SMALL SCHOOL NOTEBOOKS

Year 2021 - Notebook No. 2 - Tools

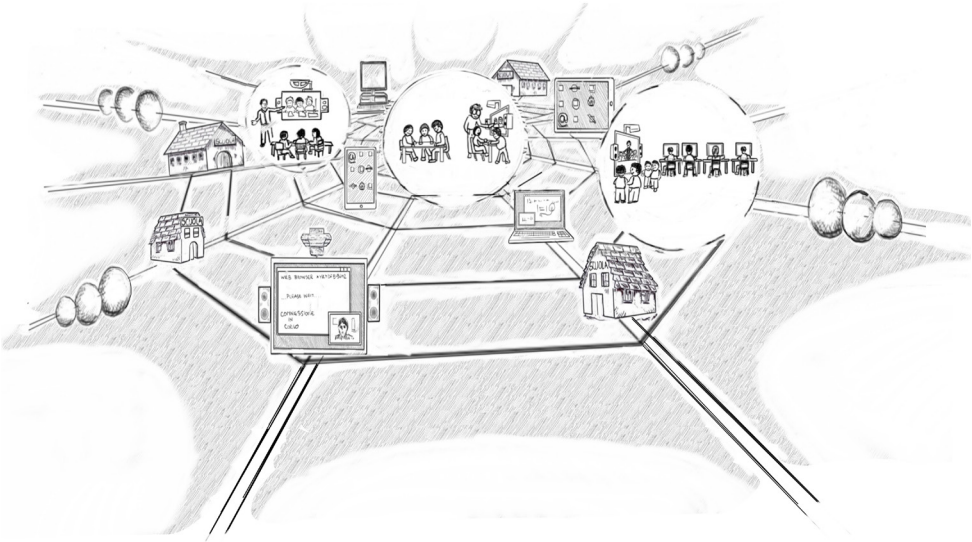
2
2021

ONLINE LESSONS

Planning joint lessons to manage open and isolated (multi-age) classes

Giuseppina Rita Jose Mangione and Michelle Pieri - INDIRE

Stories ☐
Tools ■
Studies ☐



English version

Classes in the network

PICCOLE SCUOLE
TRAME SOCIALI IN RETE

Unione Europea
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SMALL SCHOOL NOTEBOOKS • TOOLS

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The *working library* is an innovative and unique publishing work designed and directed by Mario Lodi.
From 1971 untill 1979 the project was managed by a group of educators: Fiorenzo Alfieri, Francesca Colombo,Tullio De Mauro, Caterina Foschi Pini, Alberto Gianola, Angelica Gianola, Roberto Lanterio, Palmira Maccarini, Luciano Manzuoli, Gioacchino Maviglia and Francesco Tonucci.
The working library was created as an alternative to the schoolbook. The format, functional to teacher's activities, contains 80 should be functional to teacher's activities. They collected 80 issues of "Documents", "Letters", "Guides" and 68 sheets with ideas, activities and practical tips for teachers so that they can be used according to their classroom needs.
A good collection of practice material experienced in Italy. A catalogue that teachers, parents and students can use in every social and geographical situation. Learning activities that have a different approach to the traditional lessons and use tools for effective teaching activities.
Mario Lodi and his colleagues wished that students' families and teachers know them.
Everybody wants a better school, a warm and scientifically correct place where the students' experience comes first. The working library had this goal.

Cosetta Lodi
President of Casa delle Arti e del Gioco
http://www.casadelleartiedelgioco.it

After so many years from the *working library*, the idea of creating a better school is still alive. Todays' model of schooling is still a traditional one, which is difficult to remove from the daily practices and belongs to the image of the standard school.
Indire main goal is to give support and highlight teachers' research activity to "learning experiences, classroom organisation and learning environment that foster the students' autonomy so as they can develop permanent competences and skills" (*Indicazioni Nazionali. Nuovi scenari*, 2017).
The tools in Lodi's *working library* were effective because they used a clear and simple language, essential format, a research work that came from teachers' daily activity. The tools contributed to disseminate innovative teaching method based on the active learning and an inclusive and democratic school model.
Documentation and teaching methods offered in the *working library* allowed teachers to practice and experience innovative pedagogy.
The S*mall Schools' Notebooks*, divided into "Stories", "Tools" and "Studies", wishes to pay homage to this experience that is a good practice of research and innovation in schools.
We wish to thank to Mario Lodi's heirs to allow us to use and rethink to the *Working Library*. We also wish to thank to Grandi & Associati which collaborated to the editorial activity and publishing of this volume.

Research team - INDIRE Small Schools
http://piccolescuole.indire.it

Contents

1. The problem from which to start is the Canadian experience

The work model presented in this Notebook comes from studying a Quebec government initiative known as École Éloignée en Réseau (ÉÉR), whose goal is to safeguard small remote schools and ensure quality education even in the most isolated and difficult to reach places.

The initial problem was the isolation perceived by both teachers and students in these areas.

"For teachers, one of the main concerns in this context is the risk of professional isolation. Teachers find themselves having to plan and teach contents while taking alignment for all the years into account. For students, the most damaging consequences are the limited level of interaction which can adversely affect both learning and socialization: not only because the classrooms have a very few number of students enrolled and sometimes the whole school has a very narrow population, but also because these are mostly inclusive institutions, with small population attending the same comprehensive institute from nursery onwards, or because, in extreme cases, it is possible to find only one student per school year or for the entire education cycle".[1]

In addition, parents are asked to have their children travel long distances on a school bus to then find themselves with an extremely limited range of education services, with the result that they decide to leave the villages where they live to move near schools that offer a fuller range of human and material resources.

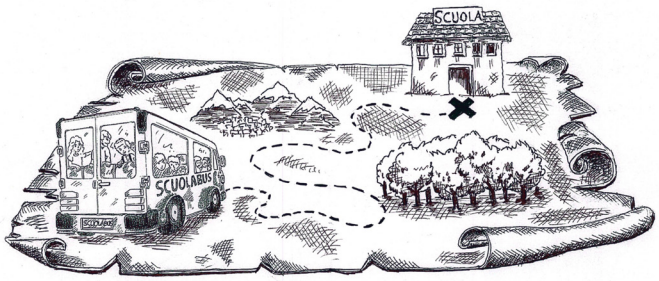
The Ministry of Education of the Republic of Quebec commissioned CEFRIO to find a solution to the problem of schools closing

[1] Allaire, S., Beaudoin, J., Breuleux, A., Hamel, C., Inchauspé, P., Laferrière, T., & Turcotte, S. (2006). L'école éloignée en réseau. *Rapport de recherche, phase II, CEFRIO, Québec. English summary retrieved from http://www. cefrio.qc.ca/media/uploader/SyntheseEERphase-2anglaisfinal.pdf*

Note

down in rural and isolated areas by exploiting the opportunities offered by new information and communication technologies (ICT).

