



SYNERGY AND ENVIRONMENT TO  
EMPOWER DECENTRALISED SCHOOLS

# TOOLKIT GREEN S.E.E.D.S.

## MODULE 4 Seeds for Communicating

### UNIT 2 Technology-mediated Communication



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## RESPONSIBLE FOR IO1 “TOOLKIT GREEN S.E.E.D.S.”

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### PROJECT

GREEN S.E.E.D.S. - Synergy and Environment to Empower Decentralised Schools,  
[www.greenseeds.eu](http://www.greenseeds.eu)

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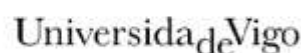
This document is one of the 15 units of the "Toolkit GREEN S.E.E.D.S.", the Intellectual Output n.1 of the homonymous project. It has been led by the University of Vigo and undertaken with the support of all the Partners, with particular reference to the training on the toolkit contents, which has worked also to test them. The Units have been developed from September 2019 to the end of January 2020. The subsequent training, in two steps, lasted until the end of June 2020:

1. Training of the national responsible (5-6.03.2020)
2. Training of the teachers at local level (1.04.2020 – 31.06.2020)

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### PARTNERS



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## UNIT 4.2

### TECHNOLOGY-MEDIATED COMMUNICATION

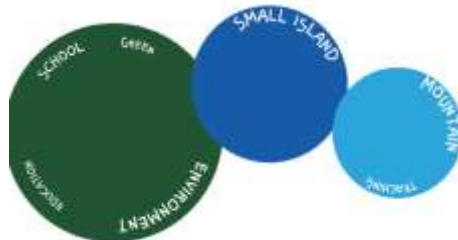
*"Communicating means sending and receiving information through all types of media; it is more than simply exchanging information" (Burbules and Callister, 2001, p. 18)*

Schools located in the mountains or on small islands are often isolated. In such a situation, the possibilities offered by technology to promote communication offer a great opportunity to create networks between students, teachers, families, and other community members.

This is why it is necessary to develop communication and collaboration abilities and skills mediated by technology. This requires developing new forms of learning which society in general, and schools in particular, demand. The development of said ways of learning mean new types of literacy which have emerged along with digital technology and the information society

(Coll & Rodríguez-Illera, 2008) ; these are found in the European Framework for Digital Competences for Citizens - DigComp 2.0- (Vuorikari, Punie, Carretero, & Van den Brande, 2016).

This reference framework (DigComp 2.0) establishes, among the five dimensions of Digital Competence, Communication and Collaboration, which is the learning objective of this unit. The purpose of this is to answer the question of how we can establish online communication channels between students, teachers, families, and the educational community in general in an educational context.



## 1. What is technology-mediated communication?

Susana, a primary-school teacher on a small island, is working on the topic of *climate change* with her group of students. It is a collaborative project with two other schools located in different areas in which technology is used to communicate and connect. Contact was going to start through videoconferencing, so that the children could introduce themselves and their environment. The lack of a good Internet connection, however, made it necessary to change plans. It occurred to them to establish contact through video-cards in which the children introduced themselves and gave their opinions on climate change and its impact on their places of origin.

As the project progresses, participating teachers create other spaces for exchange and communication channels. One in which controversial aspects arising from group discussions on the effects of climate change are debated. In addition to this, there is a collaborative panel showing every discovery and piece of knowledge related to the topic, as well as the differences noted in different contexts. In both cases (forum and board) good broadband is not necessary, unlike in the case of videoconferencing; this is because it is asynchronous communication; there is no rush in terms of sending or receiving messages. This is why they have chosen these tools to complement communication.

These communication spaces allow one to establish direct contact with other realities, learn other contexts, create one's own ideas, and construct knowledge together.

The effective development of communicative skills, by making use of various online communication channels and IT to express oneself and participate

online, is essential knowledge in the digital age, forming part of what is known as *digital competence*, which is related to the *secure and critical use of*

*information-society technology for work, pleasure, and communication (...), the use of computers to obtain, evaluate, store, produce, present, and exchange information, as well as to communicate and participate in collaboration networks via the Internet* (European Commission, 2006: 15).

