youth SKILLS

Child-friendly illustrated report on the main ySKILLS results

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Child-friendly illustrated report on the main ySKILLS results

Work Package 7 – Deliverable 7.2

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Executive summary

The creation of a child-friendly summary of the ySKILLS project findings and the organisation of a series of participatory co-design jams were carried out as part of Task 7.2 of Work Package 7 (WP7) of ySKILLS (Youth Skills) – a EU Horizon 2020-funded project involving 16 partners from 13 countries.

More particularly, Task 7.2 set out to co-shape future policy and practice recommendations in a child-centric way and dealt with the challenge of *what* ySKILLS findings to disseminate, *how* and *why*.

The proposed child-centric approach consisted of a series of participatory co-design jams with a child-friendly summary and a co-design jam protocol (See attachments).

For developing and piloting the protocol, we used the synthesised findings as identified in Task 7.1, which yielded a report on all results of the first 32 months of the project with both the conceptual insights and empirical findings of WP2-6.

To turn the content into an appealing, child-friendly, and accessible format, Task 7.2 iteratively shaped the child-friendly summary into an engaging science story that children can and want to relate to.

Together the content of the child friendly summary (*the what*) and its format and protocol (*the how*) form a dynamic, coherent whole based on a four-perspective logic (*the why*) that resonates with principles of ethical research practices, participatory science dissemination, participatory design, and children's rights.

Based on the knowledge gained through the organisation of the co-design jams in the six survey countries, preceded by three pilot sessions in Belgium and the UK and followed by three validation sessions in Belgium, the practical end-result is a publicly available hands-on participatory toolkit (See e.g., ww.yskills.eu/resources) that can be implemented for use by other researchers and stakeholder groups. This toolkit consists of a revised child-friendly summary (See Picture 1) and a toolkit protocol. At the moment of writing this deliverable, the toolkit protocol had already been translated in two languages, i.e. English and Dutch.

The insights on how young people made sense of the findings, has also been fed back to the ySKILLS partners in liaison with WP8. The children's recommendations feed into the development of policy and practice recommendations as part of WP7.

Picture 1 – Mock-up with the introduction slide of the child-friendly summary.

1 Glossary of key terms

Participatory toolkit: This is the final output of task 7.2 and includes the child-friendly summary and the toolkit protocol. It is a resource that facilitates engagement with the ySKILLS findings and is publicly available (See e.g., www.yskills.eu/resources). At the moment of writing this deliverable, the toolkit had already been translated in two languages, i.e. English and Dutch.

> **Child-friendly summary**: This is the final version of the child-friendly report, presented in the form of an illustrated and engaging PowerPoint presentation, including speaker notes. It summarizes the main ySKILLS research results in a way that is accessible and understandable for children.
>
> **Toolkit protocol**: This includes the final version of the briefing with instructions for the class activity. This protocol provides guidance on how to use the child-friendly summary.

Co-design jam protocol: This consists of the first version of the school briefing with instructions for the class activity, the PowerPoint notes, the briefing and informed consent forms for children and parents, the teacher feedback form, and the researcher observation form. This protocol outlines the process for conducting the co-design jams.

Pilot sessions: These are the first three exploratory sessions conducted in the UK and Belgium with a preliminary version of the child-friendly summary and co-design jam protocol.

Co-design jams: These are in-depth deliberative workshops conducted in the six ySKILLS survey countries with the first version of the child-friendly summary and the co-design jam protocol.

Validation sessions: These are the three final sessions conducted in Belgium with the semi-final version of the child-friendly summary and toolkit protocol to validate the participatory toolkit.

Stakeholders: These are researchers, teachers and other stakeholder groups who wish to engage adolescents in learning about digital skills and their importance for everyday life.

2 Introduction

2.1 The ySKILLS project

The ySKILLS (Youth Skills) project is funded by the European Union (EU's) Horizon 2020 programme. It involves 16 partners from 13 countries to enhance and maximise the long-term positive impact of the information and communications technology (ICT) environment on multiple aspects of wellbeing for children and young people by stimulating resilience through the enhancement of digital skills. Starting from the view that children are **active agents in their own development**, ySKILLS examines how digital skills mediate the risks and opportunities related to ICT use by 12- to 17-year-olds in Europe (see https://ySKILLS.eu).

The overarching aim of ySKILLS

To enhance and maximize the long-term positive impact of the ICT environment on multiple aspects of wellbeing for all children by stimulating resilience through the enhancement of digital skills.

ySKILLS **identifies the actors and factors** that undermine or can promote **children's wellbeing** in a digital age. The relations between ICT use and wellbeing are critically and empirically examined over time.

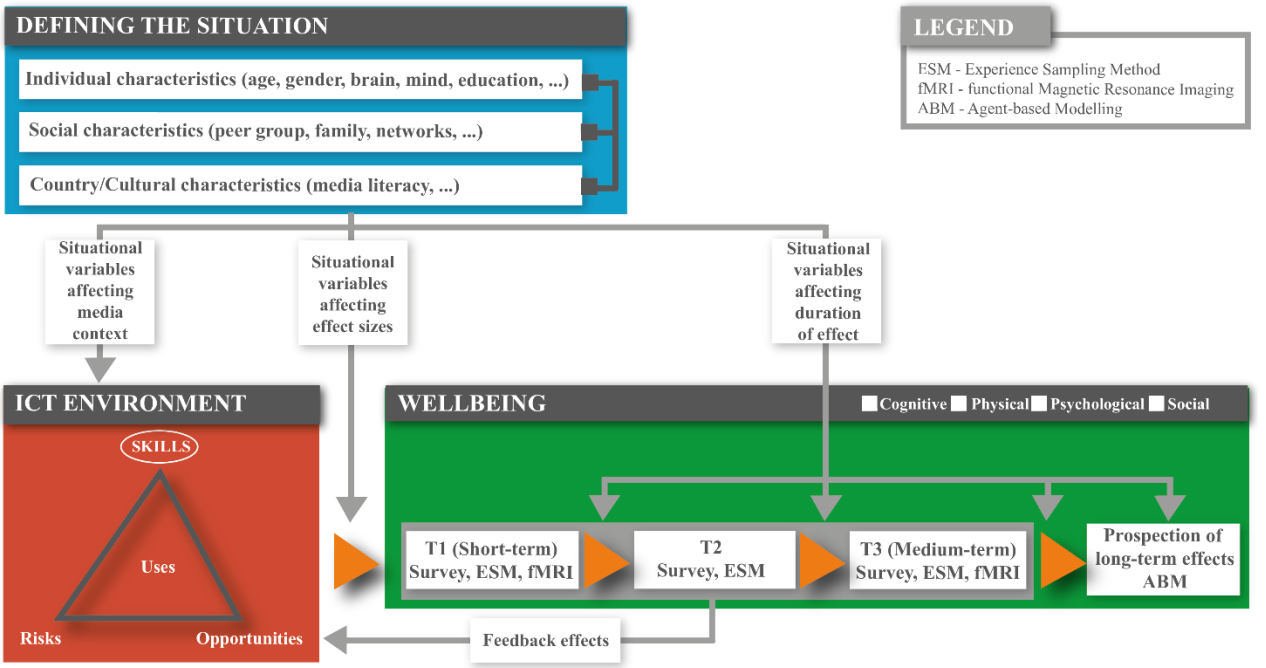
ySKILLS' research objectives

1. To acquire extensive knowledge and better measurement of digital skills.
2. To develop and test an innovative, evidence-based explanatory and foresight model predicting the complex impacts of ICT use and digital skills on children's cognitive, physical, psychological, and social wellbeing.
3. To explain how at-risk children (as regards their mental health, ethnic or cultural origin, socioeconomic status, and gender) can benefit from online opportunities despite their risk factors (material, social, psychological).
4. To generate insightful evidence-based recommendations and strategies for key stakeholder groups in order to promote European children's digital skills and wellbeing.

This report contributes to achieving objective 4 as specified above (cf. "to generate insightful evidence-based recommendations and strategies for key stakeholder groups in order to promote European children's digital skills and wellbeing"). It is situated in the WP7 of the ySKILLS project where we consulted with young people on the synthesis of results, responding to and incorporating their views, priorities and experiences in the development of the recommendations for policy and practice. With the help of the young participants, the ySKILLS results and recommendations were identified and framed in terms of the rights of the child.

ySKILLS has proposed, and will continue to develop, its **conceptual model** (see Figure 1):

Figure 1. ySKILLS CONCEPTUAL MODEL



This report focuses on the synthesised findings as identified in Task 7.1, and hence refers to those key insights with regard to our conceptual model as identified in the results of the first 32 months of the project. More particularly, this report builds on both the conceptual insights and empirical findings of WP2-6. To turn these insights into an appealing, child-friendly, and accessible format, Task 7.2 iteratively shaped a child-friendly summary into an engaging science story that the children can and want to relate to. The result is a publicly available hands-on toolkit that can be implemented for use by other researchers and stakeholder groups.

2.2 This report

The creation of a child-friendly summary of the ySKILLS project findings and the organisation of a series of participatory co-design jams were carried out as part of Task 7.2 of the ySKILLS project.

More particularly, Task 7.2 set out to co-shape future policy and practice recommendations in a child-centric way and dealt with the challenge of *what* ySKILLS findings to disseminate, *how* and *why*. The proposed child-centric approach consisted of a child-friendly summary and a series of participatory co-design jams.

Taken together, the content (*what*) and the format and protocol (the *how*) form a dynamic, coherent whole based on the following four-perspective logic (the *why*) based on arguments that meet principles of ethical research practices, participatory science dissemination, participatory design, and children's rights.

Based on the knowledge gained through co-design sessions with the project partners (see e.g., Picture 2), the pilot sessions in the United Kingdom and Belgium, the co-design jams in the six survey countries and the validation sessions in Belgium, the practical result is a publicly available hands-on participatory toolkit. This toolkit can be implemented for use by other researchers and

stakeholder groups who wish to engage adolescents in learning about digital skills and their importance for everyday life.

The recommendations made by adolescents themselves also fed back into the development of policy and practice recommendations as part of WP7. The insights on how the young participants made sense of the findings were shared with the ySKILLS partners in liaison with WP8.

Picture 2- Co-design session with the ySKILLS project partners. Picture taken during the consortium meeting in Leuven, November 2022.

3 Rationale

This section presents the rationale of Task 7.2. It revolves around three key guiding questions, that is the question of *what* we shall report back to the young children, *how* we shall do so, and *why*?

In what follows, we discuss each of these guiding questions in more detail. The discussion is situated in the criteria that have been defined by Lafrenière and Cox (2013) for the assessment of creative science dissemination. These criteria include normative, substantive, and performative aspects (Lafrenière & Cox, 2013). Normative aspects relate to the quality of the research (e.g., in terms of methodological rigour and ethical appropriateness) and are linked to our guiding *what*-question. The substantive aspects relate to the textual and visual properties of the science dissemination format in line with our guiding *how*-question. As for the performative qualities, we consider the envisioned effect, which is tied with the *why*-question.

3.1 What

Deciding on what content to report back by means of the child-friendly summary was an iterative and collaborative process that involved young people and researchers. It demanded carefully weighting, prioritising, and clustering of the available scientific evidence. Task 7.2 was inspired by the synthesis of the project findings (Deliverable 7.1) developed earlier as part of WP7 and which included the most important results of the first three years of the project with both the conceptual insights and empirical findings of WP2-WP6.

To ensure that the child-friendly summary was relevant, easy-to-understand and appealing to our young, non-academic audience, six co-design jams were organised with children and young people in each of the six ySKILLS survey countries. Insights from the children, teachers and project partners were collected in a structured manner and served to revise the child-friendly summary and protocol.

The outcomes of this iterative process resulted in several deliverable outcomes: the initial version of the child-friendly summary (Appendix F) and the co-design jam protocol (Appendix A, B, C, D and E).

Following revisions and further improvements, the final participatory toolkit was developed, which includes a revised child-friendly summary (Appendix H) and the toolkit protocol (Appendix G).

3.2 How

In addition to the question of what to feed back to children and young people, which is related to the project findings and content selection, Task 7.2 was also about *how* to do that, which is linked to content curation. During Task 7.2, particular attention was paid to how we shape the ySKILLS findings in a child-friendly, engaging way.

In this context, we reflected on the textual or visual properties of the format, which could be technical, medium-specific and/or artistic.

In our project, we pursued interactive and participatory qualities for both the process and the outcomes. More particularly, following a participatory and iterative approach, Task 7.2 proposed a participatory toolkit (see Appendices) based on in-depth deliberative class workshop sessions guided by an interactive, visually supported presentation.

3.3 Why

As a third, and intrinsically interwoven aspect (Van Even et al, 2020a, 2020b, 2022), we reflected on the underlying motivations, and thus, addressed the *why*-question. Answering the why-question of

choosing creative research dissemination reveals perceptions of knowledge, the public, and academia (Dierckx et al., 2022). It opens the discussion on the performative aspects in terms of the envisioned impact (Lafrenière & Cox, 2013).

For the envisioned impact of Task 7.2, we followed a four-perspective logic resonating with principles of (1) ethical research practices, (2) participatory science dissemination, (3) participatory design, and (4) children's rights.

First, from an ethical perspective, Task 7.2 adheres to the general ethical good practice of reporting research findings back to participants (see e.g., Taylor, 2019). Through co-design jams and the free public release of the toolkit materials in multiple languages (See e.g., yskills.eu/resources), Task 7.2 captures the communication of ySKILLS results to young people and other stakeholders who were involved in ySKILLS research such as the school staff.

Second, from the perspective of science dissemination, there is not only the logic of accountability, but also one of transdisciplinary efforts (Withagen et al., 2018) of co-creation and participatory science dissemination. Indeed, the ambitions of Task 7.2 are situated at the level of the 'co-production of knowledge model' (Callon, 1999), which is characterised by a collaboration between researchers and participants throughout the process of co-production and dissemination of knowledge and is particularly sensitive to the social recognition of concerned groups such as young people. It puts science and society on equal footing through multidirectional back-and-forth loops (Bauer et al., 2007).

More particularly, for Task 7.2, this implied that we refrained from a one-way top-down diffusion of information and instead opted for a multidirectional science dissemination strategy (Horst, 2008). By considering appealing, engaging, accessible and interactive dissemination formats, we hoped that the children and young people would not only understand the findings but also go a step further and engage with the findings, make sense of them, and make them their own as active audiences.

Third, from a participatory design perspective, we aimed to curate a science story in a child-friendly way, hereby residing on the principle of mutual learning (Bødker et al., 2021) not only during the project but also afterwards. Mutual learning is expected to be facilitated by means of our participatory toolkit when adults can learn from young people's perspective and experiences and vice versa, as well as in situations where children and young people are given possibilities to continue learning beyond the end of the project (Schepers et al., 2022a), for instance when our publicly available toolkit will be used in other contexts, e.g., in other classes, in other schools, in informal learning settings, in other countries.

Throughout Task 7.2, several stakeholders, including the young people, were invited to shape the science dissemination content and format collaboratively and iteratively. Our co-design jams are based on the premise that young people can be part of the decision-making team as experts by experience (Sleeswijk Visser et al., 2005) and, thus, co-designers of future opportunities.

But how to build the conditions for such an information-sharing and dialogue between children and adults? Although there has been a growing emphasis on children's participation in various fields across Europe, including national policy and city-making (Kränzl-nagl & Zartler, 2009), little research or documentation exists on how to do so (Halskov & Hansen, 2015; Schepers, 2021). Even when adults strive to take children's voices into account, the responsibility of determining the process

and deciding upon the 'how to' question usually lies solely with adults. As a result, there is a need for further exploration and development of effective strategies for the active participation of children and young people in research and research dissemination to prevent the power pendulum from continuing to swing towards adults (Cumbo et al., 2019; Schepers, 2021; Guha et al., 2013). One may then wonder how to foster collaboration with children by *(co-)designing* a process instead of inviting young people to merely *participate* in it (CO:RE, 2022; Schepers et al., 2018, 2022b).

In a similar logic of mutual learning and empowering young people by designing the process of science dissemination practices, we followed a participatory and iterative design process for the creation of the child-friendly summary and co-design jam protocol (see section 3 Methods). The outcome of this participatory and iterative process was the definition and creation of a hands-on toolkit for in-depth deliberative class workshop sessions guided by an interactive, visually supported presentation of the ySKILLS findings.

Finally, from the perspective of children's rights, we approached children as active holders of rights (Ruxton, 2005). This perspective not only shapes the activities and considerations of Task 7.2 but of WP7 in general, and by extension ySKILLS as a project. Starting from the observation that children are rarely consulted other than research subjects, our co-design jam protocol explicitly considers young people in decision-making (see also e.g., CO:RE, 2022). To achieve this, the protocol does not only invite young people to add their perspectives and experiences to the findings and to the science story curation format, but it also invites them to formulate recommendations on how others must learn about and act upon the ySKILLS findings. This way, we opened the possibilities for children's rights to participation and active involvement in matters important to them. Via the video "Have you been invited to participate in research? Then you should watch this film"[1] children and young people could be informed about their rights when participating in research projects (Staksrud et al., 2022).