École Éloignée en Réseau initially allowed teachers to design and manage experiences with colleagues from other small schools[2] using Villages Branchés[2], a tele-collaboration project which made it possible to overcome territorial and cultural boundaries due to geographical dispersion and guarantee the students access to quality education.



Long distances

The ÉÉR model interested INDIRE research activities because it could be used by Italian teachers in designing and realizing ONLINE LESSONS, experiences of classroom teaching shared not only between one or more classes, but also with individuals in the local community, the region, the province, the country at large, or even in other countries. With the Small Schools project, and even earlier with participation in the iTEC project (innovative Technologies for Engaging Classrooms)[3], INDIRE has long promoted joint teaching scenarios characterized by the daily use of ICT between two or more classes in school building belonging to the same institute, or in completely different schools. INDIRE's first intervention in such a case came in 2007 when, on Marettimo (the smallest of the Aegean islands) to answer the need of two students who risked being unable to continue their studies there because of a limited number of students, the use of ICT was tried out, linking the children via videoconferencing with other students located in schools across Italy[1].

[2] Lusignan, G. (2009). Expériences de soutien à l'accueil et à la francisation à la Commission scolaire de la Région-de-Sherbrooke. *Vie pédagogique, 152.*

2 https://www.craaq.qc.ca/documents/files/03_Roberge_Daniel.pdf

3 http://itec.eun.org

Note

The cases of Italian schools closing down because of an high teachers' turnover or a few number of children increasingly hit the headlines. This situation is compounded by teachers' difficulty in managing "multi-age classes" and their difficulty in convincing parents that quality education can be offered even in these circumstances.

In this kind of context, ONLINE LESSONS can become a work model to support the pedagogical use of distance-learning in the designing of lessons in specific subjects. It also helps in situations where a lack of teaching staff and an incomplete school timetable do not allow activities to be carried out normally.

This particular Notebook is the result of a study which INDIRE researchers carried out under the scientific guidance of CEFRIO in 2019. The tools and cases presented in the following pages are those which teachers in Quebec have been using since 2001, refined and shared within a community of practice[6] which currently includes more than 600 small Canadian schools.

The practices developed and adapted to the Italian context will allow sharing of past work and dissemination of the model, while opening a window of communication with the Canadian network.

1 The state boarding school of SS. SS. Annunziata (Poggio Imperiale), together with the comprehensive "E. Fermi" (Scandicci), both in Florence, linked up with the school of Marettimo using videoconferencing and shared IWBs www.youtube.com/watch?v=Br-Ss8BfE-M

2 In small schools, the small number of students means that they are grouped into "multi-age classes". Today, nearly 30,000 students work in multi-age classes and more than 500,000 students are enrolled in remote schools.

4 State school "S.S. Annunziata" (Poggio imperiale) and "E. Fermi" unified school district (Scandicci), both from Florence, connect with the school in Marettimo through videoconferencing and shared electronic board https://www.youtube.com/watch?v=Br-Ss8BfE-M

6 www.eer.qc.ca/reseau

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2. ONLINE LESSONS Configuration and pedagogical approach

The ONLINE LESSON model is based on a "hybrid setting", meaning a system which combines the social interactions that occur in the physical classroom with others combines social interactions that occur in a physical classroom with those that take place online using specific technological means and which cut across roles, spaces, and activities.

ONLINE LESSONS can assume different **forms**:

- teachers from the **same school** but in different **small school** buildings **work on a common learning** pathway with an interdisciplinary approach (e.g. Geography and Science), starting, for example, from questions on general themes or events linked to natural phenomena (e.g. the Hurricane Katrina disaster);
- teachers from **different branches** and belonging to **different schools meet up several times** to plan active learning activities in different disciplines to be carried out over shorter or longer periods; for example, daily reading activities to study Italian in videoconferencing (among children in primary I and V); complex problem-solving activities to develop scientific thinking (e.g. analysis of the impact of tsunamis on animal species among children of primary II and III);
- teachers from **different schools in the same region**, or in regions that are far apart, **plan a vertical learning** path between children in so-called "bridge years"[2] (e.g. between primary V and lower secondary) in which students might look at damage affecting farmland, for example (from the greenhouse effect or deforestation, etc.) and where lower secondary students take on the role of peer helpers for primary school students.

2 The term "bridge" means a year which permits the transition from one grade to another.

ONLINE LESSONS **model aim to design joint teaching practices in line** with the study courses of primary and lower secondary schools (i.e., languages, mathematics, science, technology, history, geography, citizenship education, art, etc.). The model becomes an integral part in the implementation of different forms of curricula in small schools, allowing them to overcome the inherent difficulties of multi-age classes and isolation thanks to situations enriched by the use of ICT.

Different school complexes involved in a common pathway

The pedagogical approach of ONLINE LESSONS can be summarized as follows:

1. ***the class as a learning community***. A setting that fosters collaboration and is characterized by a particular class dynamic which promotes respect, dialogue and mutual help. The pedagogical intentions, like the students' learning intentions, are formulated openly, and everyone, according to their specific aptitudes, helps

[3] Allaire, S., Beaudoin, J., Breuleux, A., Hamel, C., Inchauspé, P., Laferrière, T., & Turcotte, S. (2006). L'école éloignée en réseau. *Rapport de recherche, phase II, CEFRIO, Québec. English summary retrieved from http://www.cefrio.qc. a/media/uploader/SyntheseEERphase-2anglaisfinal.pdf*

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to achieve the desired learning objectives. Collective investigations are encouraged since they help to understand and solve problems which the teacher can then link to the course of studies.

2. ***problem-based teaching***. The study of authentic problems is at the heart of the pedagogical approach of ONLINE LESSONS, given that it involves students in real-life problems, having time for their creativity and allowing them to take a deeper look at the individual and at a collective understanding of an issue.

3. ***fostering dialogue using technology***. Involved in studying a real-life problem, students are first invited to ask questions and to express ideas about their own understanding of the problem and, later, to work together on improving the seemingly most promising ideas to better understand the problem, or even solve it. The class dialogue progresses as students analyse the various aspects of a question, the results of their research and the data collected. It is incremented by written contributions published on the forum and verbal exchanges in class or during videoconferencing. The learning practices are positioned along a continuum which goes from acquisition to participation. If, on the one hand, learning takes place or is measured by taking existing knowledge on board, on the other hand, it is the product of a social process.

Acquisition in a joint education experience occurs when teachers use pre-organized, online content (e.g. collections of activities accessible through online indexes or guides). The use of a videoconference setting to teach in two remote but open classes (e.g., doing a joint extended lesson with both classes simultaneously) corresponds precisely to the metaphor of acquisition.