Developing communicative abilities through the Internet fosters the establishment of relationships between individuals and schools in diverse and diverse contexts. This is why it is essential to develop Communication and Collaboration competences, established by the European reference framework DigiComp (Vuorikari et al., 2016) in order to promote critical citizens who can express themselves, share, and participate online. This framework alludes to knowledge, abilities, and attitudes related to interaction via digital devices and applications as well as respect for online codes of conduct (netiquette).

Communicating and sharing online also means the management of a digital *identity*, which requires one to address the issue of privacy with regards to student and school data. For this reason, one must not ignore European regulations on the matter (Regulation 2016/679 of the European Parliament and Council, dated April 27, 2016, in connection with the protection of physical persons in relation to the handling of personal data and the free circulation of the same), which, in the case of minors, is of utmost importance.

In order to develop the aforementioned communicative abilities, there are a wide variety and multiplicity of tools, platforms, and applications which encourage communication and which take advantage of the potential of technology this purpose; these bring diverse schools and classrooms closer together, and facilitate student-teacher-family communication.

## **2. What platforms and tools allow one to establish communication channels with technology? How does one put them into practice?**

Susana's case shows how technology opens spaces and creates paths for finding one another, communicating with each other, and collaborating with each other. Nonetheless, it should be kept in mind that implementing such technology in schools should not be done lightly; the needs and requirements of each situation must be considered, with the most-appropriate technology being utilized in light of the circumstances. The tools for communication are established as a channel and provide common spaces for debating and learning together, even when (due to temporal or spatial questions) one does not share the same physical space (Castañeda, Gutiérrez and Rodríguez, 2011).

Below are communication tools which allow one to establish connections and expand knowledge and the possibilities to share it. These tools can be classified based on two variables: 1) the symbolic code used, differentiating between text-based technology (those which use written text) and those of a visual

orientation (those which use audio-visual language as a medium of communication) and 2) space-time variable, which includes synchronous communication tools (when people communicate with one another in real time) and asynchronous (when communicating at the same time is not necessary).

## 2.1. Synchronous visual tool: Videoconferencing

Videoconferencing is a synchronous multimedia AV system which makes real-time communication possible. It is characterized by bidirectionality, which fosters communication by every participant (Rodríguez, Sánchez & Solano, 2011), regardless of location. There are different videoconferencing applications and programs. (Skype, Anymeeting, etc.).

**TECHNICAL REQUIREMENTS:** Device (PC, mobile, or tablet), webcam, microphone, and speakers. Good Internet connection. Communication software (Skype, Anymeeting, Hangouts, etc.) Any of the aforementioned programs can be downloaded for free and include a tutorial for first-time users.

**USES.** Videoconferencing allows one to establish connections between classrooms in different schools, between a classroom and an expert on a particular topic, between teacher rooms, etc. It can also be used for cultural exchange, project collaboration, joint experiences, as well as to open the school to other realities, get families involved or to learn languages.



<http://www.skype.com>




The example of Susana provided previously demonstrates one of the major issues with videoconferencing in

isolated areas, the fact that the Internet connection is, at times, not strong enough.

## 2.2. Asynchronous visual tool: video-cards

A video-card is a video with an audiovisual message sent to one or more

specific people. It can record live or editing, in other words the selection and placing of audio and video fragments in a digital file, can be involved.

<p><b>TECHNICAL REQUIREMENTS:</b> Recording device (camera or mobile), digital device (mobile, tablet, or PC), microphone and speakers. For editing: video-editing software (Clipchamp, Create, Avidemux, Vimeo, etc.). Web-platform for sending and/or storing videos (Vimeo with private password).</p> <p><b>USES.</b> Connections can be established with other communities with this type of visual, digital correspondence. It allows people to connect with one another, for experiences to be exchanged, joint projects to be carried out by members for different communities.</p>	 <p><a href="https://clipchamp.com/">https://clipchamp.com/</a></p>
	 <p><a href="http://avidemux.sourceforge.net/">http://avidemux.sourceforge.net/</a></p>
	 <p><a href="https://vimeo.com/">https://vimeo.com/</a></p>

The change in strategy proposed in the aforementioned case (changing from videoconferencing to video-cards), meant going from synchronous communication to asynchronous communication, which resulted in the loss of spontaneity while allowing for greater detail and precision in terms of message content. To do this, one can use a wide variety of software. For example,

ClipChamp Create allows one to edit messages in audiovisual language, incorporating images and audio, which can then be published on Vimeo (a social network for publishing and spreading videos). This is protected by a password to maintain the children's privacy.

