie digitali per sviluppare il pensiero critico degli studenti	
A	Cyber-bullying	Nella nostra scuola, gli insegnanti promuovono azioni per prevenire il cyberbullismo	Nella nostra scuola, noi promuoviamo azioni per prevenire il cyberbullismo	Nella mia scuola imparo come prevenire e rispondere al cyberbullismo
F	Data literacy	Nella nostra scuola, gli studenti apprendono come gestire in sicurezza i propri dati personali on-line	Nella nostra scuola, gli studenti apprendono come gestire in sicurezza i propri dati personali on-line	Nella nostra scuola, io imparo come gestire in sicurezza i miei dati personali on-line
F	User access security	Nella nostra scuola, gli studenti apprendono come gestire in modo appropriato le proprie credenziali di autenticazione (username e password)	Nella nostra scuola, gli studenti apprendono come gestire in modo appropriato le proprie credenziali di autenticazione (username e password)	Nella nostra scuola, io imparo come gestire in modo appropriato le mie credenziali di autenticazione (username e password)
F	Time exposed to technology	Nella nostra scuola, gli studenti apprendono come controllare il tempo che trascorrono utilizzando le tecnologie	Nella nostra scuola, gli studenti apprendono come controllare il tempo che trascorrono utilizzando le tecnologie	Nella nostra scuola, Io imparo a controllare il tempo che trascorro utilizzando la tecnologia

Finnish Version

SELFIE new questions added relating to DETECT project			
Area	**Item title**	**School leaders**	**School teachers**
A	Data awareness	Keskustelemme koulussa siitä, miten tietoja kerätään, seurataan ja jaetaan käytössämme olevissa digitaalissa ympäristöissä ja sovelluksissa.	Keskustelemme koulussa siitä, miten tietoja kerätään, seurataan ja jaetaan käytössämme olevissa digitaalissa ympäristöissä ja sovelluksissa.
A	Non-discrimination	Pyrimme koulussamme vähentämään syrjintää (liittyen sukupuoleen, seksuaaliseen suuntautumiseen, uskontoon jne.) kaikissa digitaalisissa käytännöissä.	Pyrimme koulussamme vähentämään syrjintää (liittyen sukupuoleen, seksuaaliseen suuntautumiseen, uskontoon jne.) kaikissa digitaalisissa käytännöissä.
D	International collaboration	Opettajamme käyttävät digitaalista teknologiaa helpottaakseen oppilaiden yhteistyötä muiden koulujen kanssa.	Käytän digitaalista teknologiaa helpottaakseni oppilaiden yhteistyötä muiden koulujen kanssa.
D	Critical Thinking	Opettajat käyttävät digitaalista teknologiaa oppilaiden kriittisen ajattelun kehittämiseen.	Käytän digitaalista teknologiaa oppilaiden kriittisen ajattelun kehittämiseen.
A	Cyber-bullying	Koulussamme opettajat edistävät verkkokiusaamisen estämiseen tähtääviä toimenpiteitä.	Koulussamme opettajat edistävät verkkokiusaamisen estämiseen tähtääviä toimenpiteitä.
F	Data literacy	Koulussamme oppilaat oppivat, miten pitää omat henkilötiedot suojattuina verkossa.	Koulussamme oppilaat oppivat, miten pitää omat henkilötiedot suojattuina verkossa.
F	User access security	Koulussamme oppilaat oppivat käyttämään käyttäjätunnuksiaan ja salasanojaan asianmukaisesti.	Koulussamme oppilaat oppivat käyttämään käyttäjätunnuksiaan ja salasanojaan asianmukaisesti.
F	Time exposed to technology	Koulussamme oppilaat oppivat hallitsemaan teknologian parissa viettämäänsä aikaa.	Koulussamme oppilaat oppivat hallitsemaan teknologian parissa viettämäänsä aikaa.

