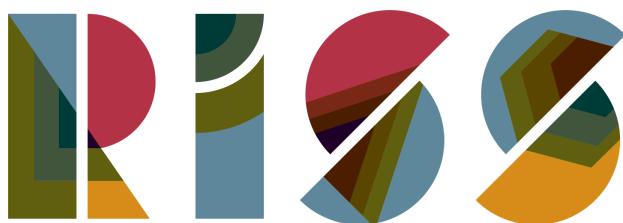


Learning Technology Plan



ROTTERDAM
INTERNATIONAL
SECONDARY
SCHOOL

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1. Vision on Education and Technology

Our Vision

Educating for self-awareness, curiosity, and integrity in a changing world.

Our Mission

Our mission is for every student to enjoy their youth. We will do this by providing innovative approaches to learning, by encouraging achievement, by fostering international mindedness with local and global engagement, by modelling ethical behaviour, and by acting respectfully and with honesty.

Key Strategic Drivers related to Technology

1.2 - Strengthen or develop school systems that directly or indirectly aid learners to achieve and progress within our commitment to inclusion via diversity, equity and anti-racism (I-DEA) in a changing world.

1.3 - Ensure that RISS is able to respond to levels of uncertainty and crisis not seen before via fostering resilience, flexibility, community cohesion, and collaboration across all school statements.

2.1 - Strengthen our conceptual understanding, knowledge, and skills-based expertise to confidently deliver instruction with emphasis on student agency, current affairs, experiential learning and school values.

2.2 - Design individual pathways to equip learners with the knowledge, skills, understandings and dispositions/attitudes to confidently navigate a changing world.

2.3 - Encourage a professional learning culture in which teachers share, explore and implement new practices, research and innovative approaches to teaching and learning.

2.5 - Prepare our students for a more independent academic life starting from early years, so they become more accountable to their learning and progress.

3.3. Foster compassion, empathy, tolerance and adaptability in the RISS Pastoral Programme with all students across all grades to promote happiness and help students and the community to deal with the complexities of modern life.

3.5. Raise levels of long-term meaningful actions on student agency, environmental sustainability, and current affairs that celebrate our bias-free participation in global issues.

4.3. Develop an atmosphere of sharing and research-informed practice, where conversations on teaching and learning are the norm and feed forward thinking into producing an atmosphere of curiosity and a love of learning.

4.4. Being proactive in the identification of skills gaps and/or performance by ensuring that systems of support are provided as a sustainable and ongoing approach.

5.4. Invest in learning technology that maximises teaching and learning and community

integration as well as developing a palpable love of learning amongst the students.

At RISS, we will seek to make a provision that goes beyond the classroom setting and explores the potential of technology, the school, and the community of Rotterdam and beyond to enhance the learning experiences of our students.

(RISS High-Quality Learning & Teaching Policy)

2. Technology as a tool

RISS provides its students, staff, parents, and community with technological resources for educational, administrative, and informational purposes. The goal in providing these resources is to promote educational excellence by facilitating resource sharing, innovation, and communication with the support and supervision of parents, teachers, and support staff.

The use of technological resources is never a goal in itself, but rather it should support students and staff in achieving their educational goals.

At RISS, we promote the use of technology in a manner that is

- evident but seamlessly integrated in the curriculum,
- accessible to all learners, used to facilitate classroom environments that are inclusive and diverse by design, and useful in enhancing curriculum design and lesson planning,
- adaptive to many contexts: cultural, physical and educational,
- supportive of intercultural understanding, global engagement and multilingualism,
- helpful in fostering the collection, creation, design and analysis of significant content.

(Utilizing Technology Effectively. IBO.org)

We aim to achieve our goals and implement the use of technology in a manner consistent with the SAMR framework, as illustrated in Figure 1. Lessons and activities sometimes lend themselves to substitution, augmentation, modification, or redefinition, and therefore, the model should not be seen as a ladder in which the redefinition phase is always the desired step. The use of technology is not the goal itself, but a tool to assist students in their existing learning goals.