Indeed, at the international level, the United Nations Convention on the Rights of the Child (UNCRC) has established a comprehensive and holistic approach around key rights principles for children (Declerck & Feci, 2022), of which several are immediately applicable to the rationale of the ySKILLS project in general and Task 7.2, in particular. Echoing children's right to express their views, Task 7.2 set out to give them a voice when it comes to their experiences and perspectives with respect to the ySKILLS findings. Being informed and receiving information about the project results can also be seen as beneficial to young people's right to development. Besides, by learning how young people make sense of the findings, we are attuned to the interpretative flexibility of the study outcomes and how the resulting recommendations can serve the best interest of the child. This brings us to the participatory and emancipatory logic of Task 7.2 that also aligns with children's right to be provided with possibilities for participation and active involvement in matters important to them (Lansdown, 2005; Zaman, 2020).

[1] *https://core-evidence.eu/posts/open-source-movie-childrens-rights-as-research-participants*

4 Method

This section describes our method and techniques, building on an iterative and participatory logic. Since different moments of reflection, conceptualisation, design, and evaluation alternately followed each other with regular feedback and feedforward loops, it makes no sense to pull these phases apart.

The decision-making process on the content of the child-friendly summary built on the ySKILLS research as was synthesised in Deliverable 7.1, with both the conceptual insights and empirical findings of WP2-6 of the first 32 months of the project (see Figure 2).

Figure 2. Alignment of D7.1 (synthesis results) and D7.2 (child-friendly summary)

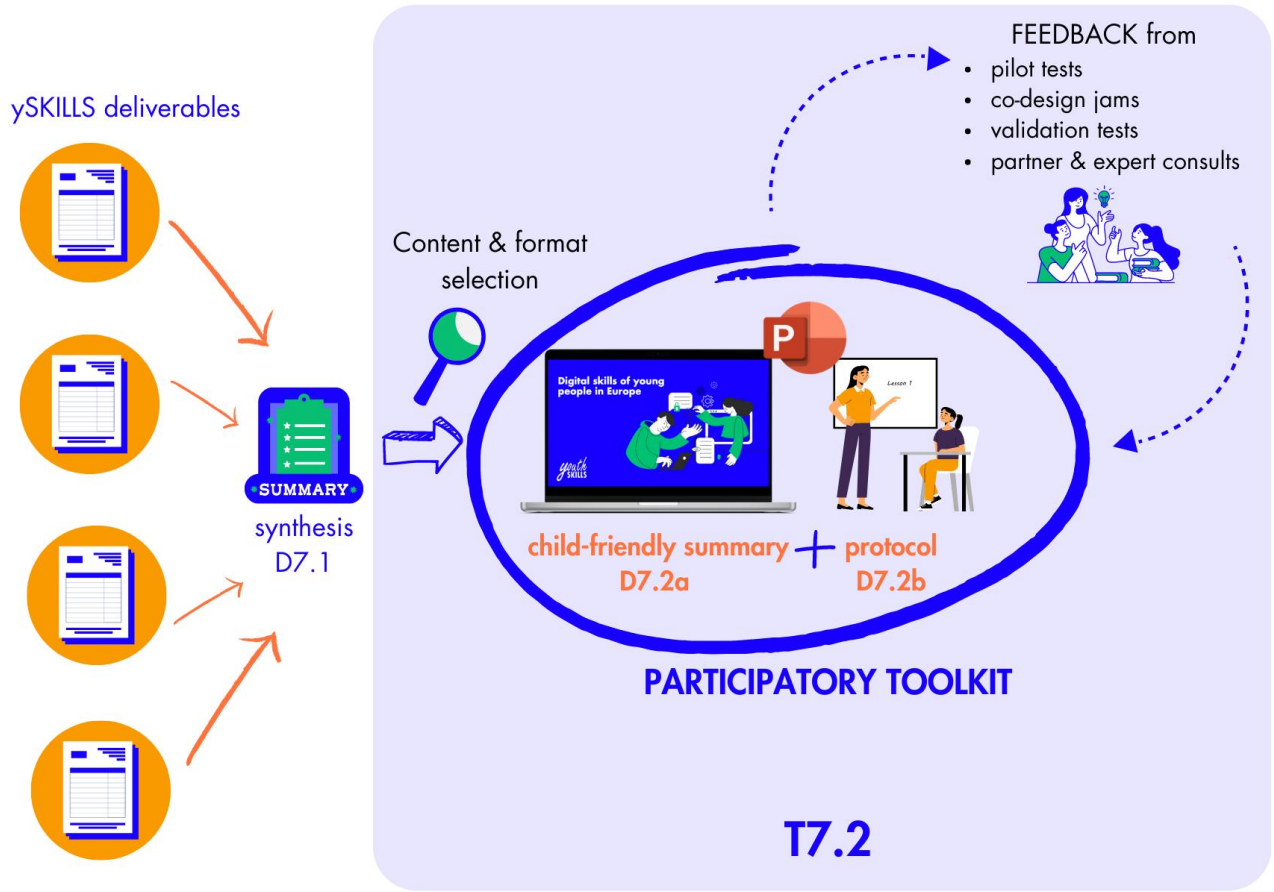


Figure 2 - Visualisation of how D7.2 builds on the insights from D7.1, shown and discussed during the interactive sessions during the consortium meeting in Leuven, Belgium, November 2022.

4.1 Content selection

One of the main considerations was how to turn an academic summary into a science story that resonates with the everyday world of young people and that is not too overwhelming for them. Hence, the selection of information and the creation of the science story was crucial. In order to structure and identify the main findings, we performed a **thematic analysis** on the WP2-6 outputs (deliverables, blog posts, synthesis report D7.1). During the analysis, we deliberately chose to focus on the most important and relevant findings from the project such as the four types of digital skills, the main conclusions from the systematic evidence review, the construction of the yDSI and performance test, and the survey results. Based on these core findings, we identified four building blocks:

1. What are digital skills and why do they matter?
2. What do we know from research about digital skills?

3. How do we measure digital skills?
4. What are the survey results on digital skills?

To make the content more engaging and relatable for children and young people, we expanded the theoretical parts with numerous examples that resonate with the lives of young people. This approach would enhance their understanding of the concepts being presented. In deciding upon the content, we aimed to avoid jargon (e.g., academic or too technical terms) and going into too much detail, and incorporated visual aids such as images or diagrams to illustrate key concepts. We also allowed for some open-endedness so that young people could fill in gaps, and by inviting them to make sense of the findings themselves.

Finally, we made the conscious decision to avoid more delicate topics, such as research on media use among young refugees, because we cannot guarantee that educators would be able to handle them appropriately without inadvertently stigmatizing individuals or groups.

4.2 Format selection

In terms of science story curation, we opted for visually supported science dissemination formats to create an engaging **narrative and to improve young people's understanding of the ySKILLS findings**. We also anticipated the situational demands of where and by whom the science story would be told and decided to focus on a school setting to reach out to a diverse group of children. However, practical constraints of class activities led to the need for a format that would not last longer than one class session of about 40 minutes. To ensure the toolkit's ease of use, we deliberately chose a **PowerPoint presentation** as it is within the resources and capabilities of most European schools. Furthermore, the instructions outlining the guidance for facilitating youth consultation and deliberation (as part of the protocol) can be seamlessly incorporated into the speaker notes of the PowerPoint. This format would also allow the toolkit to be used by other schools and stakeholders, even after the project is completed, making it accessible to a wider audience.

4.3 Testing the co-design jams and protocol

As soon as we had a testable version of our child-friendly summary and co-design jam protocol we first conducted pilot sessions, one in the UK (Livingstone & Stoilova, 2023) and two in schools in Belgium.

In a second stage, co-design jams with the improved child-friendly summary and co-design jam protocol were organised in a school context in the six ySKILLS survey countries, Germany, Portugal, Finland (online), Poland, Italy and Estonia.

The semi-final toolkit with illustrated layout was validated three times in schools in Belgium.

In total, the participatory toolkit had undergone 12 testing sessions with children and adolescents. In each testing setting, at least eight children and adolescents were involved, together with adult facilitators (researchers and/or teachers). The participants in the co-design jams comprised children and adolescents between the ages of 14 and 17, encompassing a diverse range of backgrounds.

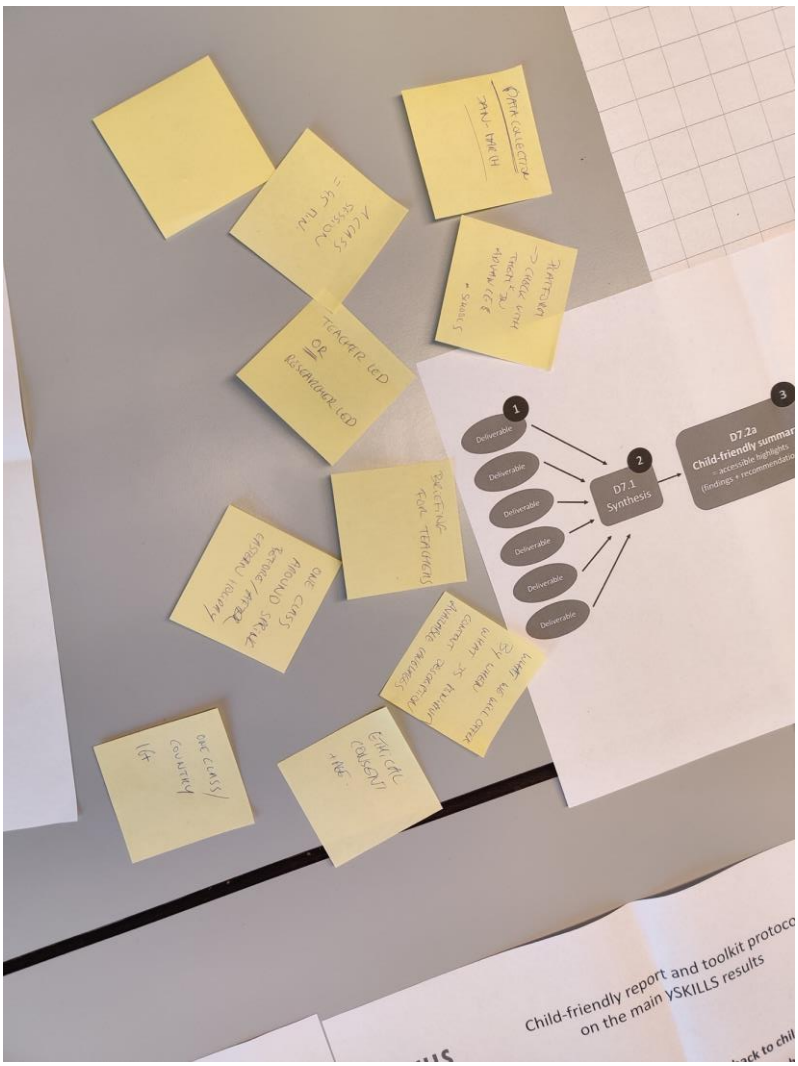
Throughout the different testing occasions, feedback was collected in three ways. Firstly, throughout the co-design jam sessions, young people were actively invited to critically reflect on the role of ICT in their lives and to comment on the findings, giving them a voice to add corrections or complementary insights. Secondly, children and adolescents were also invited to generate suggestions and recommendations for a positive digital future. Together with the adult facilitator(s), they explored potential policy and practice interventions. Thirdly, during and after the co-design jams, feedback

from children, teachers and researchers was collected via observation and feedback forms. More particularly, via structured questions, researchers and teachers were requested to provide feedback on children and adolescents' input during their engagement with the ySKILLS findings as well as on various aspects of the child-friendly summary and co-design jam protocol. The completed forms were sent back to the researchers via email.

4.4 Project partner and expert consults

Throughout the process of content selection, content clustering, and assessing the potential relevance and understandability of the summary, as well as during the process of content curation, we regularly consulted with other project partners (see e.g., Picture 3). This provided us with regular feedback on the selection of materials, the weighting and prioritisation of information, the overall presentation, and on the observations made during the co-design jam sessions.

Next to the consultations with project partners, two expert teachers were consulted to obtain recommendations for enhancing the child-friendly summary and toolkit protocol (e.g., how to make it more interactive and challenging). One expert consultation took place prior to the co-design jam testing in the six survey countries, and another expert consultation took place prior to the validation testing in Belgium. For each expert consultation, we relied on the walk-through method with a think aloud approach to discuss the child-friendly summary and toolkit protocol in detail.



Picture 3 – Brainstorm session with project partners during the ySKILLS consortium meeting in Leuven, Belgium, November 2022.

For an overview of Task 7.2 activities, please see Table 1.

Table 1.	**Task 7.2 activities**		
Timing	Activity	Description	Stakeholders
Oct22	Ethical clearance	Obtaining ethical clearance for Task 7.2 from the KU Leuven institutional review board.	KUL
Oct22-March22	Search literature and best practices	Literature search, creation of a repository of good examples, participation in events on participatory and creative science communication (see Picture 4 and Picture 5).	KUL, LSE
Oct22-Nov22	Several brainstorm meetings	Kicking off Task 7.2, mapping best practices, sharing lessons learned, mapping expectations, and delineating the possibilities and constraints.	KUL, LSE, WP7 and WP8 partners, experts in science dissemination and pedagogy.
Oct22-present	WP7 meetings and dedicated Task 7.2 meetings	On average, we held monthly WP7 meetings (exception Easter holiday break 2023). We hereby paid particular attention to the alignment of Task 7.2 with other tasks, especially as part of WP7 and WP8.	Project partners
Oct22-Nov22	Content definition child-friendly summary	Deciding on the content of the child-friendly summary in liaison with Task 7.1, which foresees in a summary of the findings of the first 32 months of the project.	KUL
Nov22	Design iterations	Design and redesign of the child-friendly summary, yielding five versions, each version being an improved version based on project partners' input.	KUL, project partners
Nov22	Content and curation definition	Content selection and prioritisation, mapping out format options and constraints.	KUL
Dec22-Jan23	Pilot session in the UK	For more details, please see Livingstone, S. and Stoilova, M. (2023).	LSE, young people, intermediaries (health professionals)
Feb23	Redesign content, curation and protocol	Based on a new series of expert evaluations (i.e., teacher), the insights from the UK pilot session, and the input from the consortium partners, a new design of the content, format and protocol was created.	KUL, LSE, project partners, teacher
March23	Pilot sessions in Belgium	Pilot sessions in two Dutch-speaking schools in Belgium. In each school, one pilot session was carried out in a class setting.	KUL, young people, teachers
March23-April23	Co-design jams in the six survey countries	Co-design jams in schools in Germany, Portugal, Finland (online), Poland, Italy and Estonia. In each co-design jam (one per country), at least eight children and adolescents were involved, together with	Project partners from Estonia, Finland, Germany, Italy, Poland and Portugal, plus Belgium and the

		adult facilitators (researchers and/or teachers).	UK, young people, teachers.
April23	Redesign content curation, protocol and summary	Generating insights from pilot sessions in the UK and Belgium, and the co-design jams in the six ySKILLS survey countries, redesign content and format, writing the deliverable (7.2).	KUL
May23-June23	Expert consult, validation sessions with semi-final toolkit in Belgium	Three validation sessions with the semi-final summary and protocol were carried out in a class setting in Belgium to validate the participatory toolkit (See Picture 6). The sessions were led by a ySKILLS researcher. Additionally, an expert teacher was consulted to evaluate the toolkit via a walk-through method with think aloud approach.	KUL, young people, teachers
June23	Finalising the toolkit and deliverable, contacting stakeholders	Finalising the participatory toolkit in two languages (i.e., English and Dutch), gathering feedback from consortium partners, finalising the deliverable (deliverable 7.2). First steps were taken to make the participatory toolkit publicly online: on own ySKILLS website (See www.yskills.eu/resources) and via the communication channels of intermediaries such as media literacy organisations (e.g., Mediawijs in Belgium) or educational networks across Europe (e.g., European SchoolNet), and also available in other languages.	KUL

Picture 4 KU Leuven researchers Chloé Dierckx, Karin Hannes and Bieke Zaman hosting a workshop on creative dissemination methods at the Venice International University (VIU) Global Challenge Initiative (Sept 12-16, 2022).

Picture 5 KU Leuven researcher Emilie Bossens pitching ySKILLS Task 7.2 at the Venice International University (VIU) Global Challenge Initiative (Sept 12-16, 2022).

Picture 6 KU Leuven researcher Emilie Bossens validating the revised child-friendly summary and toolkit protocol in a school setting in Antwerp, Belgium (May 16, 2023).

5 Results

5.1 First version of the child-friendly summary

Based on a deliberate content and format selection process, as described in the methods section, a first version of the child-friendly summary had been developed (see Appendix F).

This child-friendly summary presents the main ySKILLS findings in an engaging way, in order to improve children's understanding of the results. Together with the co-design protocol, the child-friendly summary has been tested in the six ySKILLS survey countries during in-depth youth consultations.

5.2 Co-design jam protocol

A co-design jam protocol was created to guide the in-depth deliberative youth workshops. The protocol consists of several files, which, together with the child-friendly summary, form one coherent whole. We refer to the separate files in the appendices. For the overview, please see Table 2.