### 2.3. Asynchronous text tools: forum and email

These are conversational-use applications (Rodríguez et al., 2011), which promote asynchronous communication, which makes being in the same place or present at the same time unnecessary. Due to its text-based nature, learning the lecto-writer code is necessary for communication. Forums and email are tools which make the establishment of user-based networks possible.

A **forum** is a virtual location, within a web

platform, which allows one to generate debates, conversations, and opinions on a topic of interest. Discussions are directed by a moderator (generally the one who created the forum and who coordinates the learning experience); they are in charge of presenting the topic, regulating participation and stimulating participation. It is normally done in writing, which encourages expression and orthography, as well as the use of correct and rigorous language and precise syntax. It promotes respect, tolerance, and consideration with regards to the opinions of others.

**TECHNICAL REQUIREMENTS:** Device (PC, mobile, or tablet), LMS (Learning Management System) platform in the school's Virtual Learning Environment (Moodle, Claroline, Chamilo, Atutor, etc.).

**USES.** Forums can be used as online discussion platforms, as a meeting point to get to know others and interact with them, and as a way for teachers and students to communicate with each other. Moodle has dialogue boxes centered on the creation of use of forums.



<https://moodle.org/>

**Email** is a highly-used communication method. It is a system whereby users with email accounts exchange text and files digitally and manage the sending, and receiving, of messages (inbox and

outbox). Emails can be stored, categorized, and organized. It is a private service which incorporates security-protection mechanisms.



**TECHNICAL REQUIREMENTS:** Email account. Internet connection.

**USES.** Email can be used as a database for contacts, as a Communication channel between schools and families or to create reception lists, which facilitate the sending of messages to groups with common interests without revealing the identities of, for example, the families of a specific group or people participating in a common project. Nowadays, Microsoft, Google, and Yahoo allow one to create email accounts for free and provide information on how to do so on their websites.



<https://www.gmail.com/>

## 2.4. Synchronous text tool: chat

Chat is an instant-messaging tool which allows text and files to be sent in various languages (audio, image, video). It is a service which makes it possible for people who are not in the same location to communicate in real time, which is why it is of great interest to people in different locations, in the same or different time zones, since although communication is initially synchronous (simultaneous), the fact that messages are saved (text-chat text or oral- recorded audio) makes asynchronous communication possible.

**TECHNICAL REQUIREMENTS.** Instant-messaging application (Telegram, WhatsApp, Google Talk, Chat on, etc.). Device (mobile, tablet, or PC).

**USES.** Useful as a means of exchange for a teaching-innovation group, to resolve student doubts, peer mentoring, exchange experiences, and to organize and coordinate projects. Telegram has FAQ section focused on the use of chats and the management of groups and channels.



<http://telegram.com.es/>

## 2.5. Synchronous visual-textual tool: Collaborative boards

Collaborative boards are web applications which consist of the creation of a group-work board, where people can participate in real time by

incorporating information in different formats: text documents, images, videos, links, files, etc. Collaborative boards encourage communication between participants, decision-making, and negotiating meaning by making commenting possible.

**TECHNICAL REQUIREMENTS.** Profile on a collaborative-board web application (Padlet, Wakelet, Board, Stormboard, etc.). Internet connection. Device (mobile, tablet, or PC).

**USES.** Space for collaborative group work or space for coordinating or organizing joint projects. Padlet offers a step-by-step tutorial, as well as examples for first-time users.



## DO IT IN YOUR CLASSROOM

Comment on and share completed, or ongoing, experiences in which technological-based communication has played, or is playing, a key role. For each of these, state:

- ◆ THE ACTION AND THE PARTICIPANTS.
- ◆ HOW NETWORK COMMUNICATION AND COLLABORATION BENEFITTED (WITH WHAT TECHNOLOGICAL RESOURCES).

## REFERENCES

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## TO LEARN MORE

*Digital Competence Framework for citizens*.

<https://ec.europa.eu/jrc/en/digcomp>

*Regulation (Eu) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of*

*natural persons with regard to the processing of personal data and on the free movement of such data*, <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L:2016:119:FULL&from=ES>