Participation predominates in an investigative approach, which requires students of two classes, connected online for a specific learning experience, to express their ideas in a way that allows the whole community to identify problems and define initial concepts (theories), and then to gather and criticize information from authoritative sources and elaborate explanations, new problems, and solutions. This approach is supported by such tools as the Knowledge Forum (KF), a setting which allows the construction of a written report on any ramifications, and videoconferencing, which favours discourses presented by open classes as well as reasoned comparisons.

In ONLINE LESSONS, both teachers and students generally develop a "culture of learning" characterized by collaboration as opposed to competition.

Educational activities designed by two or more classes to favour a daily routine of joint ONLINE LESSONS must be consistent and reflect the recommendations of the National Guidelines for Primary and Secondary Courses so that they are also in line with the established curricula for each subject as well as the learning domains.

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2.1 Challenges for teachers

Teachers who take part in ONLINE LESSONS do so not only because they are working in a school located in a "remote" area – often on an island or in the mountains – but also because they are convinced that a school must ensure success and the same opportunities and challenges for all students.

This model allows teachers to open up to new experiences[5] and to work with colleagues in other small schools nearby or in similar but geographically remote territories, by networking classes and groups or levels of students and having the tools to plan and implement their own pedagogical projects[6].

"Experiences with ONLINE LESSONS have allowed us to amplify what we normally do in the classroom. The use of a technological framework for virtual collaboration has not only allowed us to increase our interest and motivation, we have also seen the impact on our students. They are able to go further with their reasoning and acquire skills of collaboration and cooperation useful for their personal growth. We have not completely changed our programme; we have merely added a new way of teaching, building, sharing, and learning".

(Julie Turcotte, teacher, Commission Scolaire des Rives-du-Saguenay)

In order to overcome relational isolation and develop a dialogue by letting both parties have their say, it is necessary to work with students from other classes and other schools connected online[7]. Moreover, from a social point of view, these teachers argue that students from remote schools do not feel so lost when they arrive at upper secondary school. "Since the schools are interconnected, students know one another and recognize one another thanks to the Web and are less isolated when they arrive at secondary school". The importance of socialization

[5] Laferrière, T., & Allaire, S. (2010). Développement professionnel d'enseignantes et d'enseignants: les passeurs de frontière qui façonnent l'École éloignée en réseau. *Éducation & Formation*, 293, 1-20.

[6] [7] [8] Lusignan, G. (2009). Expériences de soutien à l'accueil et à la francisation à la Commission scolair de la Région-de-Sherbrooke. *Vie pédagogique, 152.*

Note

of students in small schools can play a significant role in teachers' decisions to accept the challenges of ONLINE LESSONS.

2.2 Distinctive elements in organizing ONLINE LESSON experiences

JUMELAGE. IDENTIFYING THE PARTNER CLASS AND TEACHER

The choice of a partner class is a key step in building an ONLINE LESSON experience.

"Teachers benefit from a special space to establish a workshop with other teachers at neighbouring schools or in other areas who decide to take part in a joint teaching experience for a particular subject".

Jumelage recalls a work station where teachers can:

- add a project for which they need a partner, by including the title of the experiment, the relevant school level, the subject/s in question, the number of children who will be involved, the level (in case of a multi-age class), the duration, any tools other than the basic ones (Knowledge Forums and videoconferencing), contacts, and any presentation documents;
- take a look at proposals made by their peers, to see which ones are of most interest and then contact the teachers who intend to join the working group and start to define the team that will realize the educational pathway together.

[9] Allaire, S., Beaudoin, J., Breuleux, A., Hamel, C., Inchauspé, P., Laferrière, T., & Turcotte, S. (2006). L'école éloignée en réseau. *Rapport de recherche, phase II, CEFRIO, Québec. English summary retrieved from http://www.cefrio.qc.ca/media/uploader/SyntheseEERphase-2anglaisfinal.pdf*

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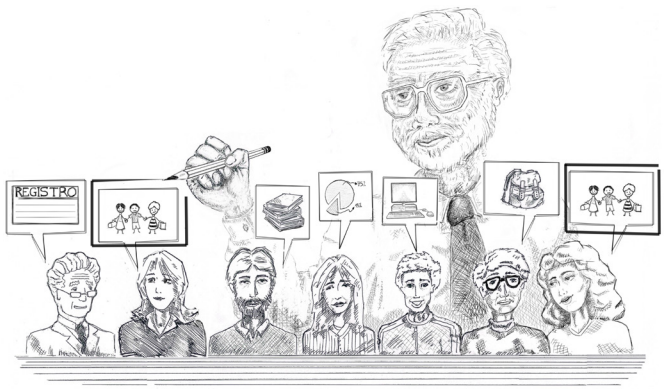

School twining activity with a local facilitator

A pedagogical counsellor or a "local facilitator" can propose a partnership between two or more teachers from different classes and school building. The local facilitator knows the educational value and teaching practices of a particular area/school and is frequently also a specialist in some active and innovative teaching methods,. and can become a key figure in the establishment of small school partnerships.

Jumelage (i.e. twinning) means a **partnership between different classes and branches committed** to designing a path that will be identical for all of them and will see them involved in the same activities with the classes managed as if they were one, adapting calendars, spaces and roles traditionally managed by the teacher and, in parallel, the activities that characterize their pedagogical planning.

Note

PEDAGOGICAL PLANNING

Planning a pathway based on joint learning experiences between classes and branches assumes that the partner teachers will pay attention to the following:

- building an educational plan together according to the subject;
- establishing a joint timetable for learning activities;
- determining the time slots for videoconferencing sessions and tasks to be performed in a classroom/lab. If students use a Knowledge Forum this should last for at least one hour when the work is being done in a laboratory;
- allowing some additional time slots, so as all the students can complete the activities presented and carried out in the classroom. When a classroom has few computer to work on, a joint lesson plan known as "Atelier Multitasking" is used. For example, if both a Knowledge Forum and videoconferencing are used, then these should be designed so that a students can take can take turns, whether individually or in small groups. It is preferable to specify in as much detail as possible the task of each of the partner teachers during a joint learning activity involving groups working online;
- identifying the learning objectives that students should achieve during each stage of the process and thinking about what activities can help to achieve them;
- planning sessions which make it possible to keep track of and provide feedback on the students' work.

"Planning is one of the key components of ONLINE LESSONS. To be successful, teachers need to find the time to meet up each week and demonstrate discipline and rigour while remaining flexible in their teaching. Each teacher involved therefore benefits from half a day each

Note

fortnight dedicated to planning. This modus operandi allows us all to breathe a little and to take a careful look at our tasks".

(Steve Dumont, teacher, Commission Scolaire du Fleuve-et-des-Lacs)

ONLINE LESSONS require the support of school commissions and regional and national education authorities to guarantee continuity of certain basic requirements which allow correct planning and the arrangement of timeframes and activities in line with the idea of open management and distributed leadership.