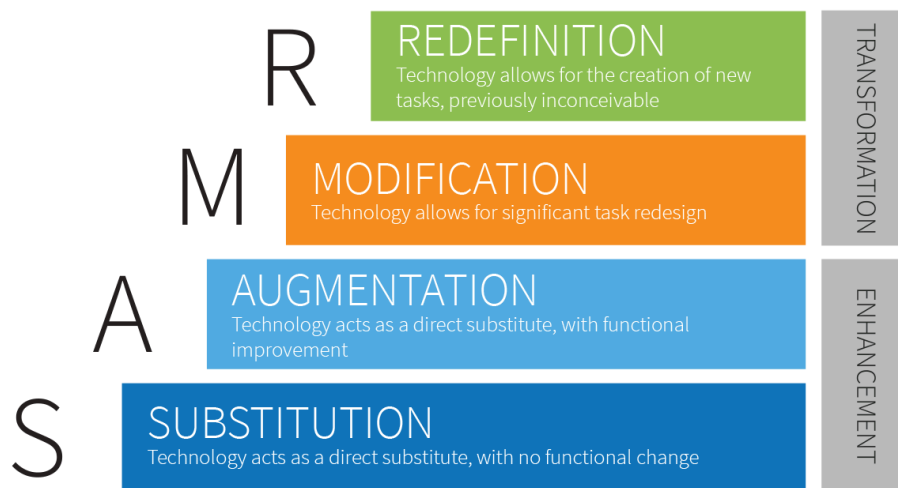


Figure 1 - The [SAMR framework](#)

Substitution

In the substitution stage, technology is substituted for a more traditional one; it is a simple and direct replacement. For example, rather than giving students a printed document of text, you now present it to them in a digital format (PDF, Word, Google Docs, Prezi, etc.).

Augmentation

In this phase, the use of technology is still a replacement for a traditional tool, but there are functional improvements. For example, users can now add interactive features to documents or presentations in the form of links and videos.

Modification

The modification phase is the first step in the transformative range, where the use of technology allows for significant task redesign. For example, students are collaborating on a Google Document and creating digital organisers to present their work. The students then share their document with the class, allowing them to make comments on their work.

Redefinition

In this transformative phase, the use of technology enables the creation of new tasks that were previously impossible without it. The goal is to give students a new and unique experience through the implementation of technology. To continue with the previous example, after students create their work and allow peers to provide feedback, they share their work with a community located elsewhere in the world. To take this even further, students could connect with peers from around the world in real-time to share their experiences and perspectives.

3. Digital Citizenship and Digital Literacy

Digital citizenship refers to the responsible use of technology and the internet, including the knowledge and skills needed to participate in online communities and make informed decisions about digital life.

It encompasses various aspects, including online privacy, security, ethics, digital etiquette, and digital literacy. Within our high-quality teaching and learning provision, digital citizenship is essential for students to learn, as it prepares them for responsible and safe behavior in the digital world and helps them become active, informed, and responsible digital citizens.

While digital citizenship is about a set of values that provide a framework for online action and behavior, digital literacy focuses on the skills students need to learn to be good digital citizens. Teaching the competencies of digital literacy, which include the ability to access, manage, understand, integrate, communicate, evaluate, and create information safely and appropriately through digital technologies, is embedded in our curriculum. The competencies are outlined in the framework below (**Appendix 3**) and are evident in our curriculum planning through Atlas.

Within the Information and Communication Technology (ICT) classes in the Foundation Years, there is a strong emphasis on teaching these competencies, as well as digital citizenship.

To further enhance the digital citizenship offer within the curriculum, RISS organises workshops about social media for students on a yearly basis, and digital citizenship is embedded within the pastoral provision throughout all the year groups within the school. The school's approach to digital citizenship is supported by the Learning Technology Plan and the Acceptable Use of Technology agreement, presented to and signed by all students at the start of each academic year.

4. Artificial Intelligence (AI)

This section provides guidelines for the use of artificial intelligence (AI) tools and technologies within RISS. It applies to students, teachers, and administrators.

Key Definitions

Artificial Intelligence (AI): computer systems able to perform tasks that typically require human intelligence.

AI tools: software or applications that utilize AI technology, including chatbots, text generators, image generators, and data analysis tools.