Table 3. Summary of the research materials forming the toolkit used during the co-design jams

Phase when to use it	Label	Description	For whom	Appendix
Before the co-design jam	Briefing and Informed consent for parents	In the scenario of collecting personal data from young people for which parental consent is deemed necessary, this document can be used as an information letter and informed consent form for parents and guardians.	From researchers for parents/guardians	Appendix A
Before the co-design jam	Briefing and Informed consent for the young participants	When collecting personal data from young people, this document can serve as an information letter and informed consent form for the young participants.	From researchers for the young participants	Appendix B
Before the co-design jam	Briefing for schools	This briefing document can serve as a starting point to reach out to schools and/or teachers directly as part of the recruitment process. This document also includes instructions for the PowerPoint slides, as a guide for the session leader to host the co-design jam and present the child-friendly summary.	From the researchers for the schools (teachers)	Appendix C
During the co-design jam	CHILD-FRIENDLY SUMMARY: Interactive	This interactive PowerPoint presentation serves as a guide for the co-design jams.	For the co-design jam session leader (whether it is a teacher or a researcher or other	Appendix F

	PowerPoint presentation		science dissemination intermediary)	
After	Feedback form for teachers	Feedback form in which teachers can give feedback on the child-friendly summary and protocol.	For the teacher(s) involved in the co-design jam session	Appendix D
After	Feedback form for ySKILLS researcher	Feedback form in which the ySKILLS researchers who conducted the co-design jam can report back to the KUL team leading Task 7.2.	To be used by the ySKILLS partners conducting the co-design jam sessions and feedback back the results to KUL team responsible for Task 7.2.	Appendix E

5.3 Feedback from the co-design jams

Throughout the co-design jams, children and adolescents were encouraged to actively and creatively interact with the ySKILLS findings. Based on both young participants' input and experiences, and teachers' and researchers' feedback collected via the structured forms, the child-friendly summary and co-design protocol had been enhanced and finalised in the form of a hands-on participatory toolkit. Below is a summary of the feedback received and how it has been incorporated into the final version of the participatory toolkit.

Table 2. Summary of feedback and how it has been processed

Theme	Feedback received in co-design jam	How processed
Timing & quantity of information	Make it shorter: consider scheduling a 35-minute session to allow for extra time.	Some slides/activities have been marked as optional.
	Organize the session as a double lesson to supplement and reinforce some of the content, and to go more in-depth.	Some extra slides have been added (on hide) to go more in-depth in an optional follow-up session.
	Offer additional information for teachers and children who are interested to learn more about the project and results.	Extra slide with link to the ySKILLS blog and socials has been added.
Content	Include more examples of digital skills and ask questions such as 'who does this', 'who knows what this is'.	More examples have been added on the slides + extra questions in the protocol.
	Add examples of digital skills measurement.	Two ySKILLS performance tasks have been added as an activity.
	Reflecting on their (i.e., children and youth) own level of digital skills was difficult because some did not want to openly admit the lack of good knowledge or discuss this with others.	The self-assessment exercise has been replaced with the metaphor of the 'digital ocean' (See Picture 7). Note on optionally using an online quiz platform to anonymously vote has been added to the protocol.
	Add more quiz questions.	One more quiz question has been added.

	'Online risks' was not clear in the quiz statement.	Explanation of 'online risks' has been included in the protocol.
	There is no added value of the group discussion (slide) after the quiz because the students did not remember the questions.	Group discussion slide has been deleted; discussion is suggested to take place after every quiz statement.
	Give less numbers and statistics on survey results.	Slides on access and time, and on popular online activities have been changed into a 'guessing activity' and a group discussion.
	Skip survey methodology and cross-country statistics.	Note to keep it short has been added to the protocol for the slide on methodology. Slide on cross-country statistics has been deleted.
	Give examples on how to improve digital skills.	One slide on how to improve digital skills has been added.
	Increase level of difficulty, make the content more challenging.	Optional slides with higher difficulty level have been added.
Format	Provide more playful, interactive, competitive, active, ice-breaker activities.	A creative and visually attractive metaphor for self-assessment of digital skills, two performance tasks, guessing activities, a quote and a course design activity have been added as extra (or optional) activities.
	Use Kahoot for the quiz/questions	Note on optionally using an online quiz platform has been added to the protocol.

Picture 7 Mock-up of the self-assessment activity in the child-friendly summary, using a metaphor of the digital ocean hinting upon perceived basic, intermediate and advanced digital skills.

5.4 Young people's recommendations for a positive digital future

During the final stage of the co-design jams, children and adolescents were invited to creatively reflect on suggestions and recommendations for a positive digital future. Together with the adult facilitators, they explored the potential for policy and practice interventions, which served as input for ySKILLS task 7.3.

Young people's recommendations can be grouped into the following four domains.

a) Policy

- Inform policy makers via a policy brief, elevator pitch, videoconference, television, and online news.
- Share findings on the four **types of digital skills**, and on the results including percentages from **studies in the six survey countries.**
- Make politicians aware about the **weakest points of young people's digital skills**, and how these skills are evolving.
- Convince politicians to set up **new projects to study digital skills** of young people, and how these skills are evolving in the future.

b) School

- Inform teachers on young people's popular digital activities via social sites, leaflets, posters and short reports.
- **Facilitate workshops for teachers** to learn how to support children and adolescents in developing their digital skills and protecting them from online risks.
- **Use more devices in class** (e.g., for schoolwork) and **include the topic of 'digital skills' in the curricula**, especially to support children and adolescents with limited digital skills, and to prevent harm from online risks (such as scam).
  Make sure that young people know that they can **turn to teachers or student counselors to talk** about their online experiences.

> *"Teachers should attend workshops to further educate themselves."*
> *(Girl, 17 years old, Belgium)*

> *"Young people should know that they can turn to teachers to talk about their experiences on the internet, for example, with the student counselor."*
> *(Boy, 17 years old, Belgium)*

c) Young people

- Share findings on digital skills with young people via talks, ads at the bus stop and in public spaces (e.g., libraries, bars).
- Focus on the types of **digital skills that need improvement** (e.g., information navigation skills) and teach young people how to improve these skills.
- Focus on informing children about the risks of scam and phishing.
- Young people could watch **series about online risks** on Netflix, such as Catfish.
- Young people feel they must **educate their parents** about the digital world and online risks.

d) General (public)

- Share ySKILLS findings with the general public via social media, brochures, and newspaper articles.
- **Talk positively** about digital games in public discourses.
- Share **tips on how to improve the digital skills** of young people**.**
- Share findings on digital skills and activities of young people to reduce stereotypes in the general public.
- **Increase internet safety.**

5.5 Participatory toolkit

The final participatory toolkit consists of a revised child-friendly illustrated summary (see Appendix H) and the toolkit protocol (see Appendix G).

The child-friendly summary consists of five modules and highlights the main ySKILLS research results:

1. What are digital skills?
2. What do we know from research about digital skills?
3. How do we measure digital skills?
4. Survey results on digital skills among young people in Europe
5. How to improve your digital skills?

Via a visually supported narrative in the form of a PowerPoint and several interactive activities (e.g., a quiz, self-assessment activity using a metaphor, performance test questions, guessing game, discussing a quote), young people are encouraged to reflect on the ySKILLS findings.

Both the English and Dutch versions of the toolkit were made publicly and freely available at the moment of writing this deliverable. Further translations of the participatory toolkit will be added towards the end of the ySKILLS project timeline. We encourage future researchers to translate the toolkit in other languages and distribute it in their own networks and geographical region. The toolkit can be used by a wide range of potentially interested people, including children, teachers, educators, intermediaries such as European Schoolnet and media literacy organisations.

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References

Bauer, M. W., Allum, N., & Miller, S. (2007). What can we learn from 25 years of PUS survey research? Liberating and expanding the agenda. *Public Understanding of Science*, *16*(1), 79–95. https://doi.org/10.1177/0963662506071287

Bødker, S., Dindler, C., Iversen, O. S., & Smith, R. C. (2021). Participatory Design. Synthesis Lectures on Human-Centered Informatics, 14(5). https://doi.org/10.2200/S01136ED1V01Y202110HCI052

Callon, M. (1999). The Role of Lay People in the Production and Dissemination of Scientific Knowledge. *Science, Technology and Society*, *4*(1), 81–94. https://doi.org/10.1177/097172189900400106

CO:RE (2022). Key areas of research ethics: What to consider when engaging with children as co-researchers? *Core-Evidence.Eu*. https://core-evidence.eu/compass-for-research-ethics/children-as-co-researchers

Cumbo, B. J., Eriksson, E., & Iversen, O. S. (2019). The "Least-Adult" Role in Participatory Design with Children. Proceedings of the 31st Australian Conference on Human-Computer InteractionComputerInteraction, 73–84. https://doi.org/10.1145/3369457.3369464 https://doi.org/10.1145/3369457.3369464

Declerck & Feci (2022). *Mapping and analysis of the current regulatory framework on gambling(-like) elements in video games* - a report in the framework of the 'Gam(e)(a)able' research project.

Dierckx, C., Zaman, B., Hannes, K. (2022). Sparking the academic curriculum with creativity: Students' discourse on what matters in research dissemination practice. *Arts and Humanities in Higher Education*. doi: 10.1177/14740222221132952

Guha, M. L., Druin, A., & Fails, J. A. (2013). Cooperative Inquiry revisited: Reflections of the past and guidelines for the future of intergenerational co-design. *International Journal of Child-Computer Interaction*, *1*(1), 14–23. https://doi.org/10.1016/j.ijcci.2012.08.003

Halskov, K., & Hansen, N. B. (2015). The diversity of participatory design research practice at PDC 2002–2012. *International Journal of Human-Computer Studies*, *74*, 81–92. https://doi.org/10.1016/j.ijhcs.2014.09.003

Horst, M. (2008). In Search of Dialogue: Staging Science Communication in Consensus Conferences. In D. Cheng, M. Claessens, T. Gascoigne, J. Metcalfe, B. Schiele, & S. Shi (Eds.), *Communicating science in social contexts: New models, new practices* (pp. 119–135). Springer.

Kränzl-Nagl, R., & Zartler, U. (2009). Children's participation in school and community: European perspectives. In: Percy-Smith, B., Thomas, N. P., O'Kane, C., & Imoh, A. T. D. (Eds.). *A handbook of children and young people's participation: Perspectives from theory and practice* (pp. 186- 195). Routledge.

Lafrenière, D., & Cox, S.M. (2013). 'If you can call it a poem': toward a framework for the assessment of art-based works. *Qualitative Research*, *13*(3), 318-336. https://doi.org/10.1177/1468794112446106

Lansdown, G. (2005). *The evolving capacities of the child* (Call E/ICEF/ICDC(05)/I57/No.11 No. 8889129158; Innocenti Insights, p. 82). UNICEF Innocenti Research Centre and Save the Children Sweden. https://digitallibrary.un.org/record/556609

Livingstone, S., & Stoilova, M. (2023) *Internet use, digital skills and mental health: deliberative workshops with young people.* London School of Economics and Political Science and ySKILLS.

Ruxton, S. (2005). *What about us? Children´s rights in the European Union, next steps* [Pdf]. European Children's Network. https://resourcecentre.savethechildren.net/document/what-about-us-childrens-rights-european-union-next-steps/

Schepers, S., Dreessen, K., & Zaman, B. (2018). Rethinking children's roles in Participatory Design: The child as a process designer. *International Journal of Child-Computer Interaction*, *16*, 47–54. https://doi.org/10.1016/j.ijcci.2017.12.001

Schepers, S., Schoffelen, J., Zaman, B., & Dreessen, K. (2022a). 'I'm the boss of the Stiemerbeek valley!' Reconsidering children's empowerment in participatory design from the perspective of infrastructuring. *CoDesign*, *18*(3), 340–354. https://doi.org/10.1080/15710882.2021.1912775

Schepers, S., Schoffelen, J., Zaman, B., & Dreessen, K. (2022b). Going beyond short-term, 'reduced' PD: Towards an encompassing typology for children's participation in infrastructuring processes. *International Journal of Child-Computer Interaction*, *33*, 100484. https://doi.org/10.1016/j.ijcci.2022.100484

Sleeswijk Visser, F., Stappers, P.J., van der Lugt, R., & Sanders, E.B.-N. (2005). Contextmapping: experiences from practice. *CoDesign*, *1*(2), 119–149.

Staksrud, E., Ní Bhroin, N., Torp, I.S., & Johannessen, L.O. (2022). Have you been invited to participate in research? Then you should watch this film. Retrieved 29th of June 2023, from core-evidence.eu/posts/open-source-movie-childrens-rights-as-research-participants.

Taylor, J. (2019). Reporting research findings to participants is an ethical imperative. *BMJ*, l6324. https://doi.org/10.1136/bmj.l6324

Van Even P., Zaman B., & Hannes K. (2020a). Protocol for a systematic review on evaluation criteria for creative and interactive dissemination practices, deliverable 3.2 of the Horizon 2020 project ParCos, EC grant agreement no 872500, Lappeenranta, Finland.

Van Even P., Zaman B., & Hannes K. (2020b). Report on science communication guidelines for the design and curation of participatory science stories. Deliverable 4.2 of the Horizon 2020 project ParCos, EC grant agreement no 872500, Lappeenranta, Finland.

Van Even P., Zaman B. & Hannes K. (2022). ParCos Trainer update report. Deliverable 4.4 of the Horizon 2020 project ParCos, EC grant agreement no 872500, Lappeenranta, Finland.

Withagen, T., Aarts, E., & Valcke, P. (2018). A Time for Interdisciplinarity. An essay on the added value of collaboration for science, university, and society. Tilburg University.

Zaman, B. (2020). Designing Technologies with and for Youth: Traps of Privacy by Design. *Media and Communication*, *8*(4), 229–238. https://doi.org/10.17645/mac.v8i4.3261

Appendices

A. Briefing and informed consent form for parents (co-design jam protocol)

Class activity 'Digital Youth Skills' (ySKILLS results)

GENERAL INFORMATION AND INFORMED CONSENT FORM FOR PARENTS AND LEGAL GUARDIANS

Thank you for considering your child's participation in this study, which is carried out as part of the ySKILLS ("Youth Skills") project. Your cooperation is greatly appreciated and will be important for the project.

About our project

ySKILLS is a four-year project running under the European Union's Horizon 2020 Research and Innovation Framework Programme. We aim to understand what digital skills children and young people need nowadays to be safe online and benefit from opportunities on the internet. Collecting information on these current topics is important for many people including educators and policymakers, but also for parents like you, and young people themselves. For more information about the project, please visit: https://yskills.eu/ .

The data collection

The teacher of your child will organize **a class activity in which pupils discover the main results of this ySKILLS project** (in which they might have participated earlier, for example in a survey). This means that your child will learn more about the role of digital skills in young people's lives.

For this class activity, we developed **interactive and creative activities**. The goal of these small activities is that pupils reflect on the role of digital technologies in their lives by creatively engaging with the results and recommendations. We find it important that adolescents are heard in topics that affect them.

For this study, we are thus **interested in your child's feedback, reflections, and creative outputs**. All data will be treated confidentially, and the results will be completely anonymous. Based on the feedback, we will improve the class materials and protocol, so that other adolescents can benefit from this too. In addition, we will translate the ySKILLS research findings that are relevant to them, into recommendations for stakeholders such as schools, policy makers, teachers, etc.

Consent is voluntary and can be withdrawn at any time

Your child decides if she or he wants to take part in the study and, at any point, they or you can decide that they won't be participating anymore. Be reassured that this is okay and there will be no negative consequences for you or your child. Your child can still participate in the class activity, we just won't gather any feedback from them.

Confidentiality

All data will be treated confidentially. We will report on the findings in an anonymous way. This means that no names will be included in the report. The procedure follows the GDPR rules and ethical codex of social science research.

Potential risks and discomforts

We do not anticipate any obvious risks or disadvantages. Children do not have to give feedback or answer questions if they do not want to. With any questions or comments about the study, they can always turn to the ySKILLS researcher (see below for the contact info). They can also turn to their teacher, or school advisor for answers or support.

Contact information

If you have any questions or concerns about the research, please feel free to contact the local ySKILLS researcher [add the contact information of the local researcher(s)].

Informed Consent

We would kindly ask you to read the following information carefully**. Please note that by signing this document you confirm that you understand and agree to the following:**
I have read the information sheet for this study and fully understood its content.
I give my consent to the participation of my child in this research project.
I understand that participation in this project is voluntary and that it is possible to withdraw from participation at any time.
I permit my child's data to be retained and used in future research within the ySKILLS project.
I understand that the anonymous findings from this study may be published in academic publications, shared in an open archive.

If you agree with the content, please fill out this form
My child's name (Please write his/her name clearly):
_____

My name (Please write your name clearly):
_____

Date: _____

My signature: _____

Alternatively, you can also email your consent via [add the contact information of the local researcher(s)], by simply sending a message with your name and your child's name, for instance:

"Dear researcher,

my name is *[add your name]* and I give my consent to the participation of my child *[add name child]* in the ySKILLS research project.

kind regards,"

B. Briefing and informed consent form for children (co-design jam protocol)

Class activity 'Digital Youth Skills' (ySKILLS results)

GENERAL INFORMATION AND INFORMED CONSENT FORM FOR ADOLESCENTS (12-18 YO)

Thank you for considering your participation in our study! Your cooperation is greatly appreciated and will be important for the ySKILLS project.