Catalan/Spanish Version

SELFIE new questions added relating to DETECT project			
Area	**Item title**	**School leaders/teachers (Catalan)**	**School leaders/teachers (Spanish)**
A	Coneixement de dades / Conocimiento de datos	A la nostra escola, discutim com es recopilen, rastregen i comparteixen les dades a través de les plataformes digitals i les aplicacions que fem servir.	En nuestra escuela, discutimos cómo se recopilan, rastrean y comparten los datos a través de las plataformas digitales y las aplicaciones que usamos.
A	No discriminació / No discriminación	A la nostra escola, treballem per minimitzar la discriminació (gènere, orientació sexual, religió, ...) en totes les formes de pràctiques digitals.	En nuestra escuela, trabajamos para minimizar la discriminación (género, orientación sexual, religión, ...) en todas las formas de prácticas digitales.
D	Col·laboració externa / Colaboración externa	Els nostres professors / jo faig servir tecnologies digitals per a facilitar la col·laboració dels estudiants amb altres escoles.	Nuestros profesores / yo utilizo tecnologías digitales para facilitar la colaboración de los estudiantes con otras escuelas.
D	Pensament crític / Pensamiento Crítico	Els nostres professors / jo faig servir tecnologies digitals per a desenvolupar el pensament crític dels estudiants.	Nuestros profesores / yo utilizo tecnologías digitales para desarrollar el pensamiento crítico de los estudiantes.
A	Ciberassetjament / Ciber Acoso	A la nostra escola, els professors / promovem accions per prevenir el ciberassetjament.	En nuestra escuela, los profesores / promovemos acciones para prevenir el ciberacoso.
F	Alfabetització de dades / Alfabetización en datos	A la nostra escola, els estudiants aprenen com mantenir segures les seves dades personals en línia.	En nuestra escuela, los estudiantes aprenden cómo mantener seguros sus datos personales en línea.
F	Seguretat d'accés d'usuari Seguridad de acceso del usuario	A la nostra escola, els estudiants aprenen a usar els seus comptes d'usuari i contrasenyes de manera adequada.	En nuestra escuela, los estudiantes aprenden a usar sus cuentas de usuario y contraseñas de manera adecuada.
F	Temps exposat a la tecnologia / Tiempo de exposición a la tecnología	A la nostra escola, els estudiants aprenen a controlar el temps que passen usant tecnologies.	En nuestra escuela, los estudiantes aprenden a controlar el tiempo que pasan usando tecnologías.

Appendix 2: Focus group interview questions

English

IO1 – Activity 2: Focus group interviews

Interview questions

Remember to ask the participants to fill in the background questionnaire and give their informed consent. Make sure that the participants have read the information sheet before giving their informed consent.

Background information

Participants:
Interviewer:
Date of the interview:

Questions are organized under the main themes. The themes are clarifications for researchers. There is usually a general, open question in each theme, then more detailed questions.

Note: Some of the questions are marked optional. They can be used if researchers want to have richer data from the interviews.

A. Using digital technologies in general

1. What types of digital technologies do you use in your job as a teacher? (optional)
2. What do you use them for? (optional)
3. What do you find most useful when using digital technology (in your teaching, with your students, for professional development?) Why?
4. What challenges have you faced when using digital technologies?

B. Conceptions of Critical Digital Literacies

5. What issues in your opinion are such that we all should be critical about when using digital technology? *(Promote discussion and rich variety of suggestions: Anything else? More suggestions?)*
    a. *(Ask if not mentioned in the answers to Q5) What issues about critical use of technology are relevant especially for your own use?*
    b. *(Ask if not mentioned in the answers to Q5) What issues about critical use of technology are relevant especially for youth/young generation/your students?*
    c. *(Ask if not mentioned in the answers to Q5) What issues about critical use of technology are relevant especially in practices of the whole school?*
6. Our aim in the DETECT project is to investigate and develop critical digital literacies. What comes to your mind about this term? (optional)
7. Here is a (preliminary) list/picture of components that are considered relevant in critical digital literacies (*Show a list/picture based on the framework in progress*).
    a. Please sort the components according to their feeling of priority and their real practices. Let's discuss the classification as for priority related to the use of digital

technology from the point of view of our own use, students' use, whole school. (either this or b)

b. Let's go through these main components one by one and discuss what are your conceptions / ideas about these. What issues fall under each component? What comes to your mind? (either this or a)

8. Is there something else that comes to your mind that is relevant about CDL?

C. Opinions about what aspects of CDL schools should provide for students

9. What aspects of the critical use of digital technology students should learn at school?
10. What competence should each student in your school possess about these issues when they leave school?
11. What is parents' role and what is teachers' role in supporting students' CDL?