General Principles

- We recognize the potential of AI to enhance learning experiences and support the educational process.
- We recognize the potential drawbacks and issues associated with AI, such as privacy concerns, bias, and academic integrity.
- The use of AI should support or complement human teaching and learning, not replace it.
- AI usage should align with the school's educational objectives and ethical standards
- The school provides training to students and staff on the appropriate use of AI

Acceptable Use of AI

Students may use AI tools:

- As learning aids for research and information gathering, if correctly cited
- To assist with brainstorming and idea generation
- To support students with special educational needs (translation, text-to-speech, simplifying texts, etc.)

Teachers and staff may use AI tools:

- To create personalized learning materials. This personalization can provide content that is appropriately challenging for student engagement and offer differentiated materials to meet individual needs.
- Teachers may use AI ([AssessmentPolicy 2025](#)) to provide additional feedback on student work. This does not replace the teacher's feedback but could enhance the feedback provision.
- Teachers are responsible for making sure the AI-generated feedback is prompt, specific, and supportive of what the students have to do to progress.
- To identify areas where students may need additional support.

AI should not be used to:

- Plagiarize or violate academic integrity, more information can be found in the [Academic Integrity Policy](#).
- Access or process personal data of students, staff, or other people.

When AI is used:

- Users must critically evaluate AI-generated content for accuracy and bias.
- Users must ensure that no personal information is entered into AI tools to maintain data privacy, as required by the GDPR.
- The source of AI-generated content must be cited in academic work.
- If AI is used for grammar correction or proofreading, it should also be cited in the bibliography.

- Turnitin and other AI detection sites may be used by staff to ensure the authenticity of student work.

4. Online Learning

At RISS, we continue delivering our high-quality teaching and learning online when needed. We are committed to providing alternative educational opportunities through digital teaching and learning. While online learning does not replicate onsite learning, our teachers are equipped to deliver quality lessons and instruction through online resources. To keep our staff and students trained in online teaching and learning, we practice Stay At Home (STAH) days for students each academic year, per grade level. Additionally, we use STAH during IGCSE and IBDP/IBCP exam periods to alleviate the pressure on the use of available classrooms.

The following platforms support us in our digital teaching and learning provision as well as collaboration between staff, students, and families to ensure a quality student learning experience when planning and delivering remotely:

- **Magister:** The timetable for students will be updated on Magister. This allows for students, parents/guardians and staff to use Magister in the same way as they are used to. Homework will be posted here as well.
- **Google Workspace for Education:** student Google accounts, including all Google Workspace for Education tools (Gmail, Docs, Sheets, Slides, Classroom etc.)
- **Google Classroom** is the platform that all teachers use with their classes to share instructional videos, assignments, homework, and communicate with students.
- **Google Meet** is a live video conferencing tool that all staff and students have access to through their Google accounts. This may be used for live video calls with one or more students.
- Teachers may utilize additional online resources to enhance their lessons. This will be communicated to students via email or Google Classroom.

In addition to the above resources, we encourage students and parents/guardians to contact wrservicedesk@wolfert.nl for any tech-related questions. The IT Support staff manages this email address.

Responsibilities and Expectations

Students

- Check Magister for when classes will take place
- Dedicate appropriate time to learning according to the timetable available on Magister and attend classes
- Check online platforms for information on classes, assignments, and resources daily
- Engage in all learning with academic honesty
- Submit all assignments per the provided timeline and/or due dates

- Communicate directly with the teacher when you have questions regarding a class, an assignment, or a resource

Parents/Guardians

Support their child(ren) in their learning by:

- Providing an environment conducive to learning
- Encouraging students to attend their lessons as scheduled on Magister
- Engaging in conversation on posted materials and assignments
- Monitoring time spent engaging in online and offline learning
- Support emotional balance by providing space and time for reflection, physical activity, conversation, and play

5. Technology Provision

Hardware in the classroom

All classrooms are equipped with a Prowise interactive display, providing a wide view angle as well as high-performance audio and video capabilities. The multi-touch functionality enables collaboration within the classroom. In addition to Google Workspace for Education, teachers have access to Prowise Presenter software, allowing them to create interactive and transformational lessons. Teachers are free to use any other presentation tools to enhance their teaching and learning in the classroom (Microsoft PowerPoint, Google Slides, etc.)

All teachers are provided a MacBook to help successfully fulfill their daily duties, including lesson planning and email communications with colleagues and students.

Additional hardware is available in the form of two fully equipped computer rooms (JC), six mobile Chromebook carts, and one mobile iPad cart. It is the teacher's discretion to decide on the use of mobile phones during lessons, in line with the school's [Mobile Phone Policy](#).