"It is necessary to identify moments for 'scholastic silence', 'educational planning' and 'educational action' that are feasible for all the teachers in order to facilitate planning of the activities, the accompaniment of a pedagogical consultant for the sessions online, design of the material, and monitoring of the activities done in the classroom and online. We also need a common vision of open management and distributed leadership among teachers at distant school building".

(Sonia Quirion, teacher, Commission Scolaire de la Beauce-Etchemin)

"It's important to ensure that the schedules of partner teachers allow them some 'planning time' which allows them to meet up via a weekly videoconference. These meetings can be used to plan activities or exchange views on the realization of joint lessons".

(Philippe Van Chesteing, Danièle Besner, Manon Bruneau, teachers, Commission Scolaire des Laurentides)

Some working conditions may require joint planning between teachers:

- scheduling a pedagogical day at the beginning of the school year devoted to the planning of annual joint education and to identification of the pedagogical advisor who will accompany the partner classes;

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- defining, at the same time as the pedagogical day, an agreement between the teachers at the school or branch that will be carrying out the ONLINE LESSONS, to support their adherence to the proposals of other schools or to put together their own and publicize it;
- defining a moment of 'experimental exemption' which allows teachers, once every fortnight, without the onus of teaching, to plan activities or make modifications to the joint education plans pieced together with the partner classes or schools to be proposed to the students;
- coordinating training sessions for teachers at technical and pedagogical levels on the ONLINE LESSON model;
- agreeing on follow-up meetings every 2 months between the teachers taking part in the joint education experience, the research groups and the school management;
- scheduling short (10- to 15-minute) and systematic (daily) meetings between partner teachers to coordinate the day-to-day planning of ONLINE LESSONS. These meetings can take place by videoconference, a few minutes before the start of the school day with the students.

JOINT EDUCATIONAL PLANNING

When teachers plan a learning situation, they agree on the role that each will play in the teaching situation with reference to three major stages of the learning process.

The following is an example of how teacher's roles are divided in various phases that characterize joint education.

Note

STEP 1 • PREPARATION

TEACHER A

- Presents the topic just to the class
- Develops an exploration map with the students
- Forms teams of two students to work on a topic
- Sets the hours to use the computer in the classroom and the laboratory timetable for the forum

TEACHER B

- Presents the topic to the class group
- Develops an exploration map with the students and discusses it
- Forms teams of two students to work on a topic
- Sets the hours to use the computer in the classroom and the laboratory timetable for the forum

STEP 2 • PREPARATION

TEACHER A

- Presents the initial question on the forum so that it is accessible to students in both classes and proposes keywords to begin
- Oversees the work of the students of his/her class
- Updates the progress of student assignments and sparks a discussion with students from two classes via videoconferencing on aspects of the problem that could be dealt with in their text

TEACHER B

- Presents the topic to the class group
- Develops an exploration map with the students and discusses it
- Forms teams of two students to work on a topic
- Sets the hours to use the computer in the classroom and the laboratory timetable for the forum

[10] (CEFRIO 2016) L'enseignement de l'anglais dans des classes multiâges de petites écoles en réseau. Disponibile: https://cefrio.qc.ca/media/1532/eer-etudes-de-cas-enseignement-anglais.pdf

Note

STEP 3 • OBJECTIFICATION AND INTEGRATION

TEACHER A

- Prepares a working document to help students objectify their learning
- Presents the document to the students of both classes during a videoconference

TEACHER B

- Conducts a videoconference discussion with students from both classes in order to help them formulate situations in which they can use the knowledge acquired by integrating it into real life

Annual planning of the activities to be carried out jointly with the partner teacher allows better time management and the construction of certain routines which make the extended classroom a transparent component for students of remote classes.

IDENTIFYING THE TYPES OF ACTIVITY

Depending on the stage or nature of the joint education experience provided by the partner teachers, the activity can be carried out individually, in teams (intra- or interclass), or in plenary (intra- or interclass).

An example is given of how students usually work in online and open classes.

"Joint education begins with a plenary session in which, using videoconferencing, teachers present their experiences to both classes. They announce that each class will work on the same theme, but that they will choose a different point of view from which to study it. Each class will work in the virtual space of the Knowledge Forum taking care to contribute to the perspective of the other. Each class will have a discussion to identify

Note

from which perspective to study the topic. This is followed by a period of individual research, then in groups of two on the Knowledge Forum. Each class then examines the progress made by the other group in order to build connections with the viewpoint from which it was decided to study the theme and then make present it to the class. Classes meet online, share tasks and viewpoints, and exchange some feedback to improve the process of investigating and building ideas. The other class joins in the exercise. Each continues the work in teams of two on the Knowledge Forum observations. Once they have finished, each team prepares to communicate part of the team process results to the other class. This presentation takes place during a videoconference at the end of the project".

Many forms of work are possible. The following tables describe different types of activities with respect to the students' objectives and ways of working.

"STUDENT - EXPERT"	These are "teacher students" tasked with helping teachers solve videoconferencing problems and register them to compile a "bank" of solutions.
PEER HELPERS OR MINI-TEACHERS	Students act as peer helpers. Older students act as "mini-teachers" for the younger ones to help them transition from primary to secondary school.
GUEST SPEAKERS	When working in remote teams, the teacher may be joined by an educational consultant or activity director who aids dialogue and interaction.
REMOTE JOINT TEACHING	Teachers assemble their classes, pool expertise, and share tasks and interventions according to a fixed schedule.
MENTORAT	External resource of the school or school board, which makes its experience available to both stakeholders and students.
LESSONS IN AN EXTENDED CLASS	A class welcomes older students from another school and, using videoconferencing, they all follow a lesson suited to their level while their teacher works with other students in the classroom.
AT-HOME LESSON	A student who cannot be physically present in the classroom and participates in all activities from home, in videoconferencing.
REMOTE TEAMWORK	Students from different classes or schools form a team online, to carry out an activity (e.g. a scientific experiment) or realize a project (e.g. remote programming to construct a machine).

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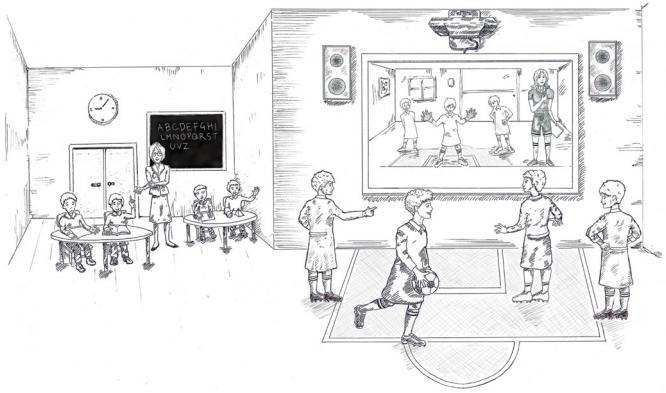

Types of group work

When students work in a remote team, three types of learning activities can be used to support the processes of revision, investigation and imagination.