What is the ySKILLS project?

ySKILLS is a four-year international project running under Horizon 2020 research programme. Our goal is **to better understand the use of the internet and technologies by young people**. In this project, we try to learn what digital skills are important to be safe online and to benefit from opportunities on the internet.

What will happen if I take part in this study?

Your teacher will organize **a class activity in which you discover the main results of this ySKILLS project** (in which you might have participated earlier, for example in a survey). This means that you will learn more about the role of digital skills in young people's lives.

For this class activity, we developed **some interactive and creative activities**. The goal of these small activities is that you reflect on the role of digital technologies in your life by creatively engaging with the results and recommendations. We find it important that you, as adolescents, are heard in topics that affect you.

For this study, we are thus **interested in your feedback, reflections, and creative ideas**. The results will remain anonymous. Based on your feedback, we will improve all our materials so that other adolescents can benefit from this too. In addition, we will translate the ySKILLS research findings that are relevant to you, into recommendations for stakeholders such as schools, policy makers, teachers, etc.

What will happen if I don't take part in this study?

No problem! You can still participate in the class activity and discover the main ySKILLS research findings. We just won't gather any feedback from you.

How long will it take?

The class activity will take approximately **one class hour**. The teacher or ySKILLS researcher will be present in the classroom to guide you and answer any questions you may have about the study.

Can I change my mind about taking part in the study?

Of course! At any point, you can decide that you do not want to take part in the study anymore. Be reassured that this is okay and there will be no negative consequences for this. You will still be able to participate in the class activity.

Is the study anonymous?

Yes, all findings will be reported anonymously and therefore cannot be connected directly to you.

Are there any risks in taking part in this study?

We do not anticipate any risks or disadvantages. You do not have to give feedback or answer questions if you don´t want to.

Can I find out more information about the study?

If you have any questions or concerns about the research, please feel free to contact the responsible ySKILLS researcher [add the contact information of the local researcher(s)].

Informed Consent

We would kindly ask you to read the following information carefully**. Please note that by signing this document you confirm that you understand and agree to the following:**

I have read the information sheet for this study and fully understood its content.
I give my consent to this research project.
I understand that participation in this project is voluntary and that it is possible to withdraw from participation at any time.

If you agree with the content, please provide us with your signature at the bottom of this form, add a date and return it to your teacher.

My name (Please write your name clearly): _____

Date: _____

My signature: _____

C. Briefing for schools (co-design jam protocol)

Briefing for teachers

What:
Class activity linked to the findings of the European ySKILLS project on young people's digital skills.

Lesson duration: one class session (+/- 50 minutes)

Lesson objectives

1. Pupils understand what digital skills are and why they matter.
2. Pupils reflect on their own digital skills and make sense of the key ySKILLS findings (e.g., they give it meaning, enrich the insights with their own lived experience, they compare their own digital skills to those of other young people in Europe).
3. Pupils suggest recommendations to improve the ways in which children learn about and acquire digital skills.
4. Pupils suggest improvements about the class activity.

Lesson materials

- [BEFORE] Briefing about this class activity: see 1_BRIEFING for schools.docx
- [DURING] PowerPoint for the class activity: see 2_DIGITAL SKILSS CLASS SESSION.PPT
- [AFTER] Feedback for on the class activity: see 3_FEEDBACK FORM for teachers.docx

Instructor(s):

Either your local ySKILLS researcher will guide the session or the teacher with the assistance of the researcher. This is to be discussed in advance.

The time and resources needed for the activity on slide 22, must be discussed in advance, as it might require extra materials such as post-its, sheets of paper, markers and a particular role division for the instructor(s).

Preparation for the instructor(s):

- Read this briefing document and discuss the practicalities with the ySKILLS researcher who is your primary contact point.
- Get familiar with the PowerPoint 2_DIGITAL SKILSS CLASS SESSION.PPT. Make sure that you feel confident with the content and the activities of every slide. Most slides contain notes to explain what the slide is about and/or to help you contextualise the information presented in the slides. These notes can be handy if pupils ask questions or if you wish to provide additional information.

Structure class activity

Content	Slide(s)	Duration	Description
Introduce yourself and the activity	1	2 min.	In the case this presentation is given by a ySKILLS researcher, first introduce yourself. Explain that the ySKILLS researchers studied digital skills in young people in Europe. They hope that young people can benefit the most from the opportunities of the digital world and that the research can contribute to this. Explain what the activity is about and its aims: • This class activity will inform them so that the pupils understand what digital skills are and why they matter; • It will have short exercises like quizzes and group discussions so that the pupils reflect on their own digital skills and the key ySKILLS findings; • Pupils will be invited to suggest concrete recommendations and ideas on how to improve the digital skills of young people; • There will be time to suggest improvements on the class activity.
What are digital skills?	2	3 min.	Before introducing the project findings, ask pupils to work in small groups (e.g., in pairs) and invite them to discuss in their own words what digital skills are and why they think they matter.
Researchers read existing literature	3	1 min.	The ySKILLS team first read the existing literature and already found out a lot about digital skills and young people. Explain that in the following slides, you will show some key findings from all these research articles that the ySKILLS researchers have read and analysed.
QUIZ: Findings from the literature on digital skills	4-8	5 min.	• Each of the following slides, has a statement. • Show each statement separately, and ask whether the class thinks it is TRUE or FALSE? • Give the class a few seconds to decide (e.g., raising hands). • Then show the correct answer and give a brief explanation. • If the pupils wish so or if they have further questions, you can continue the dialogue. Otherwise, move on to the next question.

GROUP DISCUSSION	9	6 min.	In plenary with the whole group, discuss the questions in this slide and ask all students to express their opinion on i) the findings and ii) the quiz activity.
Measuring digital skills	10	2 min.	Ask students to answer the question about what instruments to use to measure height, weight or temperature in plenary and then announce the exercise "How digitally skilled are you?" (See next slide).
How digitally skilled are you?	11	5 min.	• First, ask pupils to assess their own digital skills individually by choosing one of the four options. • Then, instruct them to discuss this in small groups and compare their answers. Having students reflect on how digitally skilled they think they are will help them to understand that: • There are different aspects of digital skills that matter to determine if a person is digitally skilled or not. This conversation can serve as a way of introducing the 4 types of digital skills that will be explained in the next slides. • Trying to determine how digitally skilled someone is, serves to understand that "measuring" digital skills is not straightforward as measuring someone's height or weight. Thus, the aim of this exercise is not self-assessing children's skills, but having a conversation about what made them decide that they had a certain level of digital skills, what criteria they used to make these decisions, etc.
Four types of digital skills	12 -16	5 min.	Briefly explain the four types of digital skills: 1. Technical and operational 2. Information and navigation 3. Communication and interaction 4. Content creation and production
Digital skills in Europe: survey results	17 - 21	5 min.	Here briefly explain that the ySKILLS researchers carried out three different surveys at three different moments in time, but that this presentation only shows the results of the 1st survey carried out. Instead of talking about the slides as a whole at once, ask students questions about each different aspect shown on the infographics. Work step by step to make sure that the content is clear to them and identify any potential difficulties.

			The slides notes include relevant questions that you can ask the students in order to encourage them to interpret and reflect on the information contained on the slides.
IDEA generation	22	8 min.	Invite the class to make recommendations about *who* should know about these findings, *what* is most relevant to know, *how* we can tell the world about it, and *why* this matters. This can be a plenary activity or take place in small groups. Depending on time and materials available, this activity can be supported by brainstorming activities where pupils develop ideas on post-it notes or via sketches/drawing (first individually for each of the four questions and then discussing this in small groups). It can also be interesting to encourage each small group to create a shared poster that can be pitched.
Feedback	23-24	4	With the whole class, reflect on what students enjoyed about the class activity, what they didn't like, what they would improve, etc.
Thank you	25	1	Thank participants for their great ideas and feedback! An explain that these will help the ySKILLS researchers to improve the materials so that they can also be shared in many other schools in the EU and be used for free.

D. Feedback form for teachers (co-design jam protocol)

FEEDBACK FORM FOR TEACHERS

General feedback

- Was the amount of content covered OK for one class session?
- What should we definitely keep and what can be deleted?
- Was the content easy for students to understand? If not, what was problematic?
- Was the content suited for this age group? Why (not)? You can consider things such as the kids' maturity, interests, personal experiences, etc.
- Which interactive activities (e.g., group work, quiz) were most engaging for students? Please elaborate.
- If you were to give this session (again) as a teacher, what would you improve?
- Do you have any other suggestions on how to improve this class activity in terms of the content or how this is taught?
- More generally, what would you recommend schools to do to improve the ways in which children learn about and acquire digital skills?

Answer the following questions <u>ONLY IF</u> you taught this class and/or if you are well-acquainted with the lesson package:

- To what extent do you think that the activity instructions are clear for a teacher? Could you please elaborate?

Specific feedback

If you have any observation related to a specific activity, slide or piece of content, please add it to the table below. Here you can refer to aspects such as activity X was hard to understand; pupils seemed bored with slide X; pupils loved activity Y; the content of slide X was too complicated, etc.

Content or activity	Slide name or number, if applicable	Observations

Please send this form to [add name and contact details local researcher, who then forwards the email to Bieke Zaman].

Thanks for your feedback!

E. Observation form for ySKILLS team (co-design jam protocol)

Background information
Researcher name: Country: Date: School type (e.g., Scientific humanistic, technical, vocational, etc.): School year: Students age range (e.g., 14-16): Brief description of protocol-specific background information: [*Here you can refer to aspects such as e.g., who gave the session (teacher and/or ySKILLS researcher? Who else was present?), where their circumstances that may have had an impact on the activity (e.g., thematic week at schools, disturbance by fire alarm)? Characteristics of the group (e.g., regular class or not, percentage of pupils for which ethical consent had been obtained, etc.]*

General observations

Questions from the perspective of the young participants:

- Was the content suited for the age group to which it was taught? Why (not)?
- Was it easy for students to grasp the concept of digital skills and its 4 dimensions? If not, do you have any recommendations to improve the content delivery?
- Which interactive activities (e.g., group work, quiz) were most engaging for students? Please elaborate.

Questions from the perspective of the teacher(s):

- To what extent do you think that the materials (e.g., briefing, presenter notes) were clear for the teacher? Could you please elaborate?
- Was the amount of content covered OK for one class session? How did you notice? If too much content, which content would you leave out?

Questions from the perspective of the ySKILLS researcher:

- We asked for the voice of young people, so their input and feedback should not be lost. If possible, try to write down children's responses, ideas, feedback, and input as expressed during the class session.
  We can learn from these answers, and feed these back into the ySKILLS results and recommendations.
  - What were their top-of-mind associations with digital skills? (cf. slide 2)
  - How did they respond to the TRUE/FALSE statements? (cf. slides 4-9)
  - How did they engage with assessing their own digital skills? (cf. slides 10-16)
  - How did they engage with the survey findings? (cf. 17-21)
  - What recommendations did they make? (cf. slide 22)
  - How would they improve the co-design jam? (cf. slide 23-24)

Do you have any other recommendations on how to improve the co-design jam?

Specific observations

If you have any observation related to a specific activity, slide or piece of content, please add it to the table below.

Content or activity	Slide name or number, if applicable	Observations

Please send your observation form to Bieke Zaman

Thanks for your feedback!

F. First version of the child-friendly summary as tested in the co-design jams

Digital skills of young people in Europe

[Name
+ affiliation of person giving this workshop]

[Date]

What are digital skills?

With the person sitting close to you, reflect on the following:

- What are **digital skills**?
- Why are they important?

3 minutes

In the academic literature, much has already been written about digital skills.

The ySKILLS researchers have read those previous studies, and have come to know a lot.

Let’s find out together!

Source pic: CC Serious young coworkers working on laptop in coworking space (Pexels)

As children grow older,
their digital skills improve

True

Boys possess better digital skills
than girls

False

Using digital technologies with friends
and peers
can help improve digital skills

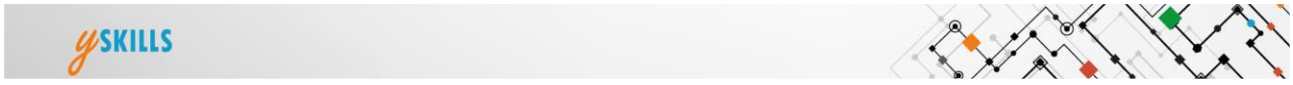
True

Video gaming or social media use can help develop digital skills

True

Better digital skills are linked to more online risks

True



Group discussion

- Did any of these findings surprise you? Why?
- Anything else about digital skills that you would like to know more about and that was not yet mentioned?

- Did you enjoy the quiz?
  - YES, because…. and to make it ever better, we suggest ….
  - NO, because… and to make it engaging for us, we suggest …

6 minutes

How do you measure…?

Your height
Your weight

Your digital skills?

How digitally skilled are you?

First individually, choose one of the options:

1. My digital skills are **excellent**. I can do everything I want to do
2. My digital skills are **higher** than most teenagers I know
3. My digital skills are **average** compared to most teenagers I know
4. My digital skills are **lower** than most teenagers I know

Then, in small groups

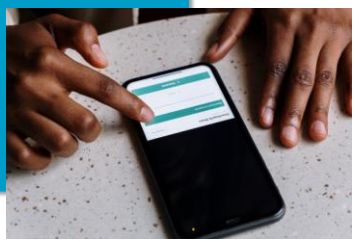
- Compare your answers
- What aspects did each of you consider to make your decision?

5 minutes

1. Technical and operational

Technical and operational skills are necessary if we want to use digital devices, apps, etc.

e.g., Knowing how to download apps or
how to adjust privacy settings



Source pic: cottonbro studio CC Person Using a Smartphone (Pexels)

2. Information and navigation

Information and navigation skills help us to find, select and critically evaluate online information

e.g., Searching and selecting information, figuring out if a website is trustworthy, recognizing fake news

Source pic: Joshua Miranda
CC White and Black Letter Blocks (Pexels)

3. Communication and interaction

Communication and interaction skills help to interact with others, build networks, and understand the impact of these online interactions on ourselves and others.

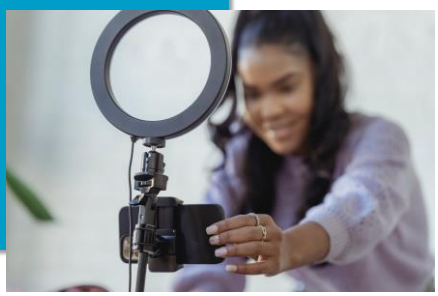
e.g. Knowing when it is OK to share images of you/your friends

Source pic: cottonbro studio CC Girl Holding and Taking Selfie Using a Smartphone (Pexels)

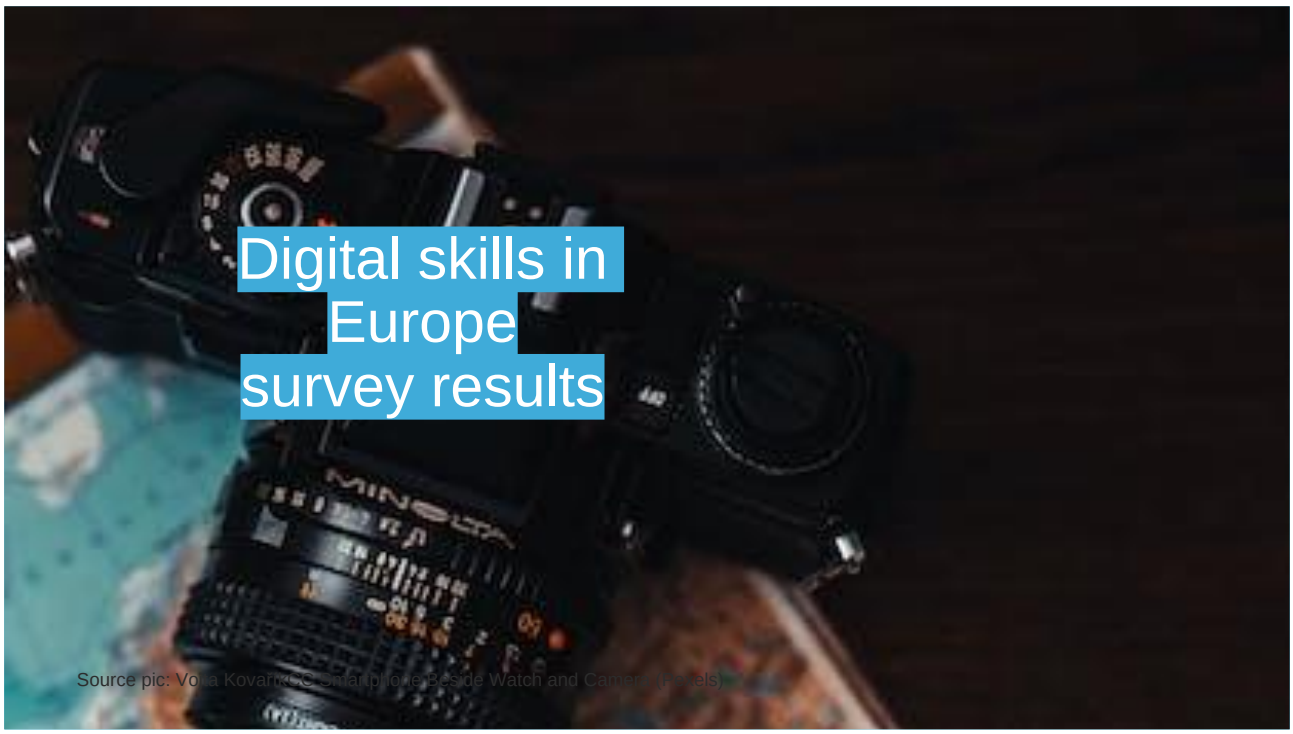
4. Content creation and production

Content creation and production skills help us to create digital content and understand how online content is produced and published

e.g. Knowing how to distinguish sponsored and non-sponsored content in a video, in a social media post



Source pic: George Milton - CC (Pexels).