D. Examples of the participants' current pedagogical practices to support students' CDL

Please give examples from your own teaching about how you teach or support your students about critical digital literacy.

12. Let's go through the components in the framework of CDL. What other practices come to your mind that you have for supporting critical digital literacy?

E. Evaluation of current situation in the partner school: strength and weaknesses in teachers' competence and students' competence, good practices and points for improvements in pedagogical practices.

13. What kind of strengths do you identify in relation to critical digital literacy in your school? *(Ask in more detail if not mentioned otherwise: for teachers/ students/school level/parents.)*
14. What kind of weaknesses do you identify in relation to critical digital literacy in your school? *(Ask in more detail if not mentioned otherwise: for teachers/students/school level/parents.)*
15. What kind of additional support or teacher training would you need in order to address critical digital literacy at school?
16. We have now gone through all the interview questions. Is there anything else you would like to add?

Italian

IO1 – Activity 2: Focus group interviews

Domande per l'intervista

Informazioni di background

Partecipanti:
Intervistatore:
Data:

Le domande sono organizzate in gruppi tematici. I temi sono chiarimenti per i ricercatori. Ci sono di solito delle domande generali e aperte in ciascuna categoria, poi domande più specifiche.

Da notare: alcune domande sono indicate come opzionali. Possono essere usate se il ricercatore intende arricchire i dati delle interviste.

A. Utilizzo delle tecnologie digitali in generale

1. Quali tipologie di tecnologie digitali utilizzate per il vostro lavoro di docente? (opzionale)
2. Per cosa le utilizzate? (opzionale)
3. Cosa trovate più utile quando utilizzate le tecnologie digitali (nel tuo insegnamento, con i tuoi studenti, per lo sviluppo professionale?) Perché?
4. Quali sfide avete affrontato nell'utilizzo delle tecnologie digitali?

B. Concetto di "Competenza Digitale Critica" (CDL)

5. Quali sono secondo voi le questioni su cui dovremmo essere tutti critici quando si utilizzano le tecnologie digitali? (Promuovi la discussione: qualcos'altro? Altri suggerimenti?)
    a. (Chiedi se non è stato menzionato nella risposta 5) Quali problematiche relative all'utilizzo critico delle tecnologie digitali sono rilevanti in base al vostro utilizzo?
    b. (Chiedi se non è stato menzionato nella risposta 5) Quali problematiche relative all'utilizzo critico delle tecnologie digitali sono rilevanti specialmente per i giovani/vostri studenti?
    c. (Chiedi se non è stato menzionato nella risposta 5) Quali problematiche relative all'utilizzo critico delle tecnologie digitali sono rilevanti specialmente nelle pratiche dell'intera scuola?
6. Il nostro obiettivo nel progetto DETECT è di comprendere e sviluppare le competenze digitali critiche. Cosa vi viene in mente in riferimento a questo termine?
7. Qui c'è una lista preliminare di componenti che sono considerate rilevanti nell'ambito delle competenze digitali critiche (Mostra una lista/ immagine basata sulle componenti del framework che si sta delinenando).

a. Cortesemente, ordinate le componenti in base alla priorità e alla loro realizzabilità. Discutete poi la classificazione in base alla priorità legata all'utilizzo delle tecnologie digitali dal punto di vista del vostro utilizzo, dell'utilizzo degli studenti, dell'intera scuola (o questa opzione o l'opzione b)

b. Discutete quali sono le vostre idee sulle principali componenti elencate. Quali problemi rientrano in ciascun componente? Cosa vi viene in mente? (o questa opzione o l'opzione a)

c. Prestate attenzione sulle problematiche dei dati. Quali sono le vostre esperienze e preoccupazioni attuali? Quali tipo di azioni dovrebbero essere intraprese per promuovere le competenze necessarie per vivere nella società dove i dati sono tracciati continuamente e potrebbero essere utilizzati nel bene e nel male?