REVISION

Students do revision to gain declarative and factual knowledge. Interaction between partners is based on a series of questions and answers.

INVESTIGATION

Investigative activities lead students to higher levels of reasoning and make us of both procedural and conditional knowledge.

Investigative activities can take a deeper look at a problem and find solutions.

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IMAGINATION

Imaginative activities inspire creativity. The realization in a team of a sculpture, a puppet, or the production of a literary text or comic book are good examples.

TECHNOLOGIES SUPPORTING ONLINE LESSONS

The example of **remote teams** recalls the use of two basic areas: videoconferencing and Knowledge Forums. The former supports the processes underlying remote teams, the latter supports the "questioning" (problem-based and question-based discussions) process underlying certain team processes.

The so-called **"questioning"** is a key element in a class which jointly develops knowledge in remote teams. Instead of providing a series of instructions, procedures and contents that are well designed right from the start, teachers working with remote teams first try to use the students' own investigative skills.

"[…] the pedagogical practices of innovative teachers give pride of place to the "question": questions asked to the student, questions asked by the student, questioning in general. The importance you give to the question and questions in your teaching reveals how you feel about the student: a fire to feed or a jug to fill". [11]

A *Knowledge Forum* is a cooperative setting in which it is possible to carry out a survey based on a structured discussion.

Three main ideas lie at the heart of this setting:

- knowledge is a social and socially distributed object;
- a group is a knowledge-building community;
- participants are "Knowledge Builders", active members of an investigative process.

Note

[11] Hamel, C., Allaire, S., & Turcotte, S. (2012). Just-in-Time Online Professional Development Activities for an Innovation in Small Rural Schools. Canadian Journal of Learning and Technology, 38(3), n3.

The space allows participants to build a discussion path by inserting key notes and responses (also called "Build-on") which generate a grouping of interlinked notes. The students can use scaffolds to support a particular process of discussing a problem they are investigating. There are several types of these, for example: **"I need to understand"** is normally used to report a problem that they want to investigate; **"My Theory"** is normally used to indicate that ideas have been processed; **"New Information"** reports useful information about the problem being discussed. These *scaffolds* can easily be customized.

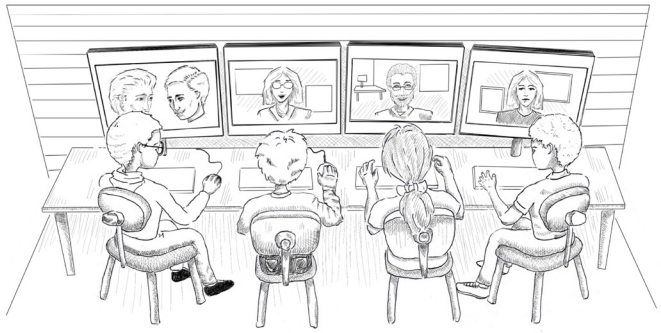
Knowledge Forum

Alongside the basic *Knowledge Forum* a *videoconferencing* setting is used which allows meetings and live presentations through the Internet in which it is possible to see and listen to a remote interlocutor and at the same time interact by sharing many kinds of tools (whiteboard, documents, chatlines…). This setting can manage:

- **events** - the system allows the scheduling and planning of an event by sending e-mail invitations;
- **discussion groups** – it is possible to discuss and /talk with other participants, also by organizing small groups or simply by sitting in different places around the table;

Note

- **documents** - allows the classes to share the desktop, apps or documents from their own computers, so that they can be used simultaneously and in real time;
- **event moderation** - conversations can be moderated and the level of moderation in a session can be adjusted.



Videoconference spaces

Note

Planning and implementation sheets

Teachers plan an ONLINE LESSON using educational programming on the theme of "democratic societies". The teachers fill a study diagram.

Teacher and class cycling

Primary and lower secondary. Classes IV, V or Classes I and II.

Title of the activity

The political organization of society in 1980

Description of the activity

Students are asked to identify the difference between two social systems. To do so, they use a file containing information, answer the starting question on the electronic forum, and exchange ideas with their partners.

General educational domain Civic

citizenship education

Learning domain

Geography, history and education to citizenship

Opening up to the diversity of societies and their territories

Components: Quebec society and non-democratic society circa 1980.

Ethics and religious culture

Components: the needs of living in society

Note

Essential knowledge

Differences between democratic and non-democratic societies

Pedagogical intentions

Letting students discover the meaning of the word "democracy" and triggering comparisons with undemocratic forms of society

Time required

5 hours over 2 or 3 weeks

Starting question or problem to solve

Can you explain to me what "democratic society" means?

Give examples and counter-examples.

Note

FROM PLANNING TO IMPLEMENTATION

Implementation hypothesis using Knowledge Forum and video-conferencing in 10 steps.

STAGES SETTINGS	PREPARATION	REALIZATION	INTEGRATION
IN THE CLASSROOM	**(1)** • Presentation of the initial question by the teacher. • Prompting group to find examples and counter-examples. • Constructing an exploration map.	**(4)** • Forming pairs/teams. • Distributing teaching material on political form of Quebec circa 1980. • Clarifying the task: in 1980 could Quebec be called a "democratic society"? **(6)** • Demonstrating understanding of Quebec's political organization in 1980. **(8)** • In a team the students are asked to trace the characteristics of the political organization of Quebec society circa 1980.	**(10)** • Objectifying the knowledge acquired through questioning. • Promoting the capacity to find links between characteristics of society and territorial development. • Reflecting on how to reinvest the knowledge acquired.
KNOWLEDGE FORUM	**(2)** • Individual answer to the question: "Can you define a democratic society?" Example and counter-example.	**(7)** Answers to the questions • What populations were immigrants in that period in Quebec? • For these populations, could Quebec call itself a democratic society?	
VIDEO CONFERENCE	**(3)** • A teacher launches a videoconference session to persuade students to discover the characteristics of democracy. • Students are prompted to formulate examples of equality, freedom and representa-tiveness.	**(5)** • In pairs, the students from the two classes meet to swap opinions on the answers given • They interpret, they take a position, and they justify it.	**(9)** • Both teachers announce the answers obtained to their own class

Note

Note

3. Learning English using ONLINE LESSONS. A case study.

In Quebec, language learning in multi-age classes has become a safe bet thanks to the ONLINE LESSON model. Multi-age classes are as common in Quebec as they are in Italy, and there are many classes with two, three and, more rarely, four levels[12]. Students are usually grouped by school year, but it can happen that different courses are grouped together (e.g. the final-year classes of a primary school with the first-year classes of a secondary school).

The procedures and challenges of multi-age class teaching have been documented regularly in recent years showing that this work is much more challenging for teachers[13] due to continuous pedagogical adaptation to satisfy students' needs. It does seem that professional development relies on teachers' willingness to discuss their practices with other colleagues who are having the their own experiences, thereby creating spaces for collaboration and launching collaborative educational planning work[14].