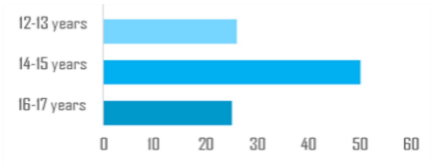


Source pic: Vonia Kovanis on Smartphone Beside Watch and Camera (Pexels)

Who participated in the survey?

6221 adolescents

50% boys **48%** girls **2%** non-binary



Access and time

Access internet at home

3 of 10 experience access problems

Estimated average time online on a school day: **4 hours**

Top 4 popular online activities

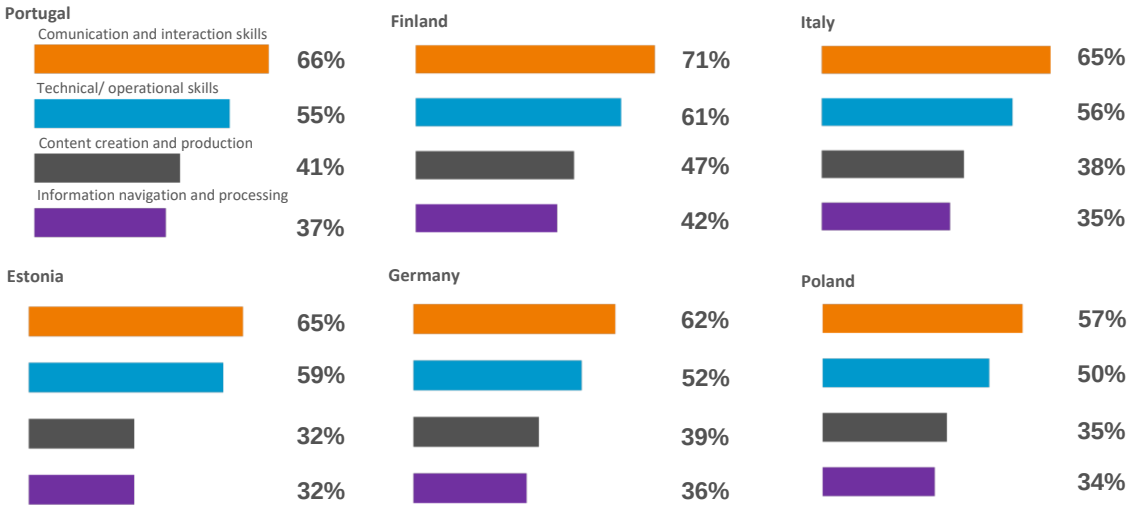
88% Communicate with friend

77% Listen to music or watch videos or music clips online

63% Communicate with parents or caregivers

57% Play games on computer or phone

Your country compared to others



Let's tell the world, but how?

WHO? Who should know about these findings? Choose one type of public, e.g. peers, teachers, parents, policy makers.
WHAT? What do you want your public to know? This is linked to something you find important with respect to digital skills.

HOW? How would you like to let them know? E.g., press release, policy brief, newspaper post, lesson plan, social media post, leaflet, …

WHY? Why do you think they must know, and when do you consider it a success?

ource pic:Yaroslav Shuraev CC Yellow and Orange Flowers in a Megaphone

Source pic:cottonbro studio CC Hands Holding a Placard and a Megaphone (Pexels)

How would you make this class session better?

Mention at least one thing that you would….

- keep the same
- remove

Mention at least one thing that you found …

- too difficult to understand
- really important to remember

And think of …

- Something that you would like to know or add, but that wasn't mentioned today
- Some 'tricks' to make it more fun and engaging

5 minutes

Source pic: Ann H CC Yellow Letter Tiles on Blue Background (Pexels)

G. Toolkit protocol (final participatory toolkit)

Dear teacher, educator, researcher or other stakeholder,

The ySKILLS research team is excited to introduce you to this valuable resource designed to engage children and adolescents in learning about digital skills of young people. This collection of materials and activities is the result of extensive research within the ySKILLS project. More details on the project can be found on the website: www.yskills.eu.

This briefing document aims to provide you with information on the content and practical aspects of this toolkit.

WHAT?

The child-friendly summary, presented in the form of a PowerPoint presentation, summarizes the main ySKILLS research results from 2022 in a way that is accessible and understandable for children and adolescents **between 12 and 17 years old**.

As teacher, educator, researcher or other stakeholder, your role is to act as intermediary, helping young people navigate through the content and facilitating meaningful group discussions.

The toolkit is divided into **five modules**, each addressing different aspects of digital skills. These modules include:

1. What are digital skills?
2. What do we know from research about digital skills?
3. How do we measure digital skills?
4. Survey results on digital skills among young people in Europe
5. How to improve your digital skills?

The duration of the entire toolkit (the five modules) is approximately **one class session** (+/- 40 minutes). We also offer you the flexibility to focus on only a few modules, or to use the extra slides for a follow-up session.

Additionally, for some activities the toolkit offers **multiple layers of difficulty levels,** allowing you to adapt the content to meet the diverse needs of young people.

SESSION OBJECTIVES

1. Young people understand what digital skills are, why they matter, and how they can be measured.
2. Young people reflect on their own digital skills and make sense of the key ySKILLS findings (e.g., they give it meaning, enrich the insights with their own lived experience, they compare their own digital skills to those of other young people in Europe).
3. Young people learn about the link between digital skills and online risks.
4. Young people learn how they can improve their own digital skills.

SESSION MATERIALS

- This briefing document, digitally or printed.
- PowerPoint presentation, including speaker notes.
- Projector or large screen.
- *Optional: online poll tool for the self-assessment and/or quiz*
- *Optional: internet access and digital devices such as smartphone or laptop for young people to use the online poll tool.*
- *Optional: papers and coloured pens for the optional activity on course design.*

PREPARATION

- Read this briefing document. If necessary, print the overview of the session structure.
- Get familiar with the PowerPoint. Make sure that you feel confident with the content and the activities of all slides. The slides contain speaker notes to explain what the slide is about, to help you contextualise the information presented in the slides and to give inspiration for discussion questions.
- Decide which difficulty level you will adopt and hide the alternative slide(s).
- Decide whether you will show the optional follow-up activities. If necessary, hide the optional slides.
- *Optional: create an online poll with the self-assessment and quiz questions.*

SESSION STRUCTURE

CONTENT	SLIDE	NOTES
INTRODUCTION	1-2	Introducing the session, plus self-assessment activity to reflect on young people's digital skills level. You can optionally use an online polling tool for this activity.
MODULE 1: What are digital skills?	3-8	Overview of four types of digital skills and examples.
MODULE 2: What do we know from research about digital skills?	9-18	Exploring research on digital skills of young people via a quiz. There are two options: • An easier set with one statement each: true or false? (Slide 11-16) • A more challenging slide that combines multiple statements: "Which one is false?" (Slide 17 and 18 - you might consider combining this slide with the statement on gender (slide 16), so that you have two slides on this topic)
MODULE 3: How do we measure digital skills?	19-22	Introducing an instrument to measure young people's digital skills, including an action question. There are two alternatives for this practical task: • Easy version (Slide 21), and/or • More challenging version + smartphone/laptop required (Slide 22) You can optionally use an online polling tool for this activity.
MODULE 4: Survey results on digital skills among young people in Europe	23-27	Exploring findings from the ySKILLS survey on digital skills of young people in Europe. Young people can guess the numbers and results, and reflect on their own situation. Via a quote, young people discuss the use of digital technologies and mental health.
MODULE 5: How to improve your digital skills?	28-31	Exploring four ways to improve digital skills of young people. Optional activities for an extra session: • Design your ideal course on digital skills at school (Slide 29). • Share the results with the world: youth participation (Slide 31). This activity can strengthen young people's understandings of digital citizenship and participation in and engagement with science. Please allow at least 10-15 minutes for this activity.
CLOSING	32-33	Gathering feedback and sharing of ySKILLS channels.

This project has received funding from the European Union's Horizon 2020 Research & Innovation programme under Grant Agreement no. 870612. The information in this deliverable reflects only the authors' views and the European Union is not liable for any use that may be made of the information contained therein.

H. Child-friendly summary (final participatory toolkit)

In this session, we will be discussing the digital skills of young people in Europe. This PowerPoint was created by the researchers of the ySKILLS project. The project aimed to investigate what digital skills are and how these skills influence the well-being of young people. During this session, we will talk about this topic together.

The researchers hope that during this lesson, young people will:

- Understand what digital skills are and why they are important.
- Reflect on their own digital skills and the findings of the ySKILLS research through interactive activities and group discussions.

Ask the young people to take a moment to reflect on their own digital skills. Explain that you will be using the metaphor of the "**Digital Ocean**" for this exercise. On the image of the "Digital Ocean", we see three different boats:

1. **The small orange boat, close to the shore:** This represents having **basic** digital skills and cautiously taking the first steps into the digital world. Young people who identify their digital skills with the position of this boat can perform simple digital tasks, but may sometimes need help or extra time to discover new technologies.
2. **The middle-sized purple boat, in the open water, a bit further from the shore**: This represents having average digital skills. Young people who identify their digital skills with the position of this boat can comfortably use most digital technologies and perform digital tasks. However, people in this boat may encounter some difficulties in certain areas or have room for improvement in terms of their digital skills.
3. **The large green boat, amidst the big waves:** This represents having advanced digital skills. Young people who identify their digital skills with this boat are experienced and confident in using digital technologies and can handle complex digital tasks.

   NOTE: Optionally, use an online polling platform to allow the young people to select their boat anonymously.

Use this self-assessment exercise to encourage the group to reflect on the following points (which will be discussed later in this session).

Pose the following questions to the young people:

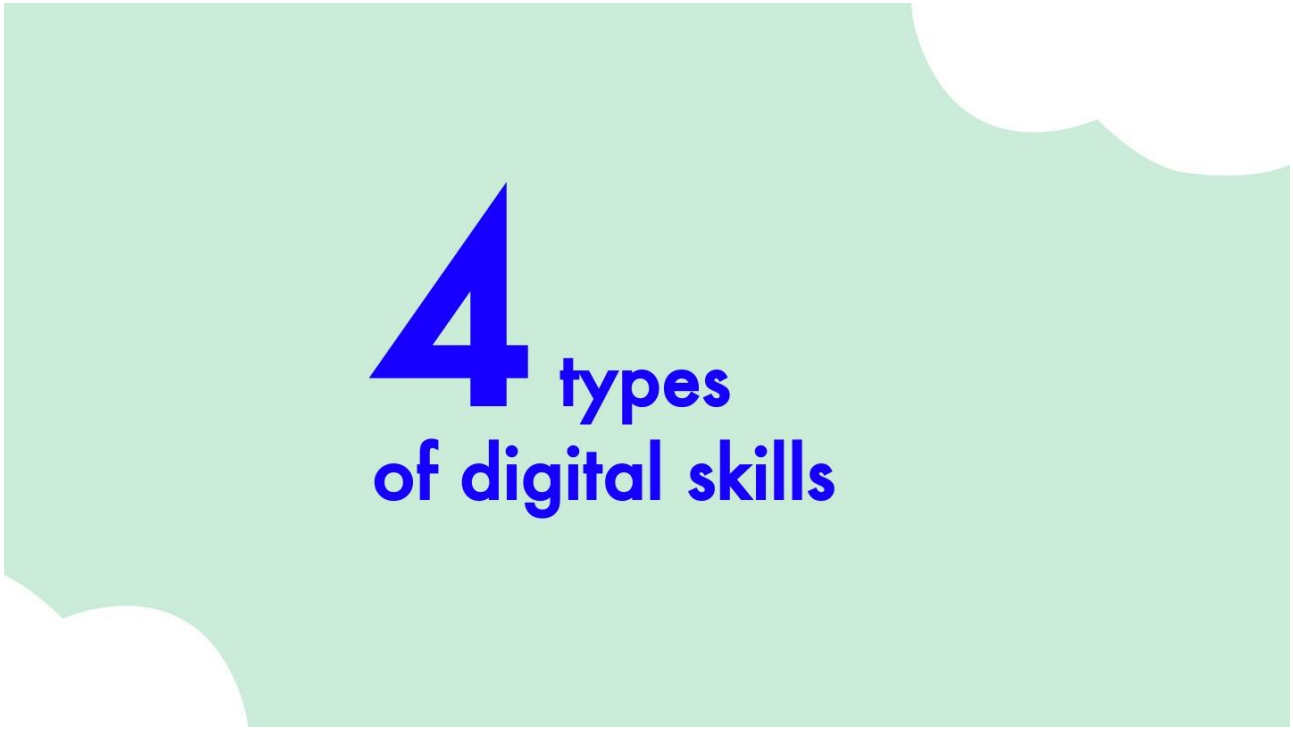
1. Definition: What are digital skills? What are the different aspects or types of digital skills?
2. Importance: Why are digital skills important or necessary? For example:
    - Everyday tasks and activities.
    - School and work.
    - Social and political participation.
    - Reducing potential harm from online risk behaviors such as cyberbullying, sexting, fake news, privacy, etc.
    - The limitations in personal or professional development and active participation in society for those lacking digital skills.
3. Measurement: Why did they decide that they have a particular level of digital skills? What criteria did they use? How do they measure their digital skills?

Tell that you are going to start by looking at what digital skills exactly are.

First tell that having digital skills means that you are able to use technology (such as computers, smartphone and tablets) in ways that make your life and the lives of others better. It means that you can use technology to achieve positive results and minimize any negative effects it may have.

Reference: International Telecommunication Union (2018). *Measuring the information society report*. International Telecommunication Union.

Original definition of digital skills: “The ability to use ICTs in ways that help individuals to achieve beneficial, high-quality outcomes in everyday life for themselves and others, now and in an increasingly digital future. They comprise the extent to which one is able to increase the benefits of ICT use and reduce potential harm associated with more negative aspects of digital engagement.”

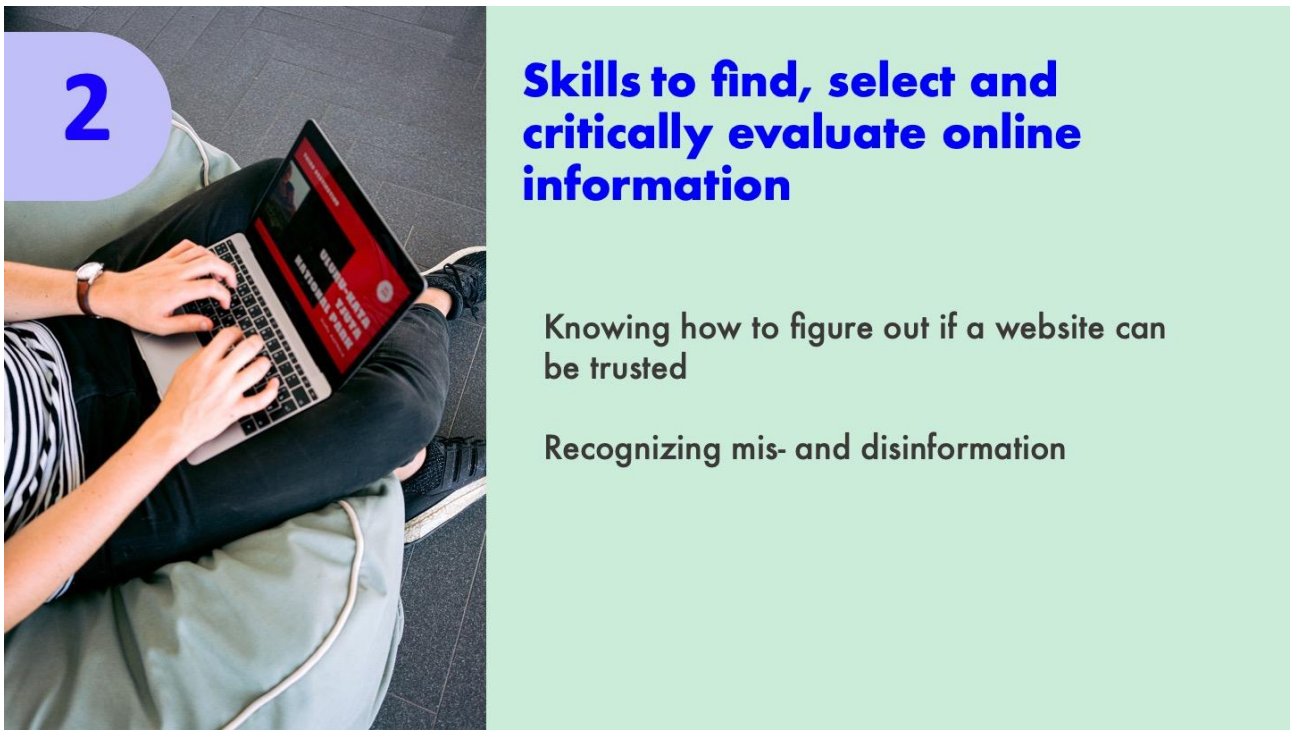


The researchers distinguish four types of digital skills. In the following slides, we will go through each of them.