8. C'è qualcosa che vi viene in mente che può essere rilevante in merito alla CDL?

C. Opinioni in merito a quali aspetti della CDL la scuola dovrebbe fornire agli studenti

9. Quali aspetti nell'utilizzo critico delle tecnologie digitali dovrebbero imparare a scuola gli studenti?
10. Quali competenze dovrebbe possedere ogni studente quando lascia la scuola?
11. Qual'è il ruolo dei genitori e degli insegnanti nel supportare la CDL degli studenti?

D. Esempi dei partecipanti di pratiche pedagogiche per supportare la CDL negli studenti

12. Per favore, fate degli esempi su come insegnate e supportate gli studenti in merito alla CDL partendo dalle vostre pratiche di insegnamento.
13. Guardando le componenti della CDL elencate, quali altre pratiche vi vengono in mente che attuate per supportare la CDL?

E. Valutazione della situazione attuale nella scuola: punti di forza e debolezza nelle competenze di insegnanti e studenti, buone pratiche e punti da migliorare nelle pratiche pedagogiche

14. Che tipo di punti di forza identificate in relazione alle CDL nella tua scuola? (Chiedere più in dettaglio: per insegnanti / studenti / livello scolastico / genitori.)
15. Che tipo di debolezze identificate in relazione alla CDL nella tua scuola? (Chiedere più in dettaglio: per insegnanti / studenti / livello scolastico / genitori.)
16. Che tipo di supporto aggiuntivo o formazione degli insegnanti avreste bisogno per affrontare la CDL a scuola?
17. Abbiamo esaminato tutte le domande dell'intervista. C'è qualcos'altro che vorresti aggiungere?

Finnish

IO1 – Activity 2: Focus group interviews

Opettajien ryhmähaastattelun kysymykset

Muista pyytää osallistujia täyttämään taustatietoja ja tutkimuslupaa koskeva kyselylomake. Varmista, että osallistujat ovat perehtyneet tutkimus tiedotteeseen ennen ennen kuin antavat suostumuksen tutkimukseen.

Taustatiedot

Haastateltavat opettajat:
Haastattelija:
Haastattelun ajankohta:

A. Digiteknologian käyttäminen yleensä

1. 1. Mikä on mielestänne hyödyllisintä käyttäessänne digitaalitekniikkaa (opetuksessa, oppilaiden kanssa, ammatilliseen kehittymiseen?) Miksi?
2. 2. Minkälaisia haasteita olette kohdanneet käyttäessänne digiteknologiaa?

B. Käsitykset kriittisestä digitaalisesta lukutaidosta

3. Mitkä asiat ovat mielestänne sellaisia, joihin meidän kaikkien pitäisi suhtautua kriittisesti digiteknologiaa käytettäessä? *(Pyri edistämään vilkasta keskustelua ja paljon erilaisten ehdotusten esittämistä: Onko jotain muuta? Lisää ehdotuksia?)*
    a. *(Kysy jos ei tule esiin pääkysymyksen vastauksessa)* Mitkä asiat digiteknologian kriittisessä käytössä ovat keskeisiä kun itse olette käyttäjinä?
    b. *(Kysy jos ei tule esiin pääkysymyksen vastauksessa)* Mitkä asiat teknologian kriittisessä käytössä ovat keskeisiä kun nuoret/ oppilaat ovat käyttäjinä?
    c. *(Kysy jos ei tule esiin pääkysymyksen vastauksessa)* Mitkä asiat teknologian kriittisessä käytössä ovat keskeisiä arjen koulutyössä?
4. DETECT-hankkeen tavoitteena on tutkia ja kehittää *kriittistä digitaalista lukutaitoa/osaamista*. Mitä teille tulee mieleen tästä käsitteestä?
5. Tässä on (alustava) lista/kuva elementeistä, joita pidetään keskeisinä kriittisessä digitaalisessa lukutaidossa. Käydään läpi nämä elementit yksi kerrallaan ja keskustellaan siitä, mitä ajatuksia/ideoita teille tulee niistä. Mitä asioita kunkin elementin alle kuuluu? Mitä teille tulee mieleen?
6. Tuleeko teille mieleen jotain muuta olennaista?