Software and learning technology resources

Throughout our educational programmes, technology is used in different ways to enhance students' learning. The overview in [Appendix 1](#) shows an overview of learning technology resources being used.

6. Strategic Planning and Future Goals - 2025-2026

Curriculum, Instruction, and Assessment

- Provide emerging technology solutions to enhance the education programmes

Action	Who	Timeframe
All Grade 11 students will receive a school-issued Chromebook for their studies. This initiative is part of our approach in preparing our students in the Senior Years for future IB online examinations. Chromebooks will be distributed during the first few weeks of the 2025-2026 school year. As part of the purchase, the devices will come with a 24-month service contract through The Rent Company, a Wolfert partner that supplies Chromebooks to students across all Wolfert schools. All Chromebooks will be managed by the Wolfert domain, allowing us to limit apps and extensions as well as use an exam mode feature to ensure academic integrity during online exams and assessments. Each device will be owned by the family/student. When students leave the school, the Chromebook remains theirs to keep and will be unenrolled from the RISS domain.	Learning Technology Coordinator IT Technician Central IT department LT	Ongoing

Learning environment

- Learning technology provision in both campuses

Action	Who	Timeframe
Check the hardware and software status of available devices to make sure it is in working order.	Learning Technology Coordinator IT Technician	Ongoing
Provide teacher and staff support to effectively use learning technology, specifically the newly designed computer room at the Junior Campus.	Learning Technology Coordinator	Ongoing

Professional development

- Teachers will be able apply the SAMR model in their teaching practice

Action	Who	Timeframe
Investigate teachers' use of technology and identify gaps, and provide support and Professional development opportunities.	Learning Technology Coordinator (vacant)	TBD

Other

- Fill the vacancy for Learning Technology Coordinator

Action	Who	Timeframe
Advertise the vacancy for Learning Technology Coordinator and hire a suitable candidate Roles and responsibilities	LT	2025-2026

- Create a short-term and long-term IT budget in collaboration with the central IT department from Wolfert Schools

Action	Who	Timeframe
Meet with CLs/LT to discuss Tech purchase needs across the school	Learning Technology Coordinator CLs LT	Ongoing

- Evaluate the Technology Plan

Action	Who	Timeframe
Yearly review of the Technology Plan to ensure it meets the current standards and needs of the school	Learning Technology Coordinator Teachers Leadership Team	Yearly

7. Staff Use of Learning Technology and Training

RISS staff are expected to have a proficient technological level. Each teacher is presented with a list of basic skills. ([Appendix 2](#)). The Learning Technology Coordinator provides ongoing professional development for teachers and staff to enhance their technological literacy skills. Teachers who require additional support or training can contact the Learning Technology Coordinator directly or through their Curriculum Leader.

Additional training sessions and mini-workshops will be organized regularly to boost staff confidence in integrating technology into their practice.

At RISS, teachers will be able to:

- Utilize the internet effectively to find resources for research and instruction
- Determine the credibility of sources and teach students about the credibility of sources
- Utilize technology tools to create authentic and engaging instructional presentations.
- Integrate student use of technology within lessons and unit plans.
- Utilize technology tools to assess student performance.
- Utilize online tools to enhance teaching and learning.
- Utilize technology to differentiate instruction and learning.
- Utilize technology for online teaching/blended learning/flipping the classroom.
- Apply basic troubleshooting to resolve technological issues and recognize who to contact as needed.
- Communicate using digital tools (including email).
- Utilize technology in a range of substitution, augmentation, modification, and redefinition.

Teachers model digital citizenship to students and embed it within their teaching and learning provision. They develop strategies to educate students about responsible technology use, digital citizenship, and online safety. This includes teaching students about online privacy, cybersecurity, media literacy, and the ethical use of digital resources.

Staff use the **Google Workspace for Education** extensively. Google Workspace offers a range of tools that can help enhance opportunities for critical thinking, communication, collaboration, and creativity, while supporting student learning objectives and streamlining administrative tasks. These tools are free, ad-free, reliable, and secure*. These tools are relevant, easy to use, and open up many new avenues for learning.