The case reported[15] here focuses on the practices of English teachers in multi-age classes, paying particular attention to the use of technologies to learn a second language in rural schools. This case study aims to illustrate the possible adaptations and to support the reflections associated with the implementation of the ONLINE LESSON model in small schools.[16]

The collaborative devices used are those envisaged by ONLINE LESSONS: a videoconferencing system (in the specific case of Quebec the software used was VIA) and an electronic forum (Knowledge Forum).

Note

[12] Laferrière, T., Hamel, C., Allaire, S., Turcotte, S., Breuleux, A., Beaudoin, J., & Gaudreault-Perron, J. (2011). L'École éloignée en réseau, un modèle. *Rapport-synthèse, octobre 2011.*

[13] Allaire, S., Hamel, C., Gaudreault-Perron, J., & Laferrière, T. (2012). L'apprentissage collaboratif en réseau au profit de l'intervention en classe multiâge. *Revue pour la recherche en éducation,* 2, 1-16.

[14] Couture, C., Monney, N., Thériault, P., Allaire, S., & Doucet, M. (2013). Enseigner en classe multiâge: besoins de développement professionnel d'enseignants du primaire. *Canadian Journal of Education/ Revue canadienne de l'éducation,* 36(3), 108-136.

[15] (CEFRIO 2016) L'enseignement de l'anglais dans des classes multiâges de petites écoles en réseau. Disponibile: https://cefrio.qc.ca/media/1532/eer-etudes-de-cas-enseignement-anglais.pdf

[16] Hamel, C., Allaire, S., & Turcotte, S. (2012). Activités de perfectionnement professionnel «juste-à-temps» pour l'innovation dans les petites écoles rurales. *Canadian Journal of Learning and Technology/La revue canadienne de l'apprentissage et de la technologie,* 38(3), 1-20.

Both tools were made available to the schools taking part and their English Teachers were trained on how to use both tools, and were given daily support of the TACT room both for planning activities and to solve any technical questions.

The classes involved mainly used videoconferencing settings to develop their ability to interact orally. Teachers also used videoconferencing for educational planning for a total of three working days. The work with the TACT room enabled them to master the tools and to envisage learning activities to be used with their students.

The activities carried by videoconferencing have been codified as follows:

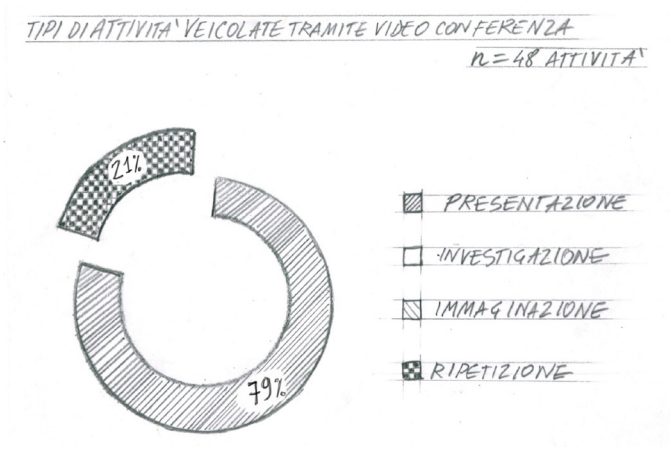
- *activities requiring a commitment to "presentation"* (students are required to present themselves or a product);
- *activities requiring a commitment to "investigation"* (students are required to question themselves about real problems);
- *activities requiring an "imaginative" commitment* (students are required to create something);
- *activities requiring a "revision" commitment* (students are required to memorize vocabulary or read a text in English).

The coding for the type of activity derives from the research reports of the original ÉÉR[17] method, however, the category "presentation" was added afterwards since this is a predominant activity in online sessions in another language. During the experience, the above activities were subdivided as follows.

Most of the activities (79%) required a "presentation" by students in groups between the two classes. The students presented themselves, their area, and some specific issues concerning their school. Revision activities (21%) required students to practice memorizing words or to use some practices that can help memorization. There were no investigative or imaginative activities. Different working formulas between remote multi-age classes emerged from the case.

Note

[17] Laferrière, T., Hamel, C., Allaire, S., Turcotte, S., Breuleux, A., Beaudoin, J., & Gaudreault-Perron, J. (2011). L'École éloignée en réseau, un modèle. *Rapport-synthèse, octobre 2011.*



Types of videoconference activities

FORMULA 1. MULTI-AGE ONLINE CLASSES III, IV AND V

This formula includes collaboration at a distance between two multi-age classes that are similar in composition and level. Students from small multi-age classes worked together to interact both orally and through written activities.

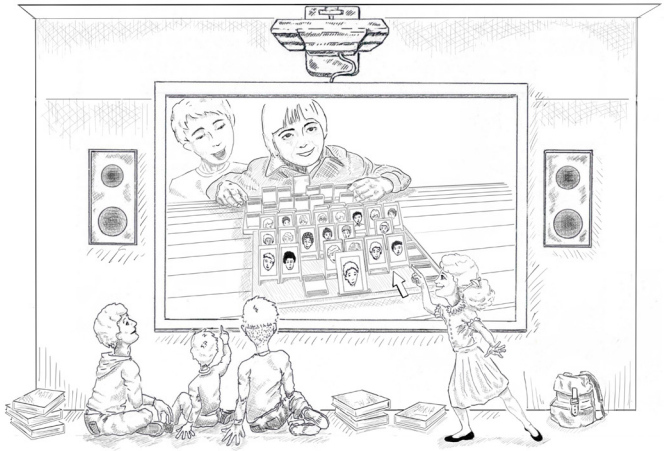
During the first part of the year, the aim was to support peer-to-peer presentation so that students from the two classes could get to know each other better online. These activities were conducted in groups of three or four students during lunch hours. During the second half of the school year, students were asked to present the results of some research: pupils in one class presented a destination (a country) to the other class in a team of two. In turn, the students of the other class presented an imaginary country, in groups of two, to the twinned class. Videoconferencing activities were held daily in groups. It was not possible for the two schools to meet at the same time, activities were completed during another time slot defined as "English snacks/lunches" planned by the teachers initiative.

Note

FORMULA 2. CONNECTION BETWEEN A MULTI-AGE CLASS AND A HOMOGENEOUS INTENSIVE ENGLISH CLASS

This formula involved students from multi-age classes in learning activities with students from a single intensive class. Every student of a multi-age class was involved in a project to create a poster in English presenting personal characteristics, hobbies, and preferences. Via videoconferencing, the students presented themselves to the to the intensive English students. Both classes had four workstations (computers) which allowed them to work in shifts. Consequently, four students at a time presented themselves to the intensive class and on the other side of the screen, four students of the intensive class took notes in English. Students in the intensive class were prompted to put together a game "Guess Who?" based on the presentations of the multi-age class students. Subsequently, the activity was carried out in a "large group" formula: a student from the intensive English class had to read the description of a student and the pupils of the multi-age class had to guess who this student was. This activity was carried out in a large group using an IWB and was then repeated in the second half of the year. This time, it was the students from the multi-age class who created the "Guess Who?" game starting from the presentation by the intensive class students. The benefit perceived by teachers is mainly the development of self-help and cooperation between students in both classes.

