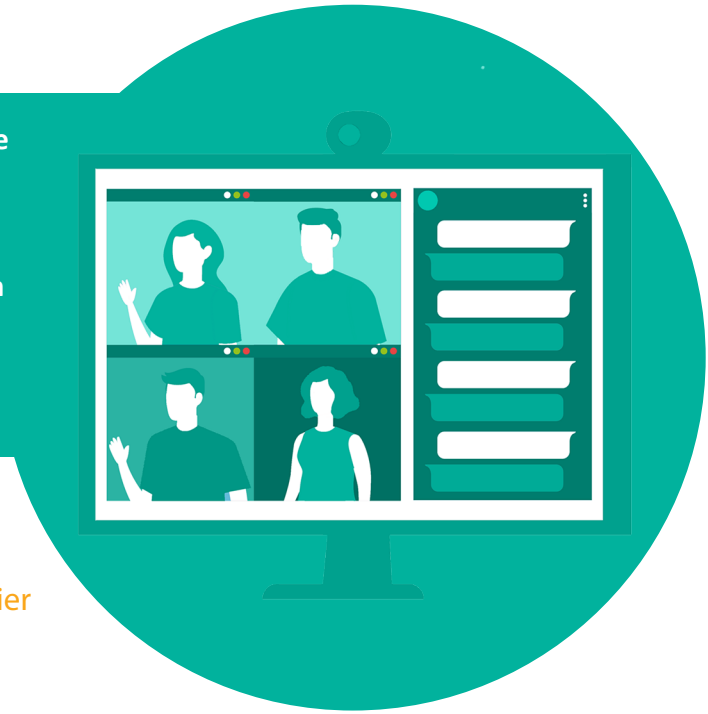
4 SCENARIOS FOR ONLINE TEACHING AND PROFESSIONAL DEVELOPMENT

CONCRETE EXAMPLES AND PRACTICAL ADVICE

- The interactive lecture
- Group work
- The flipped classroom
- Community building



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About this booklet

This booklet was specifically written to address issues arising upon the COVID-19 pandemic. The text was originally written in French, before being translated into English by the authors. It contains excerpts from the book entitled Enseigner dans le supérieur Méthodologie et Pédagogies Actives (Parmentier & Vicens, Dunod, 2019), upon agreement with the publisher, and made available under a CC BY-SA 4.0 license.

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Remote teaching/training...?

Almost overnight in Spring 2020, we all found ourselves under a stay-at-home order. We were asked to switch from on-site to remote teaching. We took the dive... Easier said than done!

Luckily, whether online or in class, the fundamental role of the teacher/instructor remains the same: s/he designs, initiates and facilitates activities that ensure cognitive engagement to promote learning. But because a virtual environment is unique and often intimidating, a careful organization is necessary to establish a climate that fosters learning. As certain goals are best achieved using certain tools, learning objectives motivate the choice of a particular technology.

This type of e-learning offers an opportunity to rethink one's own teaching, as learning happens both during and in-between sessions. Instead of asking ourselves "What should I do during my next video conference?", we ask: "When, how, and what should I teach to my students?". Teaching is rather continuous, through a series of synchronous and asynchronous activities, which are linked to one other and to the learning objectives.

The four scenarios presented in this book are based on principles and methods derived from experimental research in teaching and cognitive psychology. We chose their layout through our accumulated experience with online learning. Our aim is to provide the reader with suggestions that are reliable, because they are based on educational research, but also in line with the reality of the job as a teacher/trainer.

Table of contents

Anatomy of a scenario

This booklet presents **four scenarios about teaching/training**, each represented by a color: **green**, **blue**, **yellow** or **purple**.

Each scenario starts with a **fictional situation**, based nonetheless on actual experiences.

The key aspects of each scenario are dissected as follows:

- **General principle**
- **Why and how does it work?**
- **Your turn!**

Boxes immediately following each scenario detail specific practical implementations.

Each scenario ends with a brief list of **bibliographical references**. Some **further reading** is proposed at the end of the booklet.

Good luck!

The interactive lecture

It's 2:05 pm and her 200 students are now connected to the videoconference: Dominique shares her screen and starts her class. Before introducing the topic of the day, she planned two questions about the previous course. She displays her first MCQ. The students, now accustomed to it, log on to iQuiz to vote.

Less than a minute later, more than 180 students have voted. Dominique then announces that she will close the poll and she displays the results. 80% made the right choice, which is pretty good! She briefly explains the correct answer and then moves on to her second quiz, which goes well too. She then begins her lecture on the day's topic.

After speaking for 15 minutes, Dominique is done presenting the first concept . This is a good time to get her students to reflect a bit. Dominique has a question for that very purpose. A minute and a half later, the results of the vote are displayed: 40% correct answers. She was expecting it and this is the perfect moment to launch small group discussions. She informs her students before splitting them into groups of 4, thanks to the "Breakout rooms" option. Each group then has their own private video for discussion. Dominique drops in on some of the groups to listen to the conversations. She writes down ideas for the explanations she will later provide.