** Additional Google tools have been selected with Wolfert IT and Stichting BOOR to ensure we meet the GDPR standards of staff and students using Google services.*

8. Management of hardware and software

Hardware management is the IT technician's main task. The IT technician has to ensure that the hardware is in working order and kept up to date. All updates, improvements, and upkeep is done in communication with the central Wolfert schools' IT department. The IT technician will work closely with the Learning Technology Coordinator (LTC) to ensure the school is up to date in its IT provision at both campuses.

The IT technician manages software installation and updates. Staff requests for new software will be communicated to the LTC and the IT technician. The curriculum leader and leadership team need to first approve the purchase of licenses.

Departments can request LTC support for researching new technologies to utilize within their departments. The LTC will assist the department in researching a tool aligned with the learning goals. When approved and purchased, the IT technician will install the software, making it available to students and staff.

In the event of technical errors or failures, the teacher will attempt to resolve the issue first. If this is not possible, the IT technician needs to be contacted. All staff members can send their request to wrservicedesk@wolfert.nl. The request will be dealt with as soon as possible. Updates will be given via email. The IT requests will be collected in one location to facilitate the problem-solving process for the future, enabling the IT team to identify common issues.

9. Evaluation

This Learning Technology Plan was first introduced in 2019 and will be reviewed annually. Between the yearly review sessions, time will be allocated for evaluation moments to ensure the ongoing progress of both short-term and long-term goals. These goals can be adjusted, removed, or new ones added as necessary. This process is led by the Learning Technology Coordinator.

Appendix 1 - Learning Technology Resources being used

Learning Technology Resources			
Last updated: 09/05/2019			
Name	Used in the following grades	Used in the following subjects	Description of use
Google Workspace for Education	6-12	All	Google Workspace for Education is a brand of cloud computing, productivity, and collaboration tools, software, and products developed by Google
Kahoot!	6-12	All	Kahoot! is a game-based learning platform, used as educational technology in schools and other educational institutions.
GCSE Pod	9-10	English, Math	3-5 minute burst of audio-visual learning and specialist subject knowledge for 20+ curriculum areas.
Kognity	9-12	Math, Science (all), Geo, Business Management, TOK, Economics	Online interactive textbooks and exercises
Quizizz	6-12	All	Online tool for formative assessment
Edpuzzle	6-12	All	Add your own voice narration and questions to videos and track students learning from your videos
Microsoft Office	6-12	All	Word, Excel, Powerpoint, Access, Publisher, Frontpage
Adobe Creative Suite	9-12	ICT / Art	All Adobe programs are available (Photoshop, Illustrator, Dreamweaver, InDesign, etc)
Brittanica and Jstor	9-12	English	Leading provider of research databases, e-journals, magazine subscriptions, ebooks and discovery service for academic libraries
ManageBac	11-12	EE, CAS	Planning, assessment and reporting platform for the IB continuum.

Last reviewed: June 2025

Next review: June 2026

TurnItIn	9-12	English, TOK, GPE, EE	Provides instructors with the tools to prevent plagiarism, engage students in the writing process, and provide personalized feedback.
MyImaths	9-12	Math	Interactive online teaching and homework subscription website for schools that builds pupil engagement and consolidates maths knowledge.
Off2Class	6-11	EAL	English proficiency testing. EAL online Lesson for EAL teachers.
GetRevising	9-12		Revision tool
Vocabulary.com	6-12	English/EAL	Expand and practise vocabulary
DigitalTheatrePlus	6-12	English, Drama	Drama performances and resources
Goobric	6-12	English	Feedback tool compatible with G Suite
Pamoja	11- 12	Psychology, Philosophy, Film Studies, Business Management, Spanish	Online provider of IBDP subjects and assessments
FlipGrid	6-12	English	Online platform for audio and video sharing
Mathsisfun.com	6-12	Math	
Geogebra	6-12	Math	A dynamic mathematics software
Desmos	8-12	Math	Online calculator
Ti-Nspire	9-12	Math	Graphic calculator + app
enrich.maths.org	6-12	Math	Mathematics resources
mathsplayground.com	6	Math	Mathematics resources
MrNussbaum.com	6	Math	Mathematics resources
Kangaroo app	6-9	Math	Mathematics resources
illuminations.nctm.org	6	Math	Mathematics resources