Note



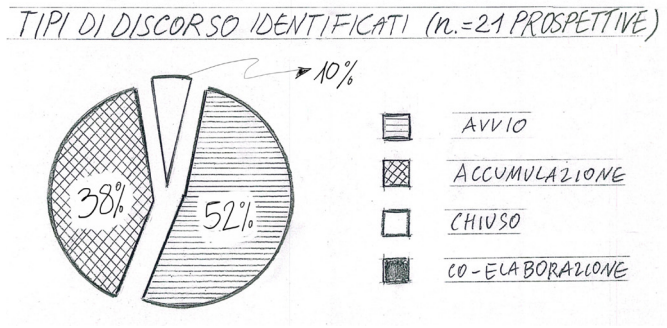
Types of videoconference activities

FORMULA 3. REMOTE LESSON BETWEEN EXPERT AND CLASS GROUP

Students had the opportunity to interact with a National League referee to better understand the importance of English in many employment sectors. After a quick presentation, the students had the opportunity to ask the referee specific questions about work and progress. A variant of this experience connects the small school with university experts or with high school language lessons.

In all 3 working formulas between classes the prevalent tool was the Knowledge Forum.

Note



Discourse type

Learning English in on line multi-age classes require a different nature of talk, and certain types of arguments can be identified through the Knowledge Forum device.

1. *Start-up discourse*
   From a socio-cognitive point of view, this is a discourse consisting of isolated contributions, focusing on the creation of a collective product (e.g. a collective story, word bank or fact bank). Contributions are often parallel, and the progression of the discourse is more about presenting results than about understanding a real-life problem. From a technical point of view this type of discourse requires little elaboration, and the youngsters' interventions are not so complex linked to one another, since they often deal with many different questions in the same space. In this case the Knowledge Forum can be used by the teacher to keep a check on the results rather than to understand a research process. Consequently, there is a limited exchange between the participants and the discourse tends to be linear.

Note

2. *Accumulation discourse*
   From a socio-cognitive point of view, this discourse is dominated by a large number of contributions which do not improve on the ideas presented, however. Even though the contributions are concise and aimed at supporting the relationship or sharing ways of working, The number of constructive notes for the speech is proportionally the greater. From a technical point of view, the collaborative space is characterized by notes with repetitive content, and there are not many notes "to relaunch the topic" in order to take a closer look at the discourse. Notes such as "My own theory" prevail, but there are no in-depth answers to allow the discourse to progress.
3. *Parallel or closed discourse*
   From a socio-cognitive point of view, this discourse consists of contributions in which everyone expresses his or her own idea, often without justification or explanation, without being improved on by anyone else. Where elaborations are made, these often offer no improvement on the ideas, but contain statements and counter-statements or formal comments addressed to the author and not to the idea. From a technical point of view, short and closed notes prevail which do not contribute to the construction of the discourse.
4. *Co-elaboration discourse*
   From a socio-cognitive point of view this is a progressive discourse around a particular theme or problem. The contributions present ideas and hypotheses which can aid negotiation and build a pathway of sense or identify a collective solution. From a technical point of view, this discourse is characterized by constructive notes with ramifications which take account of the progress of the discourse and the differing perspectives.

Note

4. Possible patterns of interaction in ONLINE LESSONS

With an ONLINE LESSON experience, we venture beyond the prevalent pattern of interaction usually observed in a class and called QAA: initial question asked by the teacher (Q), student answer (A) and analysis of the student's response by the teacher (A). In the context of a joint teaching experience, the interaction between the teacher and students can take on a more multi-dimensional form.

If teachers or students are not normally required to use collaboration tools to interact in the same class, the result is different when they are part of an extended classroom, made up of multi-age classes working together who are not in the same physical location.

Collaboration tools therefore represent a helpful, not to say essential support. If plotted along two axes (concerning what and who interacts with whom), at least four interaction zones emerge which can be described as follows:

Zone 1
- Content presented by teacher
- Weak interaction with students

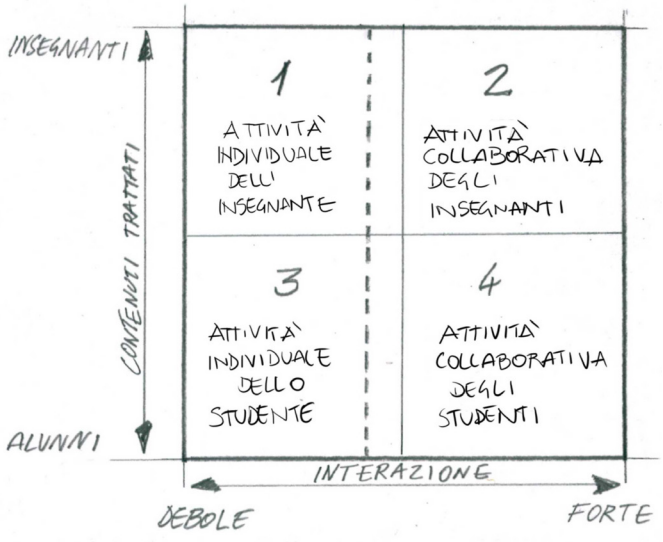
Zone 2
- Strong interaction between teachers to present content
- Average interaction between students

Zone 3
- Weak interaction between students
- Work on complex questions and start of joint elaboration of knowledge

Note

Zone 4

- Strong interaction between students
- Work on complex questions and joint elaboration of knowledge



Interaction areas in the model "Classes in the network"

The illustration shows a process which occurs when online classes have been involved in joint lesson sessions: Zone 1 is almost always present, but Zone 2 becomes more important as Zone 4 increases the use of technological tools as well as the actions linked to the learning contents.

Note

The following are the three most typical situations when classes work in a videoconferencing setting.

1. ***Two teachers teach jointly.*** Both use joint planning and share activities with students. The teacher who is not speaking during the synchronous session uses this time to assist his students during the activity (Zone 2).
2. ***Remote groups brainstorm.*** The conference session is projected on the classroom board and, in turn, the students speak and express their ideas to their classmates (Zone 4).
3. ***A student uses a web setting to work with a student from another class.*** Together, they engage in collaborative work, in the form of a project or collective investigation (Zone 4).

Note

5. Organizing the ONLINE LESSON space

The organization of a joint education pathway must favour both classroom and online work between several classes or schools.