Reference: Helsper, E.J., Schneider, L.S., van Deursen, A.J.A.M., & van Laar, E. (2020*). The youth Digital Skills Indicator: Report on the conceptualisation and development of the ySKILLS digital skills measure.* KU Leuven, Leuven: ySKILLS.
Donwload on https://zenodo.org/record/4608010#.Yweu0C2QkUs

Discuss the examples.

Depending on the available time, you can ask the young people whether they are able to do each example and how they do it exactly. This way, they can learn from their peers.



Discuss the examples.

Depending on the available time, you can ask the group whether they find each example difficult or easy and how they exactly evaluate a website or information (e.g., what elements they look for). This way, the young people can learn from their peers.

Discuss the examples.

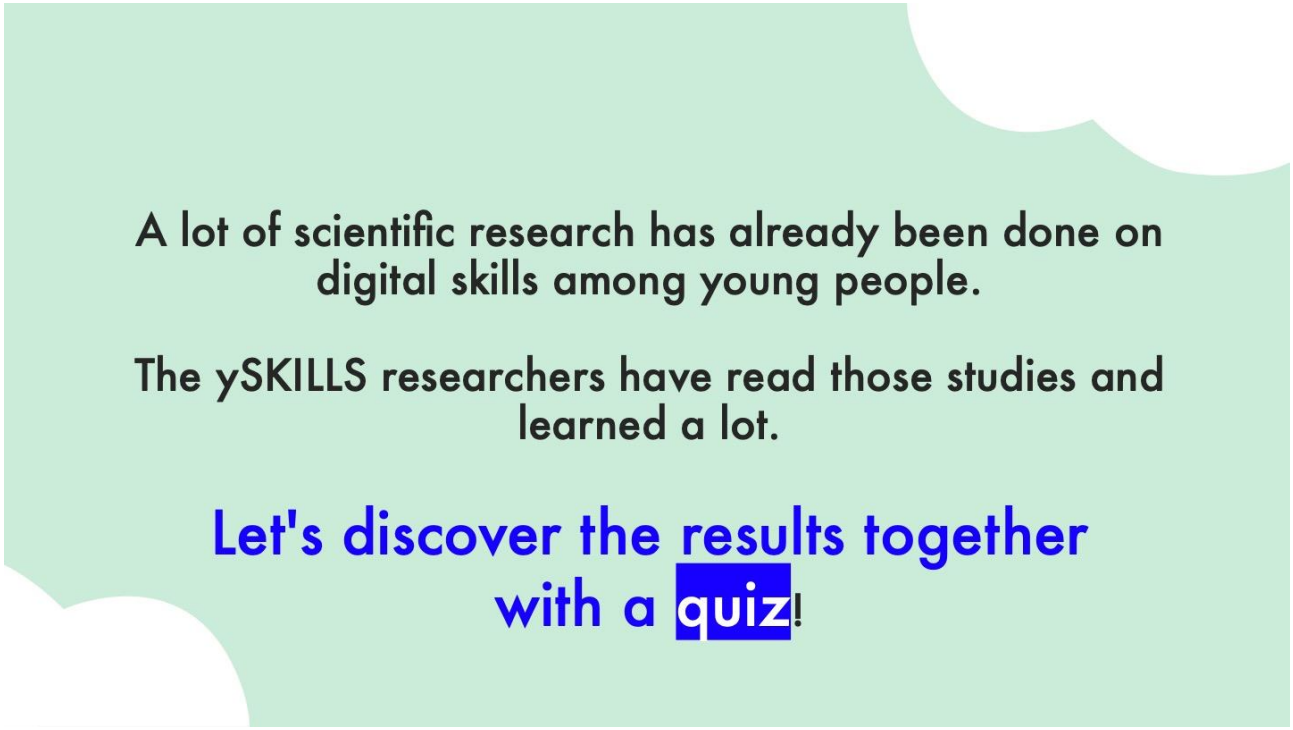
Depending on the available time, you can ask the group whether they find each example difficult or easy and ask for examples or experiences. For example:

- Who do you send emoticons, and in which situations is it less appropriate?
- Have you ever noticed someone being bullied online? How do you recognize it, and what do you do in such situations?
- During the COVID-19 pandemic, you may have had online classes. Did you find it easy or difficult to know when to turn your sound and video on or off?

Discuss the examples.

Depending on the available time, you can ask the group if they can do each example and how they do it exactly. This way, the young people can learn from their peers.

Tell the students that you will now be looking at what research tells us about digital skills among young people.



Read the text on the slide.

Tell the group that the following slides will present a statement, and that they need to determine whether they think the statement is true or false. They can raise their hand or use an online polling tool to indicate their answer.

Optionally, ask the group why they believe the statement is true or false before revealing the correct answer. Provide an explanation along with the correct answer. Allow for discussion after each statement.

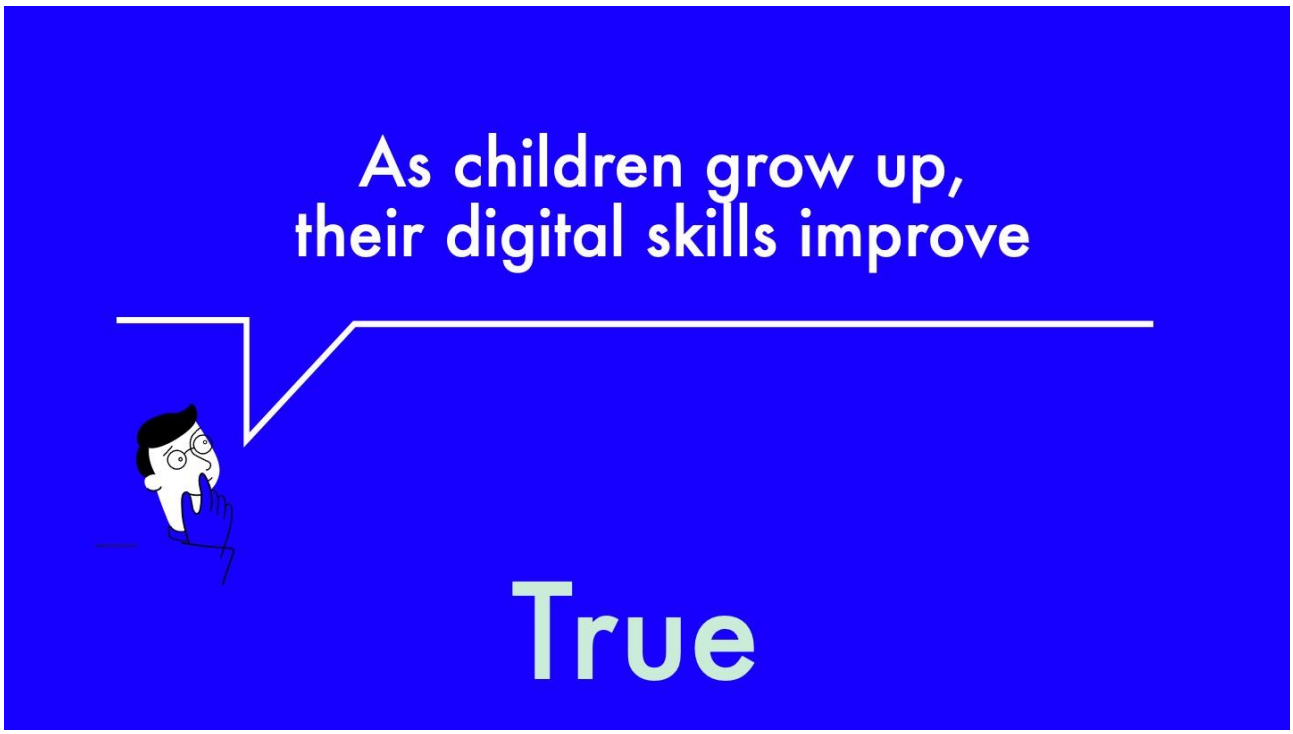
If the young people have any wishes or further questions, you can continue the dialogue. Otherwise, proceed to the next question.

NOTE: There are two options for the quiz questions:

1. *An easier set with one statement each: true or false?*
2. *A more challenging slide that combines multiple statements: "Which one is false?" (*You might consider combining this slide with the statement on gender (Slide 16) so that you have two quiz slides)

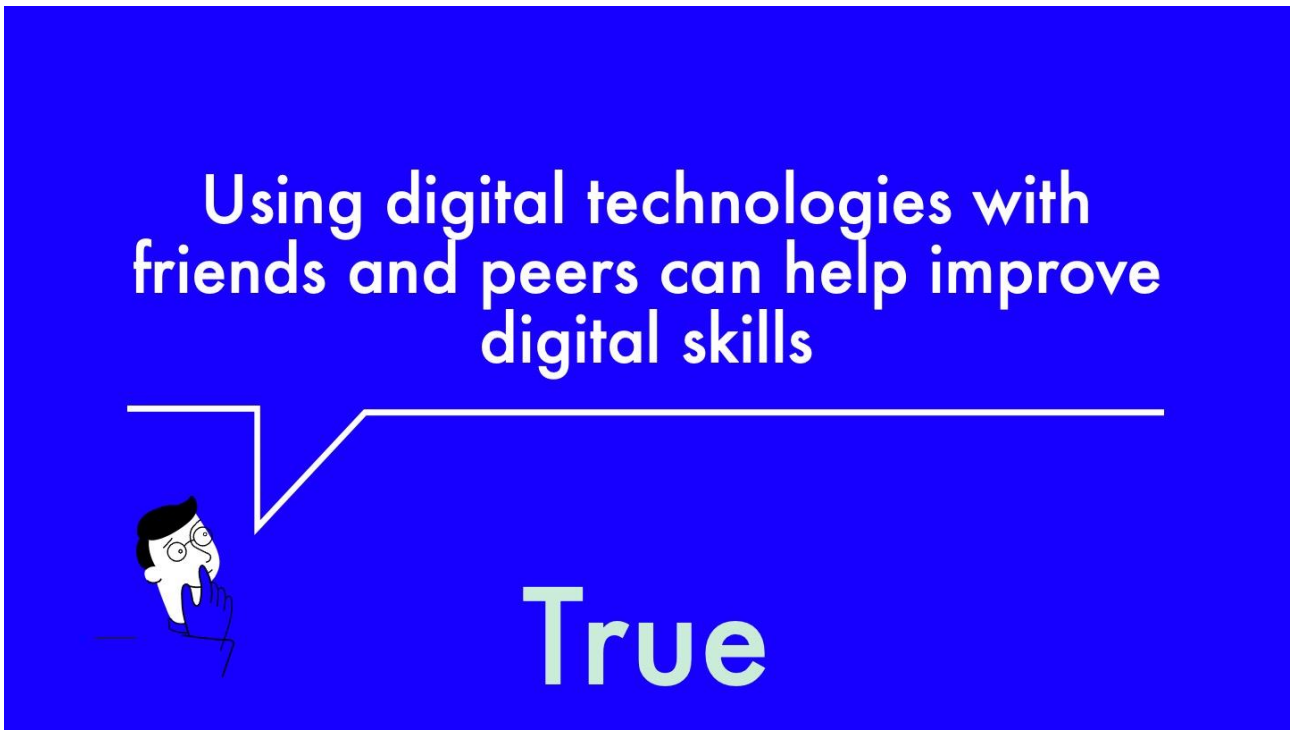
Reference: Haddon, L., Cino, D., Doyle, M-A., Livingstone, S., Mascheroni, G., & Stoilova, M. (2020). *Children's and young people's digital skills: a systematic evidence review*. KU Leuven, Leuven: ySKILLS.

Download on https://zenodo.org/record/6921674



Present the statement and ask the group if they think it is true or false.

ANSWER: True. Children's digital skills improve with age. This means that as they get older, their digital skills become better.



Present the statement and ask the group if they think it is true or false.

ANSWER: True. Friends, classmates, and other peers can help young people improve their digital skills. For example, children who play video games with friends can become better because they learn from each other.

Present the statement and ask the group if they think it is true or false.

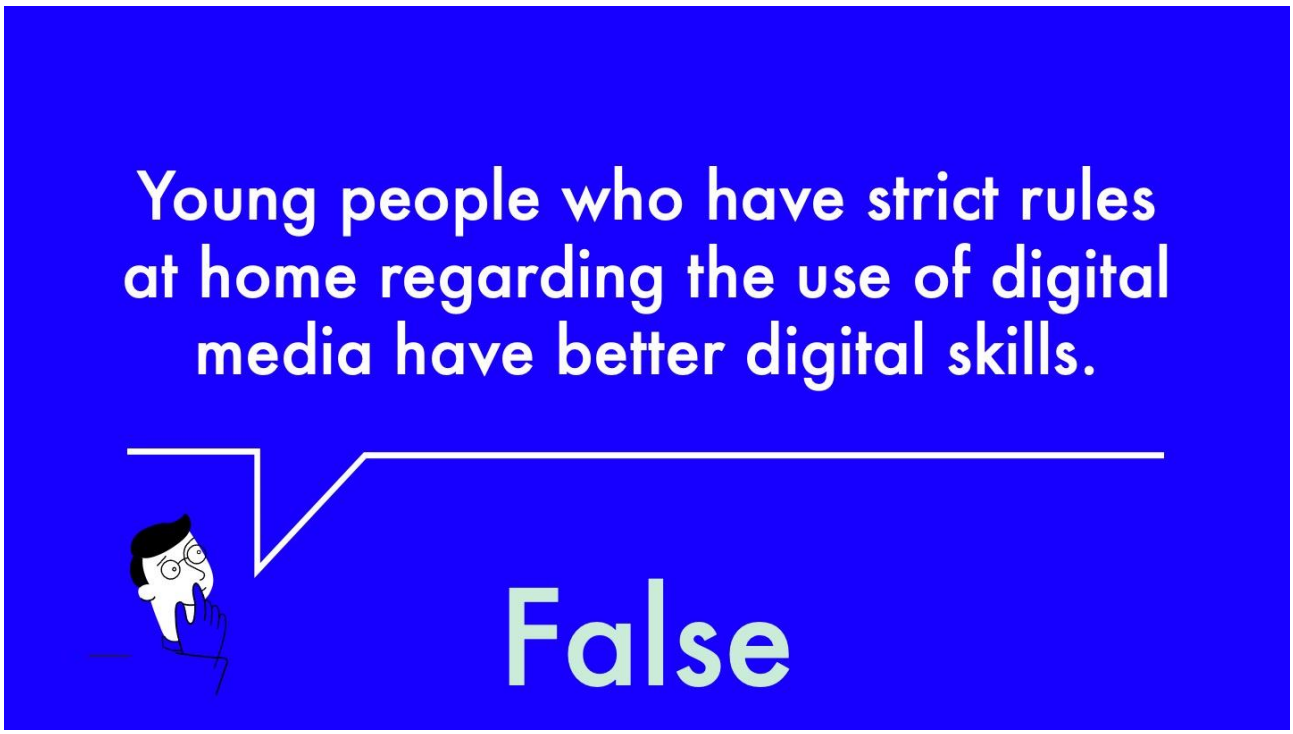
ANSWER: True. Children and young people acquire different types of digital skills in various places and through different online activities. Even when we play or use social media, we can learn new things.

Display the statement and ask the group if they think it is true or false.

NOTE: "Online risks" refers to potentially harmful online situations such as cyberbullying, sexting, privacy violations, etc.