Phet	6-12	Science	Excellent simulations for students to try NOTE: sometimes problematic as it needs Java for some simulations - https://phet.colorado.edu/
falstad	9-12	Physics	good simulations - needs Java - http://www.falstad.com/
Padlet	6-12	All	digital wall to collect student work
TEDEd	6-12	science	useful sources to support learning - videos, lectures
stem.co.uk	9-10	Science	graph shots-practicing motion graphs NOTE: Adobe is needed for this
walter fendt	9-12	Physics	simulations https://www.walter-fendt.de/html5/phen/acceleration_en.htm
BBC BiteSize	6-8	science	learning and revision site
Twig	8-10	Science	videos, experiments, quizzes
Royal Society of Chemistry	9-12	Chemistry	simulations, experiments NOTE: sometimes problematic as it needs Java for some simulations
BrainPop	6-8	Science	videos, quizzes, simulations
Concord Consortium	9-12	Science	simulations, quizzes NOTE: sometimes problematic as it needs Java for some simulations
Vision Learning	11-12	Biology	quizzes, online resources
Scitable	11-12	Biology	additional resources
Tutor2u.net		Economics	blog, quizzes, revision, videos
Teach-ICT.com	11-18	ICT	Info, notes, quizzes
ibmastery.com	11-12	Economics	criteria I
GetRevising.com	15-18	All	Revision, studying, resources. Revision planning and studying apps and advice, quizzes, revision cards etc
papercambridge.com/	60-18	All	CIE past papers etc
Quizlet	All	All	Revision
Blooket	All	All	Revision

Appendix 2 - Technology Basic Skills Checklist

Technology Basic Skills Checklist	
This checklist covers the basic skills we expect our teachers to master	
General use of MacBook	
I can print documents to the printer	
I can use the Microsoft Office software	
I can create a Word document and save this as a PDF	
I can identify and use icons, windows, menus and shortcuts	
I can use the mouse pad to left/right/double click and scroll	
I can create and rename files and folders	
I can use keyboard shortcuts to operate the computer	
Gmail	
I can sign in/out of my email	
I can send emails and use the CC/BCC feature correctly	
I can create a contact group and use this group to send an email to a group of people efficiently	
I can create folders/labels to organise and store emails	
I understand I should not click on any links in emails coming from an unknown source to ensure the safety of my account	
Use of Prowise	
I can turn on/off the Prowise	
I can change the input to show my Macbook screen on a Prowise	
I can access my files on the Prowise to show lesson content/materials	
I can play a DVD on a Prowise (<i>some Prowise boards need external DVD player</i>)	
I can use the Prowise as a whiteboard	
I can use the Prowise Presenter software to create interactive and engaging lessons	
Google Drive	
I am able to sign in to My Drive	
I am able to create and manage an organised folder structure	
I am able to create new files and name them appropriately	
I am able to move files between folders	
I am able to share folders and files with others	

I understand the different sharing options and can apply them correctly (edit, comment, view)	
I am able to make a copy of files	
I am able to upload files to Drive	
I am able to convert Microsoft Office files to Google files (Word to Doc, Excel to Sheets, PPT to Slides)	
I understand the difference between My Drive and Shared With Me	
Google Classroom	
I know how to navigate to Classroom	
I can create a new class	
I can enrol students in my classes	
I can create and edit topics to organise the content	
I can create new announcements, assignments, and materials	
I can upload attachments from my computer	
I can upload attachments from Drive	
I can create assignments and understand the different ways of sharing attachments to students	
I can use Classroom to look at students work and provide individual feedback	
Using technology with students	
I can navigate to the online checkout form for iPads and Chromebooks	
I can reserve a mobile cart for a specific day and time	
I know the procedure for taking the mobile cart to and from my lesson	
I know that all devices need to be plugged in after use	
I know that I have to plug in the mobile cart after I use it in my lesson	
I know what a Chromebook is and how they can be used effectively	
I know what an iPad is and what kind of activities the students can do with them	
Questions about any of the above can be send to the Learning Technology Coordinator at: xxx@wolfert.nl	