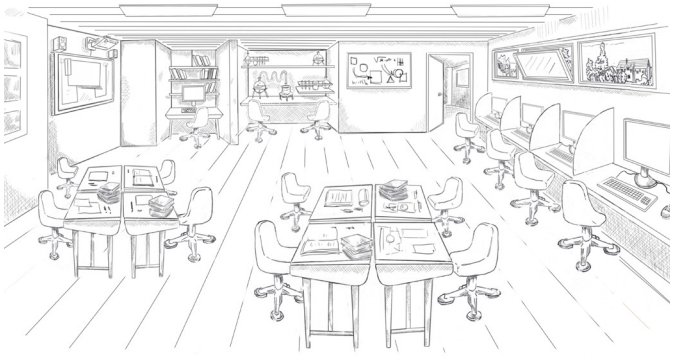
In the classroom, the layout of the workbenches and equipment must enable students to:

- work individually or in teams;
- access specific training material;
- consult their teacher, co-équipier or expert student;
- allow the teacher to see what is happening in the classroom.

The teacher must arrange:

- spaces for individual work separated from others by means of partitions;
- desks arranged in an island in the middle of the class to help groups of 2 to 5 students work together;
- dedicated spaces for teaching material and the class library, to produce artworks or conduct science and technology experiments;
- interactive workstations positioned along a dedicated wall;
- sufficient lighting to ensure good image quality during video-conferencing.

Note



Physical layout of the multi-age class of the 2nd and 3rd cycle

The following are some recommendations regarding the layout of the furniture to facilitate the work planned between classes taking part in a joint lesson online:

- Interactive Multimedia Whiteboard (IWB), or interactive touchscreen table, positioned so that all that students can see the contents and thus trigger group discussions;
- the presence of desks of different sizes to allow students to work individually and in teams of different ages;
- workstations located along a laboratory wall to maximize access for virtual or partner lessons;
- a computer close to the teacher so that it is ready for use, and the teacher can easily assist a student carrying out an activity online.

It is important that the work areas are many and can allow collaboration online for small groups from different branches or schools[8].

This is because even if the study courses in individual subjects are continuous (for example, primary and lower secondary schools) the

Note

end-of-course requirements by level are not the same, either in terms of essential knowledge or skills development. In addition, it is necessary to encourage processes of educational differentiation taking different learning rates and difficulties into account. This often leads to the choice of working in ATELIERS or, as in the above image, in CORNERS planned within the classroom setting to accommodate specific activities between students in shifts.

Teachers propose corrective or in-depth ateliers on different parts of the study courses which can become a programme of joint lessons. Students can choose from among the workshops on offer those that will allow them useful updates regarding, for example, basic subjects.

The choice of the atelier

Students can work simultaneously in class, as individuals, in pairs or in small groups online with students from other classes by organizing a joint calendar that includes the planned ateliers.

Note

"To get the students to work in the ateliers, I set aside two periods for a six-day atelier. I invite students to register for seminars in different subjects (English, Mathematics, Social Sciences, multidisciplinary…).

The students choose ateliers by adding a card with their name to the programming panel. The numbers entered under the names represent the number of workshops to be completed within the period indicated.

(Lise St-Pierre, teacher, Commission Scolaire du Fleuve-et-des-Lacs)

Videoconferencing can be planned to prepare for and boost certain activities, to return to an exercise already carried out during a Knowledge Forum, to clarify some aspects or assess what has been done to date to launch new challenges or make alterations.

Note

6. Repertoire and ateliers

The goal behind the ONLINE LESSON model that provides joint lessons through partner schools is to build a "repertoire" space[9] which allows teachers to share their experiences and swap notes on their practice also as regarding its implementation at school.

The results are therefore given in a setting where the whole community can do research in subjects or domains of knowledge and interest, "virtualizing" the target scholastic level and accessing the presentation cards.

REPERTORIO

CATEGORIE: SELEZ.

CERCA PER: TITOLO/DISCIPLINA

DISCIPLINE	TITOLO	DOMINIO	LIVELLO
ARTE	L'AUTORITRATTO	ARTI PLASTICHE	PLURICLASSE I-V
MUSICA			SECONDARIA 1°GRADO
INGLESE			PRIMARIA
SCIENZE			SECONDARIA 1°GRADO
AMBIENTE			PRIMARIA
CITTADINANZA			PLURICLASSE I-V
DANZA			SECONDARIA 1°GRADO
ITALIANO			PLURICLASSE I-V
MATEMATICA			PRIMARIA

The repertoire of practices

9 (CoP) ÉER (www.eer.qc.ca)

Note

The experiences should be arranged in such a way that they can be reported to the teachers using a standard structure[10] such as the one provided by our Canadian colleagues and divided into: explanation of the structure of the joint lesson, principles of collaboration inspired by (e.g. exploitation of the diversity of ideas, real-life problems, epistemic dialogues), pedagogical intentions, pedagogical use of KF and video-conferencing tools and relevant documents (e.g. pedagogical plans, activities, submissions).

In addition, at the end of their experience, the teachers will be able to build a Virtual Atelier (mainly video tutorials to illustrate the didactic experience), create "Stories" to be presented in "The Small School Notebooks" or even use webinars to show their experience in order to explain any replicability to colleagues, and accompanied by didactic, organizational and technological material.

10 https://www.eer.qc.ca/repertoire-partage/mon-village

Note

7. ONLINE LESSONS: what support teams are there?

- The ONLINE LESSON Technical Scientific Committee comprises the scientific officers of INDIRE and a representative of CEFRIO or ÉÉR as pedagogical advisers for the model, a representative of the technological infrastructures, representatives of the participating school commissions (i.e. the areas represented in Italy by the Regional School Office) which undertakes to help disseminate the ONLINE LESSON model.
- The TSC, in agreement with the RSU and the SCHOOLS can optionally identify some teachers who, after being trained, can form part of a multidisciplinary team (équipe multidisciplinaire or EMD) who will support the cascading of the work model regionally and nationally.
- The research-intervention team (équipe de recherche-intervention or ERI) is the group which prepares workshop ateliers for professional development and validation of experience for those teachers who wish to start using ONLINE LESSONS. A technological support team collaborates with the multidisciplinary team and the classroom.
- The distributed multidisciplinary team is an innovation-experienced accompanying team, made up of teachers who have already used the model and who collaborate with the RSU and "pedagogical advisers" on the ONLINE LESSON model. The members, who meet periodically via videoconference, coordinate the monitoring of the schools that have applied the model and circulate information about current experiences, also by selecting conditions such as inspiring cases, or by feeding the databases with planning and teaching/learning activities in progress. They promote meetings/twinning between schools or construct collective online projects and organize reflective analysis and practice sessions on relevant areas.
- The Technological Support Group is a team that works online and welcomes problems posed by teachers who also work online.
- The community of practice, CoPÉER (www.eer.qc.ca) is a reference point for the Small Schools Movement and permits a dialogue with the teachers of the Canadian multi-disciplinary team, to share experiences and implement their practice in Italian schools and classrooms.

Note

Note

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