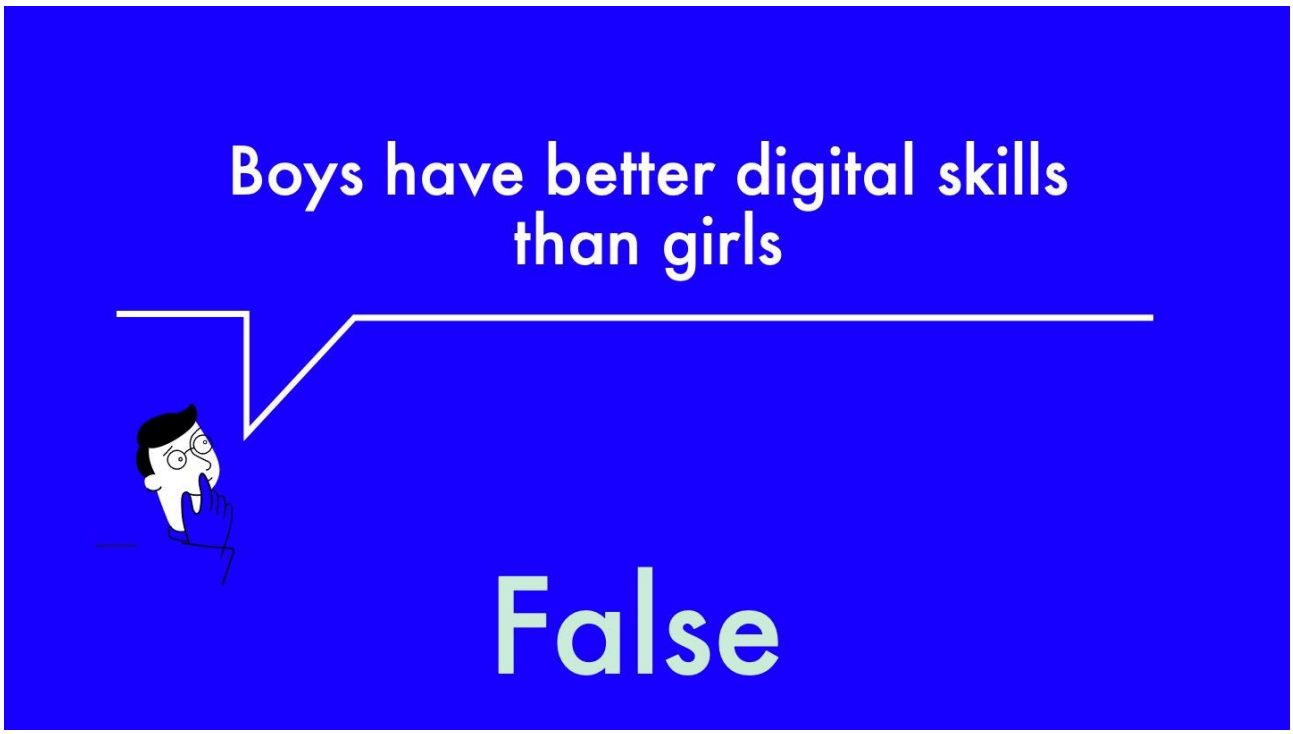
ANSWER: Yes, this is true. It also makes sense because if our digital skills are better, it often means that we spend more time online, and the chances of encountering something that upsets us are greater.

However, this does not mean that having better digital skills is harmful. On the contrary, if we have better digital skills, we are also better prepared to deal with these online risks. Digital skills act as a shield that protects us from harmful online situations.



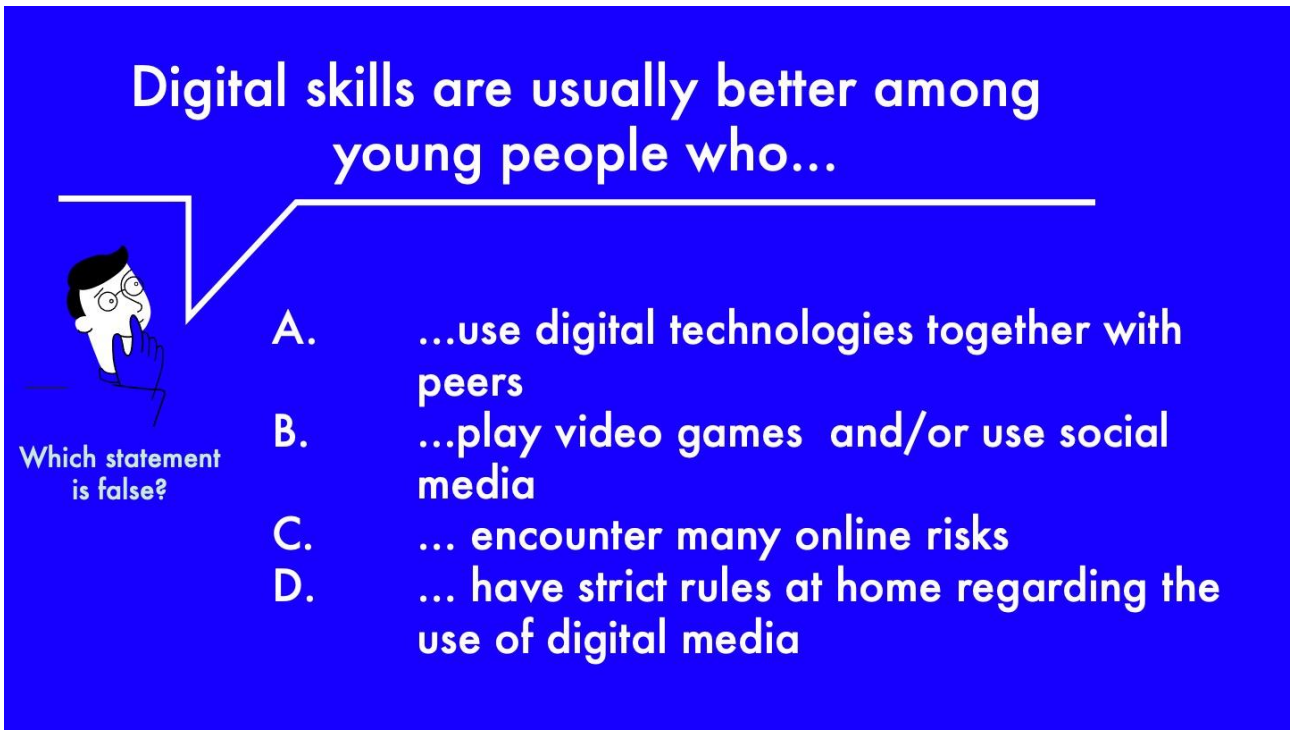
Display the statement and ask the group if they think it is true or false.

ANSWER: This is not true. When parents impose many rules and restrictions on media use, young people may encounter fewer online risks, but they also have fewer opportunities to learn. When parents actively engage in conversations with young people about their online activities and provide advice, young people are more often encouraged to use the internet in a positive way.



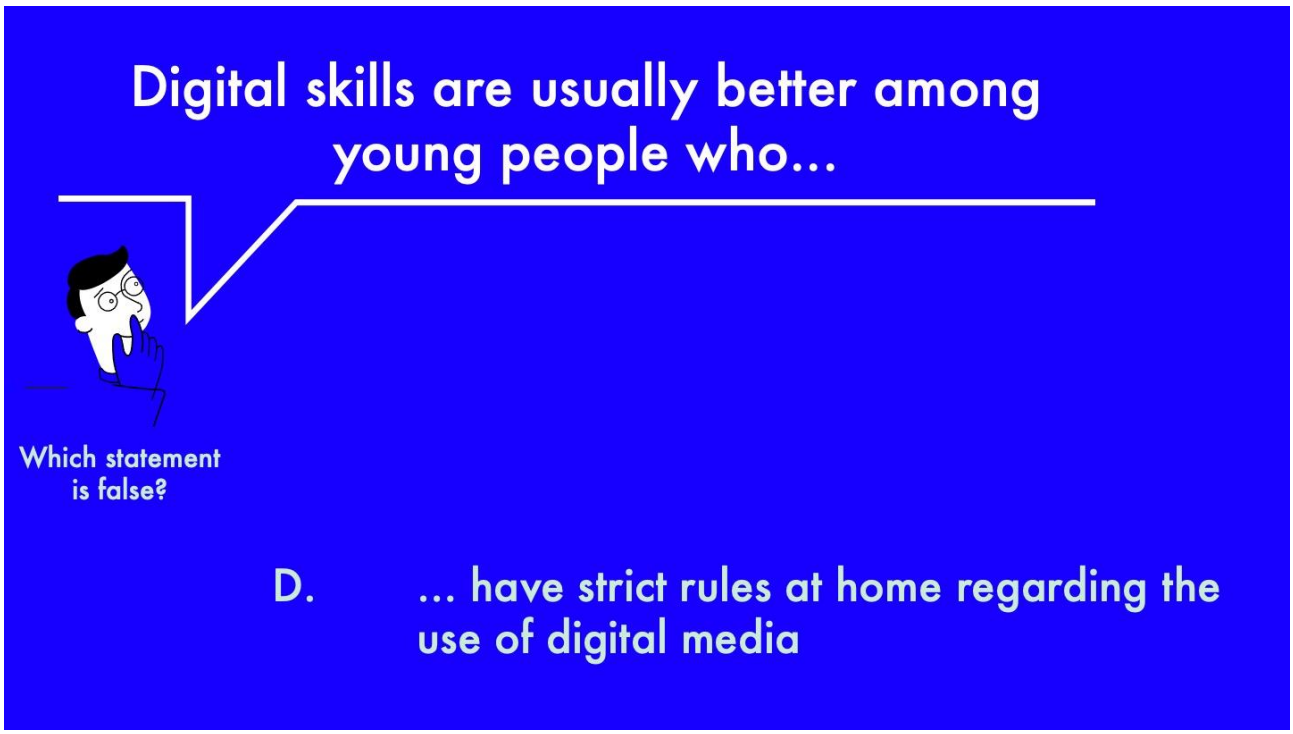
Display the statement and ask the students if they think it is true or false.

ANSWER: False, both boys and girls can excel in specific skills, but boys tend to have more confidence in their digital skills. Surveys often ask young people how well they think they are in certain online activities, but they do not test whether this is true or not. Because boys are more likely to have confidence in their digital skills, many surveys show that boys have better digital skills than girls. However, in those research studies where they also tested the skills through the computer, there was little to no differences between boys and girls.



OPTIONAL higher difficulty level - Replace the other quiz questions (except slide 16 about gender) with this slide.

Ask the students which of these four statements they think is incorrect. Why do they think so? Discuss each statement.



ANSWER:

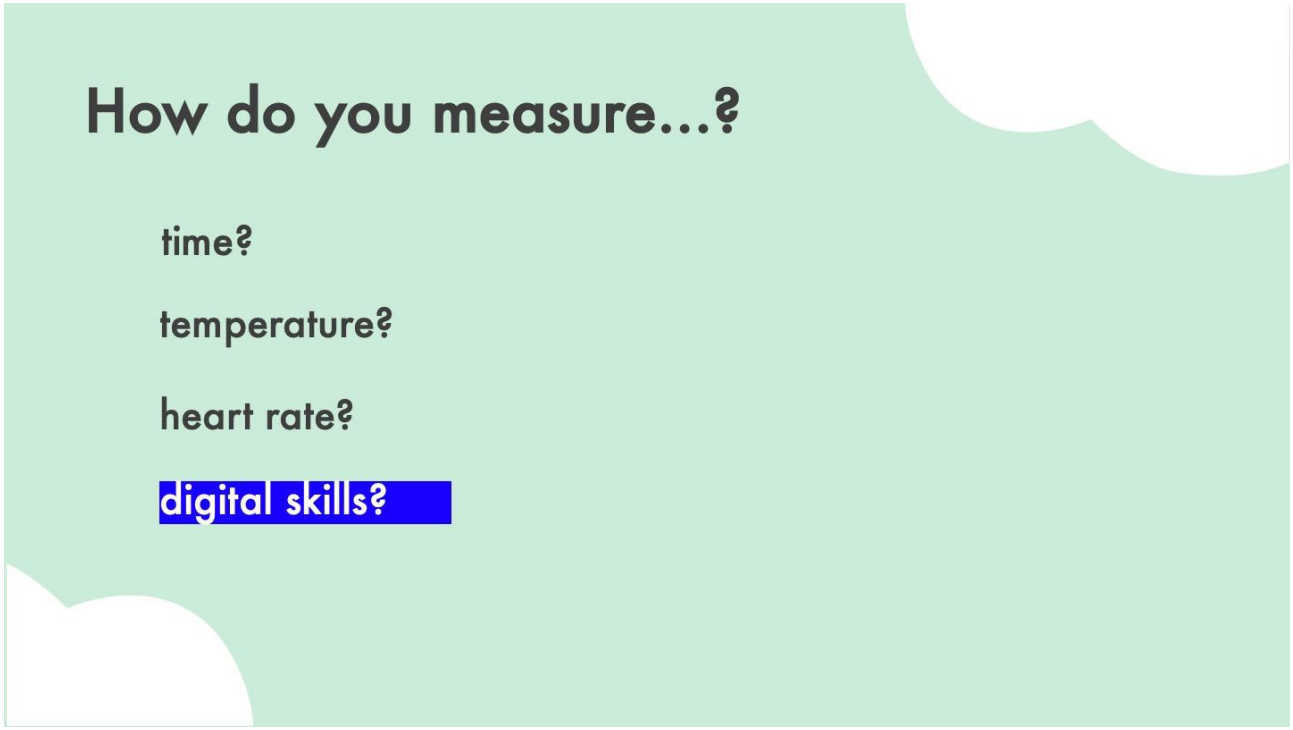
A. CORRECT - Friends, classmates, and other peers can help young people improve their digital skills. For example, children who play video games with friends can become better because they learn from each other.

B. CORRECT - Children and young people acquire different types of digital skills in different places and through different types of online activities. Even when we play or use social media, we can learn new things.

C. CORRECT - If our digital skills are better, it often means that we spend more time online, and the chances of encountering something that upsets us are higher. However, this does not mean that having better digital skills is harmful. On the contrary, if we have better digital skills, we are also better prepared to deal with these online risks. Digital skills act as a shield that protects us from harmful online situations.

D. INCORRECT - When parents impose many rules and restrictions on media use, young people will encounter fewer online risks but also have fewer opportunities to learn. When parents actively engage in conversations with young people about their online activities and provide advice, young people are more encouraged to use the internet positively.

Tell the group that the researchers have also investigated how to measure digital skills of young people.



Tell the group that you are going to start with a small exercise. Quickly ask them which instruments we would use to measure time (clock or stopwatch), temperature (thermometer), and heart rate (e.g., by placing a finger on their wrist/neck or using a heart rate monitor). Then ask them how they would measure their digital skills. The answers will likely be more mixed.

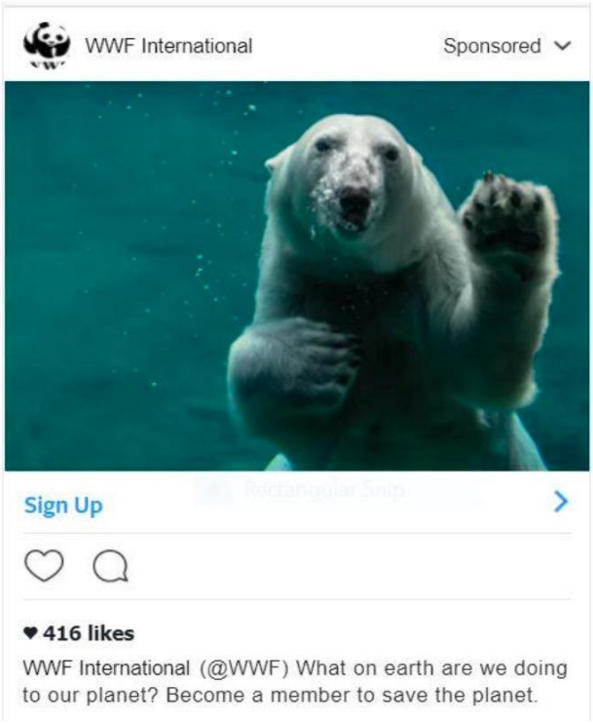
Explain that the ySKILLS researchers faced the same difficulty. They also found that different researchers measure digital skills differently. That's why they developed their own measurement tool that allows them to assess the four types of digital skills in young people. They use both knowledge-based questions (such as "Can you surf incognito?") and practical tasks.

An example of a ‘knowledge question’ is asking how to turn off the location settings on mobile devices.

Tell them that you will now go through one of the practical tasks together.

NOTE: There are two alternatives for this practical task. You can choose to present only one of them.

- *Easy version (Slide 21)*
- *More challenging version + smartphone/laptop required (Slide 22)*



Action question

What type of social media post is this?

A. Advertisement
B. Fake news
C. Identity theft
D. News article
E. Opinion article
F. Phishing
G. Spam

In the measurement tool for assessing digital skills, the researchers have created several knowledge-based and practical questions. Here is an example of a practical question.

Ask the group what they think the correct answer is and why.

The correct **ANSWER** is A because it says 'Sponsored' at the top.

Action question

Search the internet for a copyright-free photo of a polar bear.