Appendix 3 - Digital Competencies

Competence area and competences	Description
1. Information and data literacy	To articulate information needs, to locate and retrieve digital data, information and content. To judge the relevance of the source and its content. To store, manage and organise digital data, information and content.
1.1 Browsing, searching and filtering data, information and digital content	To articulate information needs, to search for data, information and content in digital environments, to access them and to navigate between them. To create and update personal search strategies.
1.2 Evaluating data, information and digital content	To analyse, compare and critically evaluate the credibility and reliability of sources of data, information and digital content. To analyse, interpret and critically evaluate the data, information and digital content.
1.3 Managing data, information and digital content	To organise, store and retrieve data, information and content in digital environments. To organise and process them in a structured environment.
2. Communication and collaboration	To interact, communicate and collaborate through digital technologies while being aware of cultural and generational diversity. To participate in society through public and private digital services and participatory citizenship. To manage one's digital identity and reputation.
2.1 Interacting through digital technologies	To interact through a variety of digital technologies and to understand appropriate digital communication means for a given context.
2.2 Sharing through digital technologies	To share data, information and digital content with others through appropriate digital technologies. To act as an intermediary, to know about referencing and attribution practices.
2.3 Engaging in citizenship through digital technologies	To participate in society through the use of public and private digital services. To seek opportunities for self-empowerment and for participatory citizenship through appropriate digital technologies
2.4 Collaborating through digital technologies	To use digital tools and technologies for collaborative processes and for co-construction and co-creation of resources and knowledge
2.5 Netiquette	To be aware of behavioural norms and know-how while using digital technologies and interacting in digital environments. To adapt communication strategies to the specific audience and to be aware of cultural and generational diversity in digital environments
2.6 Managing digital identity	To create and manage one or multiple digital identities, to be able to protect one's own reputation, to deal with the data that one produces through several digital tools, environments and services.
3. Digital content creation	To create and edit digital content. To improve and integrate information and content into an existing body of knowledge while understanding how copyright and licenses are to be applied. To know how to give understandable instructions for a computer system
3.1 Developing digital content	To create and edit digital content in different formats, to express oneself through digital means.
3.2 Integrating and re-elaborating digital	To modify, refine, improve and integrate information and content into an existing body of knowledge to create new, original and relevant

content	content and knowledge.
3.3 Copyright and licences	To understand how copyright and licences apply to data, information and digital content.
3.4 Programming	To plan and develop a sequence of understandable instructions for a computing system to solve a given problem or perform a specific task
4. Safety	To protect devices, content, personal data and privacy in digital environments. To protect physical and psychological health, and to be aware of digital technologies for social well-being and social inclusion. To be aware of the environmental impact of digital technologies and their use.
4.1 Protecting devices	To protect devices and digital content, and to understand risks and threats in digital environments. To know about safety and security measures and to have due regard to reliability and privacy.
4.2 Protecting personal data and privacy	To protect personal data and privacy in digital environments. To understand how to use and share personally identifiable information while being able to protect oneself and others from damages. To understand that digital services use a “Privacy policy” to inform how personal data is used.
4.3 Protecting health and well-being	To be able to avoid health-risks and threats to physical and psychological well-being while using digital technologies. To be able to protect oneself and others from possible dangers in digital environments (e.g. cyber bullying). To be aware of digital technologies for social well-being and social inclusion.
4.4 Protecting the environment	To be aware of the environmental impact of digital technologies and their use.
5. Problem-solving	To identify needs and problems and to resolve conceptual problems and problem situations in digital environments. To use digital tools to innovate processes and products. To keep up to date with the digital evolution
5.1 Solving technical problems	To identify technical problems when operating devices and using digital environments, and to solve them (from trouble-shooting to solving more complex problems).
5.2 Identifying needs and technological responses	To assess needs and to identify, evaluate, select and use digital tools and possible technological responses to solve them. To adjust and customise digital environments to personal needs (e.g. accessibility).
5.3 Creatively using digital technologies	To use digital tools and technologies to create knowledge and to innovate processes and products. To engage individually and collectively in cognitive processing to understand and resolve conceptual problems and problem situations in digital environments.
5.4 Identifying digital competence gaps	To understand where one’s own digital competence needs to be improved or updated. To be able to support others with their digital competence development. To seek opportunities for self-development and to keep up-to-date with the digital evolution
5.5 Computational thinking	To process a computable problem into sequential and logical steps as a solution for human and computer systems.

A Global Framework of Reference on Digital Literacy Skills for Indicator 4.4.2