Another two minutes and Dominique takes over the whole class again. She asks everyone to vote individually. Now it's much better: 70% of the answers were correct, the discussions were productive! Dominique explains the solution and points out the reasoning errors she heard. She continues with another question, which reveals 80% correct answers. No need to debate, she concludes and resumes her lecture. She will start this process again within 20 minutes, after having presented the second concept.

General principle

Alternating between information transfer and learning through reflection and discussion.

Why and how does it work?

Research shows that learning happens only superficially when learners are asked to just listen, watch, read or copy a new piece of information. However, when they are explicitly asked to relate new information to what they already know, deep learning occurs, which learners will be able to harness in new situations.

Getting learners to vote on questions related to the concepts of a course or training, and possibly to have them debate among themselves, enhance their learning. The feedback also allows the teacher/trainer to readjust his or her lecture to target remaining issues or misconceptions.

To be effective, this method relies on good questions, an alignment between questions and learning objectives, as well as on quality moderation by the teacher/trainer. Debates work best when learners have had the opportunity to reflect individually on the question beforehand and when they are conducted in small groups (and not publicly in front of everyone).

Your turn!

Key points:

- Focus on the key points when you prepare your presentation.
- For each core concept, design (or choose, e.g., from a database) one or more multiple choice question(s) (Box 1), which will intersperse your lecture about this concept.
- Pause your presentation to ask learners to vote (Box 2).
- Depending on the outcome of the vote, decide whether you continue with peer instruction (Box 3).

If you still have time:

- At the beginning of your presentation, add a few multiple choice questions about the concept covered in the previous presentation.
- Import all the questions asked during the presentation into your learning management system (LMS) to allow learners to review them between classes.
- At the end of your presentation, include open-ended questions in your LMS that ask learners to reflect on the points they feel are most important and unclear (using for example a Minute Paper). Reading 30% of the answers is enough to get insights on how to adjust the preparation of the next interactive presentation.

Box 1 | Writing a good MCQ

A good multiple-choice question gives you valuable information about your learners' level of understanding. You are then better able to target their difficulties in your explanations. By making learners think about the concepts you are teaching, the quality of their learning will improve.

Make sure that your MCQ:

- Targets an **important aspect** of your course —only one at a time— which is usually hard for learners to grasp at first. If you can't think of a question to ask, present a rationale, even a simple one, and ask learners to choose the right conclusion from a set of potentially accurate conclusions.
- Matches at least one **learning objective**.
- Asks learners to apply or analyze, rather than to only memorize.
- Is real-world based.
- Is **jargon-free**.
- Suggests possible answers that are consistent in their wording: no answer stands out from the others, and each one gives the impression of having been written by learners.
- Incorporates **errors learners commonly make** as tempting false answers.
- Includes an assessment of the learners confidence level, to avoid uninterpretable 50/50 scores for binary multiple choice questions. For example: a) True, and I'm sure, b) True, but I'm not very sure, c) False, but I'm not very sure, and so on.
- Sometimes comprises several possible correct answers, or no correct answers at all. For example, offer defensible answer choices. This type of MCQ works well when the main objective is for learners to be able to argue for a particular position, based on presented concepts.
- Has been tested by past learners or colleagues.

Box 2 | Using a polling device

Many video conferencing tools (e.g., BigBlueButton and Zoom for businesses) give the opportunity to make participants vote during a presentation. In addition, universities also develop their own tools to that end, such as iQuiz and 2Reply in France. Having learners vote on a question related to lecture content allows them to actively **understand by processing** what is presented. About 80% of learners participate in such polls, which is far more than when they are asked questions "on the fly". So, how should you properly use these tools?

Pick the most suitable time for polling:

- At the beginning of a session: to arouse curiosity or to check prerequisites.
- During a session: to focus attention on a particular point or to apply a concept.
- At the end of a session : to evaluate what has been learned.

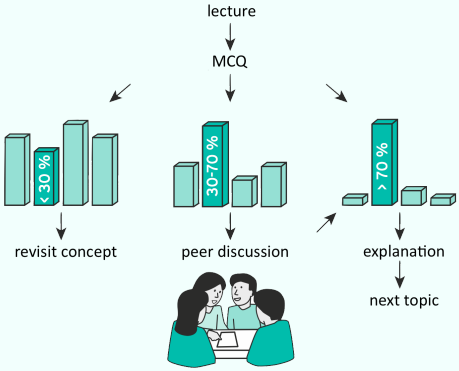
Manage the poll:

- Display the question without reading it, letting learners think about the question for themselves.
- Give enough time to answer, usually 1 to 2 minutes (if that seems too short, split your question in two).
- When over 75% of learners have voted, tell them the following: "You have 15 seconds left to vote".
- After 15 seconds, close the poll and display the histogram with their answers.
- Indicate which answer is correct, and why it is correct. Also explain why the others answers are not. Emphasize that choosing the right answer is not enough: what matters is the reasoning that leads to the correct answer!
- Ask if any learners would like additional explanations.