C. Käsitykset siitä, miten koulun pitäisi tukea oppilaiden kriittistä digitaalista lukutaitoa

7. Mitä asioita oppilaiden pitäisi oppia koulussa digiteknologian kriittisestä käytöstä?
8. Mitä osaamista oppilailla pitäisi olla näistä asioista kun he lähtevät koulusta?

9. Mikä on vanhempien rooli ja mikä on opettajien rooli oppilaiden kriittisen digitaalisen lukutaidon kehittymisen tukemisessa?

D. Esimerkkejä osanottajien nykyisistä pedagogisista käytännöistä kriittisen digitaalisen lukutaidon tukemisessa

10. Kertokaa esimerkkejä siitä, miten omassa opetuksessanne tuette oppilaiden kriittisen digitaalisen lukutaidon kehittymistä?
11. Käydään vielä läpi kriittisen digitaalisen lukutaidon listan/kuvan elementit. Mitä muita käytäntöjä teille tulee mieleen, joilla olette tukeneet oppilaiden kriittistä digitaalista lukutaitoa?

E. Koulun nykykäytäntöjen arviointi: vahvuudet ja puutteet opettajien ja oppilaiden osaamisessa, hyvät käytännöt ja kehittämistarpeet pedagogisissa käytännöissä

12. Minkälaisia vahvuuksia tunnistatte koulussanne suhteessa kriittiseen digitaaliseen lukutaitoon? *(Kysy tarkemmin jos ei tule esiin muuten: koskien opettajia/oppilaita/koko koulua/vanhempia.)*
13. Minkälaisia puutteita tunnistatte suhteessa kriittiseen digitaaliseen lukutaitoon? *(Kysy tarkemmin jos ei tule esiin muuten: koskien opettajia/oppilaita/koko koulua/vanhempia.)*
14. Minkälaista lisätukea tai opettajien koulutusta tarvitsisitte ottaaksenne huomioon kriittiseen digitaaliseen lukutaitoon liittyviä asioita koulussa?
15. Olemme nyt käyneet läpi kaikki haastattelun kysymykset. Onko vielä jotain mitä haluaisitte lisätä?

Catalan/Spanish

The Catalan Language was used to conduct the interviews

Erasmus +
DETECT IO1 - Activitat 2: focus grup

Guió de Focus grup

Informació de la sessió

Participants:
Entrevistador:
Data de l'entrevista:

(Preguntes organitzades en els temes principals. Primer feu una pregunta general de cada tema i després preguntes més detallades sobre els aspectes centrals del CDL.)

Qüestionari de fons

A. Ús de les tecnologies digitals en general

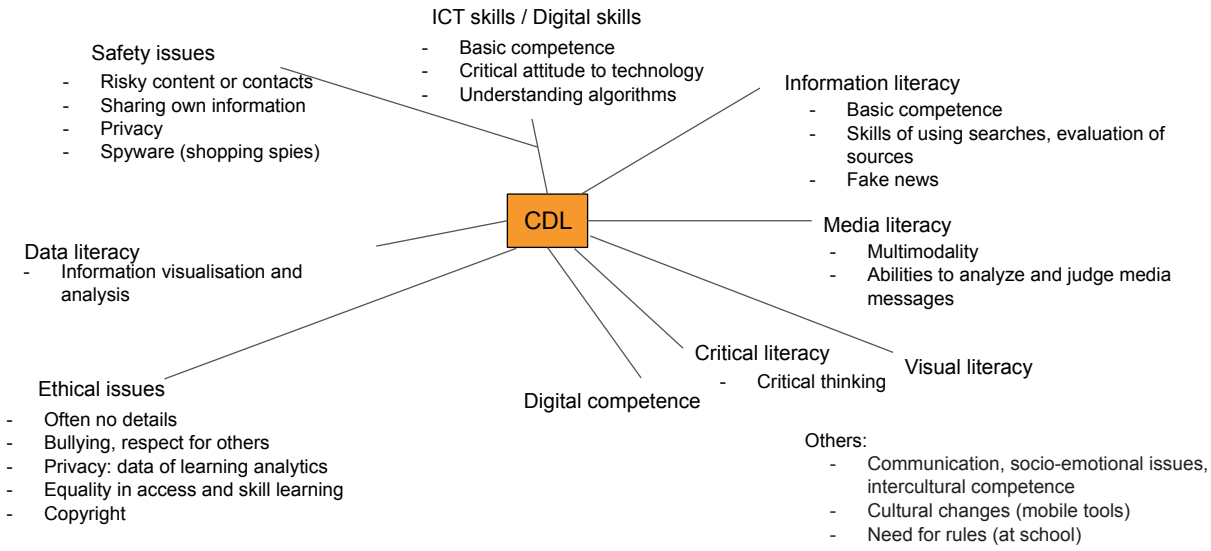
Preguntes per trencar el gel:

- Quins tipus de tecnologies digitals utilitzeu com a professors?
- Per a què les utilitzeu?
- Què trobeu més útil quan utilitzeu tecnologia digital (en la vostra pràctica docent, amb els vostres estudiants, per al desenvolupament professional?) Per què?
- Quins reptes us heu enfrontat a l'hora d'utilitzar tecnologies digitals?

B. Conceptes de Competència digital crítica

- Aquí es mostra una llista de components que es consideren rellevants en la Competència digital crítica

First sketch of the topics related to critical digital literacy (CDL), based on the article searches (abstracts) (20.1.2020)



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- Quin tipus de competències digitals creus que han de tenir els professors?
- Quin tipus de competències digitals creus que han de tenir els estudiants?
- Quins problemes de la vostra opinió són tals que tots hauríem de ser crítics en l'ús de la tecnologia digital? *(Promoure debats i una gran varietat de suggeriments: qualsevol altra cosa? Més suggeriments?)*
- Quins aspectes/problemes sobre l'ús crític de la tecnologia són rellevants especialment per a vosaltres?
- Quins aspectes/problemes sobre l'ús crític de la tecnologia són rellevants, especialment per els vostres estudiants?
- Quins aspectes/problemes sobre l'ús crític de la tecnologia són rellevants especialment en les pràctiques escolars quotidianes?
- El nostre objectiu és investigar i desenvolupars la competència digital crítica, què us suggereix aquest terme?
- Anem a través d'aquests components principals un per un i discutirem quines són les vostres concepcions / idees sobre aquests. Quins aspectes/ problemes inclou cada component? Què us suggereixen?
- Hi ha alguna cosa que sigui rellevant i que no hagi sortit abans?