OPTIONAL - Higher difficulty level

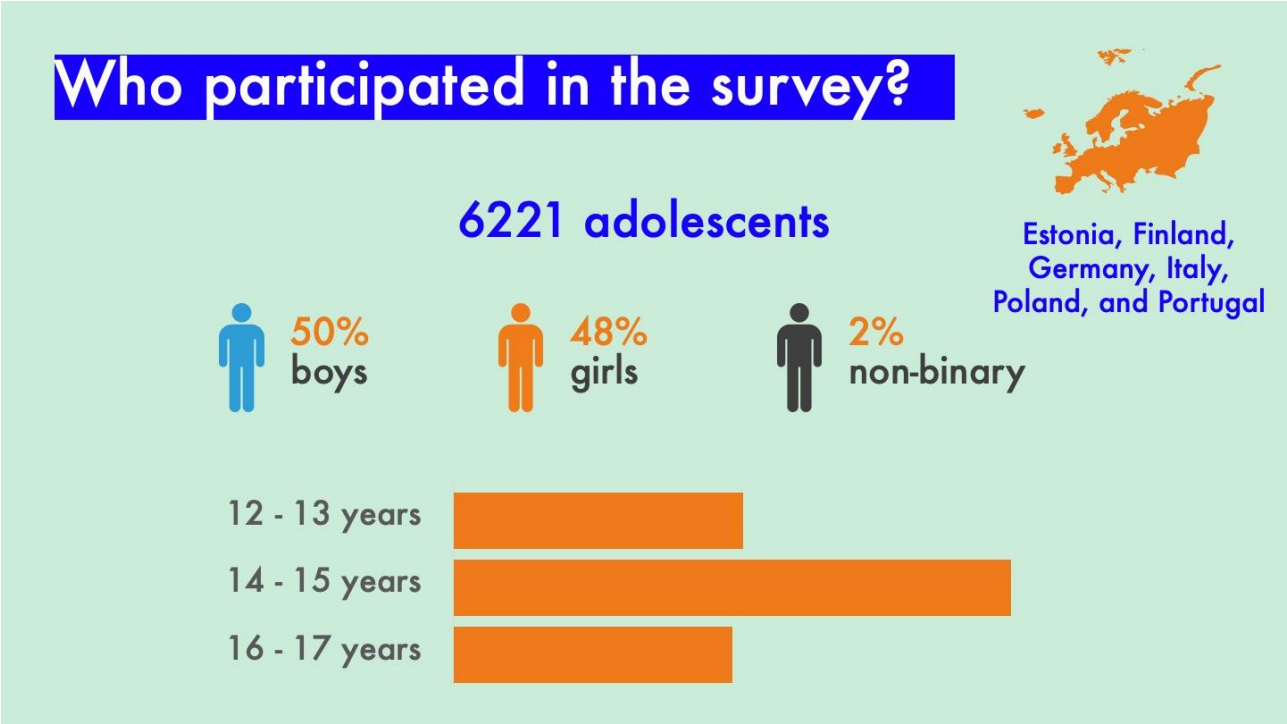
In the measurement tool for assessing digital skills, the researchers have created a number of knowledge and performance-based questions. This is an example of a performance-based question. Ask the young people to take out their laptops or smartphones and perform the following task. Discuss with them how they completed the task.

ANSWER: possibilities

- Google Images > Tools > Usage Rights > Creative Commons license (still need to check what attribution is required), OR
- Search for a stock photo database using Google > search for databases using terms like "License-free images" or "Copyright-free images"
- Use online websites that offer royalty-free digital content such as for instance pixabay.com

`

Explain that the ySKILLS researchers have measured the digital skills of European youth using their measurement instrument. These results were collected by the ySKILLS research team themselves (the quiz, on the other hand, is based on a review of previous research). You will now examine some of the results.



Explain that a total of 6221 young people were surveyed from six European countries: Estonia, Finland, Germany, Italy, Poland, and Portugal. These countries were carefully chosen because each of them represents a different level of digital advancement in society. Mention that the surveyed youth belong to the same age group as the young people in our session.

NOTE: It is not necessary to go over the breakdown of gender and age.

Reference: ySKILLS blog on the the first wave of the ySKILLS school survey https://yskills.eu/news-from-the-first-wave-of-the-yskills-school-survey/

Results Access and time

Internet access at home

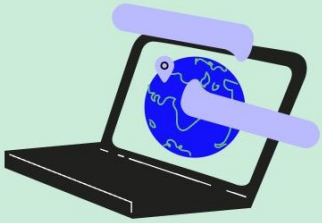
99%

Problems with internet access

3 of 10

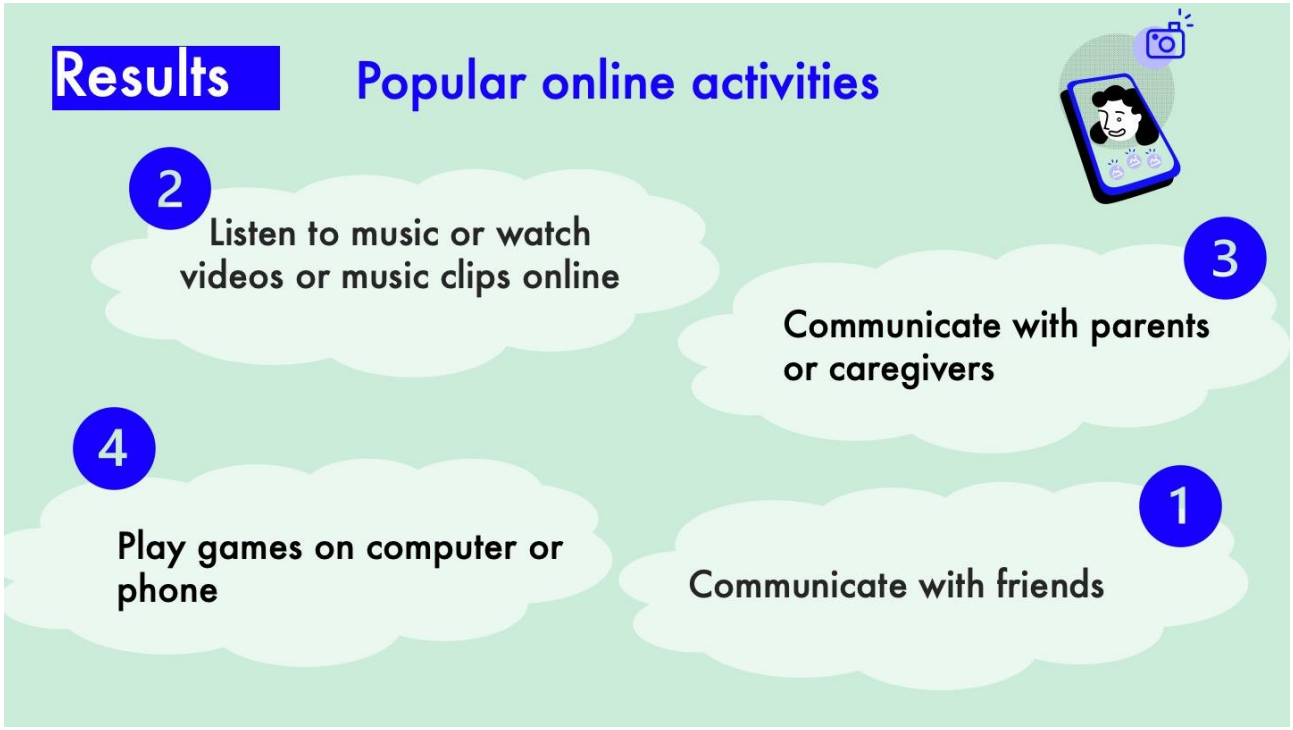
Estimated average time online on a school day

4 hours



Inform that you will discuss some results regarding internet access and allow the group to guess the answers. After each question, ask them about their own situation. For example:

- Do all young people in the group have internet access at home?
- Do some people have difficulties accessing online devices or content? **Not all young people have easy access to a stable internet connection.**
- How many hours do the young people themselves spend online on a school day?



Inform that you will now discuss the results regarding popular online activities.

- Begin by asking the group to guess which activities they think are popular among European youth.
- Then reveal the activities.
- Ask the group which activity they think is ranked number one.
- Display the numbers.
- Inquire whether this aligns with their own popular activities.
- Mention that among the four digital skills, **European youth excels the most in communicating with others.**

Explain that you will now take a look at a statement from a participant in the research.

Read the quote aloud.

Ask the group if they can relate to this feeling.

Inquire whether they have ever experienced feeling down or negative while using social media.

Ask them to identify the strategy employed by the person in the quote.

Additionally, ask them to suggest other strategies that can be used in such situations.

Reference: Livingstone, S., Stoilova, M., Stänicke, L.I., Jessen, R.S., Graham, R., Staksrud, E., & Jensen, T. (2022). *Adolescents experiencing internet-related mental health difficulties: the benefits and risks of digital skills*. KU Leuven, Leuven: ySKILLS.

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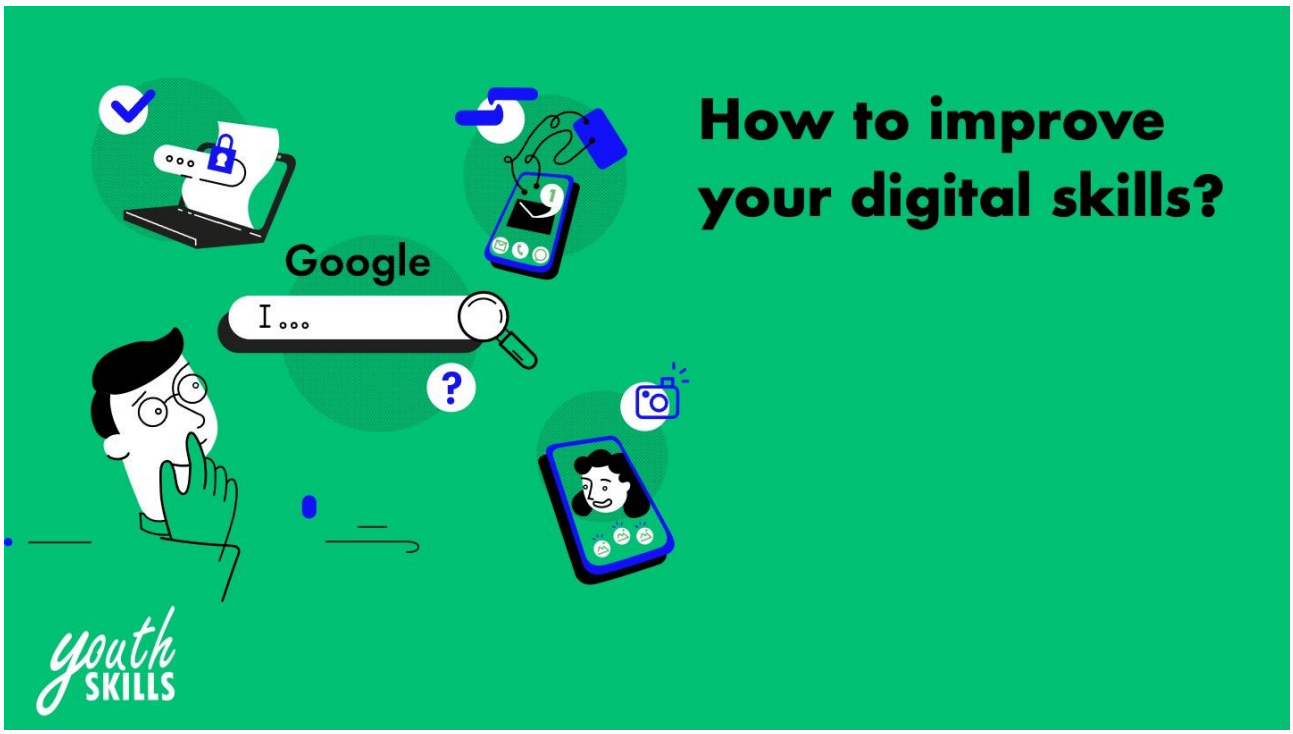
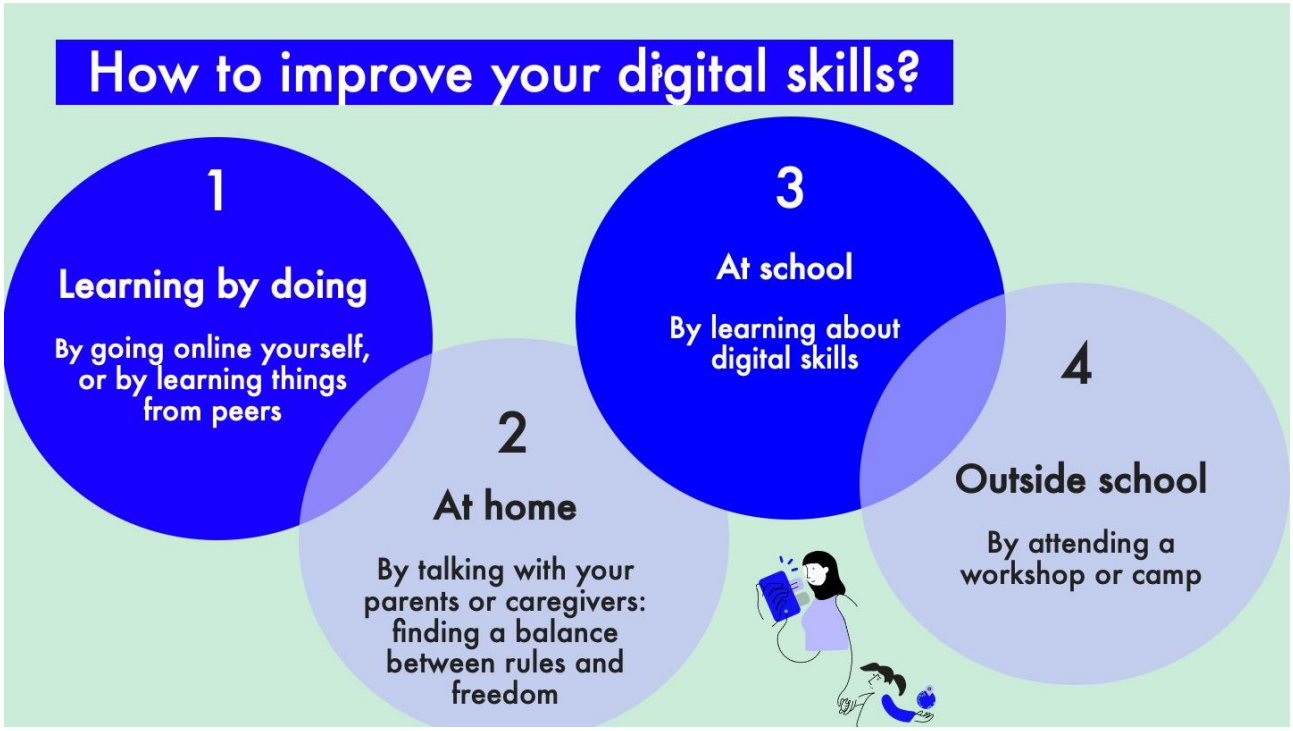


Inform the group that we will now discuss how we can improve our digital skills.



First, ask the group how they could improve their digital skills and let them provide examples. Then, discuss the following four possibilities. Ask the following questions:

1. Do you have any examples of things you have learned by going online yourself? Or things you have learned from friends/peers? (e.g., looking up how to do something in Word, Excel, PowerPoint on YouTube)
2. Can you talk to your parents about what you come across online? Do you have many rules or a lot of freedom at home, or a good balance? What do you think is best?
3. Do you learn digital skills at school? Which ones? Do you think more emphasis should be placed on them at school? What would you like to learn at school?
4. Have you ever participated in a workshop or camp related to digital skills, such as a computer camp? Did you learn a lot there? Would you recommend it to others?

References:

- Donoso, V., Pyżalski, J., Walter, N., Retzmann, N., Iwanicka, A., d'Haenens, L., & Bartkowiak, K. (2020). Report on interviews with experts on digital skills in schools and on the labour market. KU Leuven, Leuven: ySKILLS. Download on https://zenodo.org/record/5226910#.YuuSyDfP02w
- Beilmann, M., Opermann, S., Kalmus, V., Donoso, V., Retzmann, N., & d'Haenens, L. (2020). *Home-school communication on children's digital skills development: Based on interviews with experts from the education sector*. KU Leuven, Leuven: ySKILLS. Download on: https://zenodo.org/record/5226897#.YuuS8TfP02w
- Cino, D., Brandsen, S., Bressa, N., Mascheroni, G., Eriksson, E., & Zaman, B. (2022). Young people's digital skills practices in non-formal learning contexts: observations, interviews, co-design. KU Leuven, Leuven: ySKILLS. Download on: https://zenodo.org/record/6832846#.YwevYi2QkUt

Design your ideal course on digital skills at school

Think about the following questions and explain:

- Which digital skills do you want to learn?
- Which topics do you definitely want to cover?
- Which digital devices or software would you like to use/learn about during this lesson?
- How often and for how long would you like to organize this lesson?

OPTIONAL, for example, for an extra lesson:

Have the group work on this in groups. Then discuss it plenary.

If the young people need inspiration, provide a few examples:

- Learning to code
- Learning how to make a social media post go viral
- Learning how to create a clear PowerPoint presentation
- Learning how to critically evaluate online information
- Identifying fake news

Share these results with the world!

WHO should know about these findings?
Teachers, parents, politicians,...?

WHAT do you want your public to know?
Which results on digital skills do you find important?

WHY do you think they must know?
What should be done?

HOW would you like to let them know?
Press release, news article, social media post, flyer, policy brief,..?

OPTIONAL activity on youth participation. This activity can strengthen young people's understandings of digital citizenship and participation in and engagement with science. Please allow at least 10-15 minutes for this activity.

Explain that with these results, the researchers aim to help children and young people benefit from their digital skills.

Invite the young people to discuss the following four questions with their neighbor or in small groups. You can encourage them to use post-it notes or even draw/design something and then present it. End this activity with a plenary discussion.

NOTE: If you want, you can share the results with the ySKILLS researchers.

Ask the group what they thought of this session on digital skills.

Inform the group that if they would like to know more about the ySKILLS project, they can find additional information online. They can read the English-language blog or stay updated through social media.