C. opinions sobre quins aspectes de la Competència Digital Crítica haurien de promoure les escoles entre els estudiants

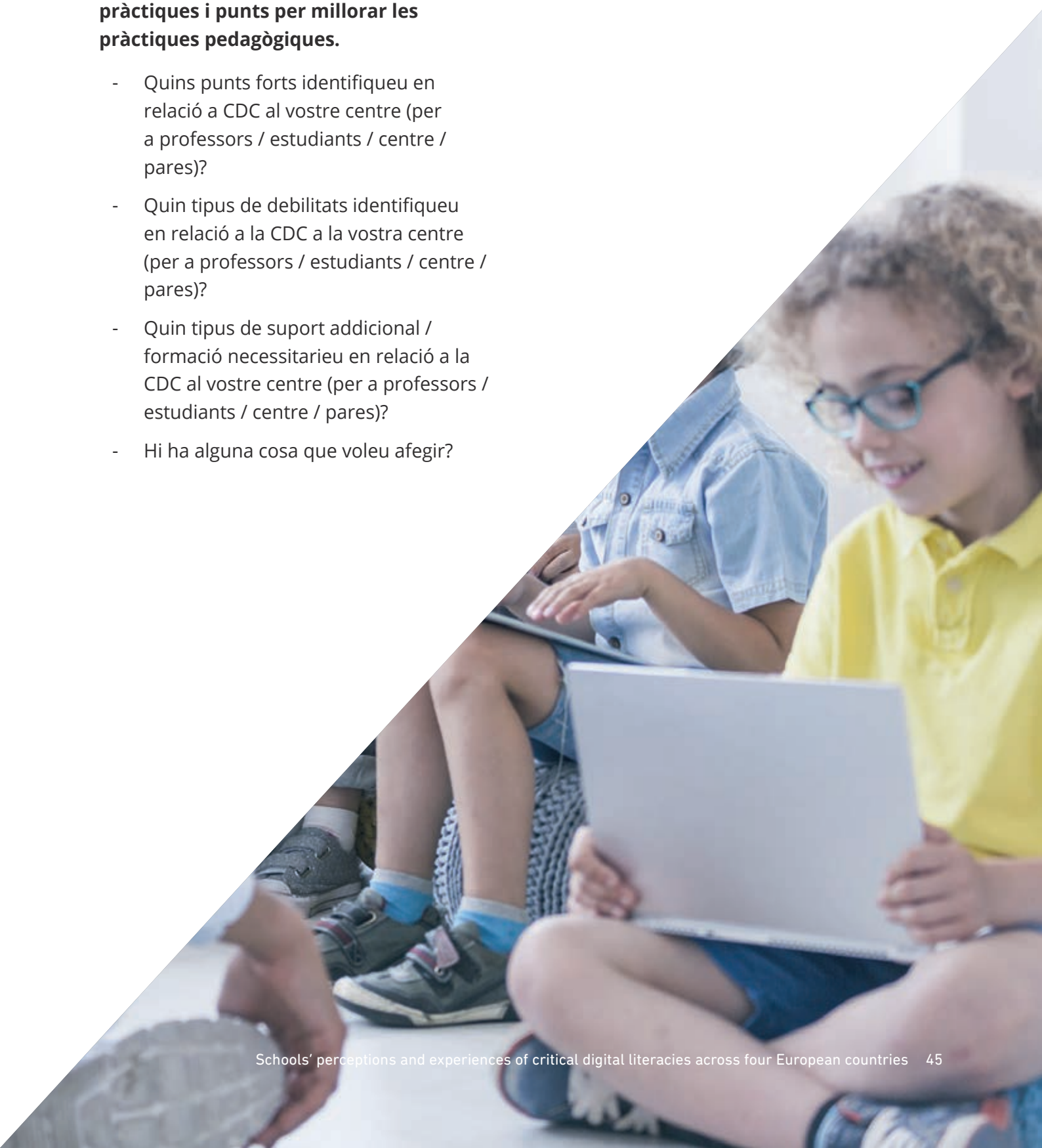
- Quins aspectes en l'ús crític de la tecnologia digital han d'aprendre els estudiants al centre?
- Quina competència ha de tenir cada alumne sobre aquests aspectes/ problemes quan surten del vostre centre?
- Quin és el paper dels pares i quin és el paper dels professors en el suport a la CDC dels estudiants?

D. Exemples de les pràctiques pedagògiques actuals per donar suport a la CDC dels estudiants

- Si us plau, proporcioneu exemples de la vostra pràctica educativa en els que promogueu la CDC dels vostres alumnes.
- Anem a través dels components del marc de la CDC: quines altres pràctiques educatives et suggereixen?

E. Avaluació de la situació actual al centre: fortaleses i debilitats en la competència del professorat i la competència dels estudiants, bones pràctiques i punts per millorar les pràctiques pedagògiques.

- Quins punts forts identifiqueu en relació a CDC al vostre centre (per a professors / estudiants / centre / pares)?
- Quin tipus de debilitats identifiqueu en relació a la CDC a la vostra centre (per a professors / estudiants / centre / pares)?
- Quin tipus de suport addicional / formació necessitarieu en relació a la CDC al vostre centre (per a professors / estudiants / centre / pares)?
- Hi ha alguna cosa que voleu afegir?



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