Box 3 | Peer instruction

Peer instruction consists in letting learners discuss in small groups after having individually chosen their answer to an MCQ, before having them vote again individually. 5 minutes are sufficient for discussion & votes.

The activity begins like an individual vote (see Sheet 2). But if the percentage of correct answers falls **between 30 and 70%**, invite learners to discuss their answers (see image below).



To manage the discussion:

- Divide the learners into groups of **3–4 persons** in private virtual rooms (Box 5).
- Ask learners to discuss their answer and to reach a consensus with the members of their room.
- Join a few rooms to check that your instructions are clear and to restart discussions if necessary.
- After 2 minutes of discussion, have learners come back to the whole class and ask them to vote again, whether or not they reached a consensus.
- Conclude by comparing the histograms from the two votes and by explaining the answers.

The first time you set up peer instruction, be very clear about **what is going to happen and what you expect** from the learners when they are in small groups. Transitioning the entire class into small groups is very surprising the first time.

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Group work

Now that all 30 learners are connected to the videoconference, the case study session can begin. Emily first opens her "readiness assurance test" on Blackboard: it consists in four MCQs to ensure that everyone is prepared for the session. Five minutes later, she gives a quick debrief.

She then presents the first case study, which is complex and requires several factors to be taken into account to propose recommendations for solving a problematic situation. She posts the detailed description on the Slack Channel of the day. Each learner reads it and then has 10 minutes to give a first individual response via Blackboard. A few learners ask for additional details via the chat. Emily responds to each one of them individually, or verbally to all of them when it is relevant.

After the 10 minutes have passed, Emily assigns the learners to groups of 4 in a dedicated videoconference breakout room. They have 20 minutes to agree and provide a group answer via Blackboard. She appoints one facilitator per group, who can move at leisure within other groups to ask for advice. Each group has a Slack channel to facilitate and to record the exchange of information.

While learners work in groups, Emily begins to look at some individual responses to get an idea of how the learners are approaching the problem. Then she drops in the different groups. Thanks to her tablet, she can annotate their shared screens. At the same time, she also takes the opportunity to directly contact some people who seem to be out of the group.

After 20 minutes, everyone joins the main room again. Emily then conducts an overall debriefing of about 10 minutes, bouncing back on what she just heard in the discussions within each group. She then moves on to the second case study of her session.

General principle

Dividing learners into small groups and structuring their work to enhance learning. Ensuring that everyone is involved and conducting regular whole-class wrap-ups.

Why and how does it work?

Working in small groups has a beneficial outcome when learners actively engage in discussions on the educational content. However, the "cognitive load" that follows the need to communicate and be coordinated can be in competition with learning. Therefore, having learners work in groups promotes learning if their instructor:

- **Facilitates interactions** by structuring them,
- Teaches **group work methods**,
- **Ensures the individual cognitive engagement** is tailored to the content being studied, by choosing the right level of complexity and by involving everyone in the discussions.

Your turn!

Preparation:

- Create activities that are **suitable for group work** (Box 4).
- Design a short « **preparatory quiz** » using your learning management system (Box 1). The goal is to ensure that learners have acquired a **minimum level** of knowledge to benefit from group work.
- Upload all the required documents on your learning platform (activities, answer sheets, etc).
- Determine where on the platform your learners will be expected to submit their individual answers.
- Specify **communication tools and channels** for group work (Box 5).

At the start of the session:

- Have your learners complete your quiz and then give **feedback**, especially on the least successful points.
- Explain how the following part of the session will **proceed**: how many exercises are planned, group work **organization**, used **softwares**, etc.

For each of the exercises :

- Briefly explain the **issue** and the **expected outcome** and make the documents available.
- Have learners prepare and submit an **individual contribution.** Its purpose is to promote discussion among learners by ensuring that each one **has had time to reflect** on the question.
- Divide the learners into groups of **3 or 4** (see Box 5), reminding them of the **allocated time** and the **desired outcome**.

- During group work, **move** through the virtual rooms to meet and guide all groups. In particular, be sensitive to **everyone's involvement**: **approach** participants who seem inactive to inquire where they are at and involve other group members to help them.
- At the end of the allotted time, have each group member submit their contribution and **gather everyone back** as a whole class.
- Give **feedback** based on what you have observed in the groups or **initiate a discussion** by explicitly asking some of the groups to share their answers —and their screens if necessary—, while inviting others to respond to or complement these responses.

Box 4 | Tips for promoting learning during group work

A group work that promotes learning proposes to collectively address a **complex** task which creates **interactions** between participants about the content. A good example is a decision making process that involves a complex set of parameters and whose answer is to be reported in a dedicated form.

A task that would solely consist in applying a simple procedure or in producing a lengthy piece of work leading to a separation of tasks would not be suitable.

There are several categories of questions to guide learners' thinking when working in a small group.

To train the ability to apply/analyze, choose for example:

- What would happen if ... ?
- How ... could be used to ...?
- What could be the causes of ... ?
- How are ... and ... similar/different?
- What is most effective and why?
- What are your conclusions about ...?
- How could things have happened, if ... ?

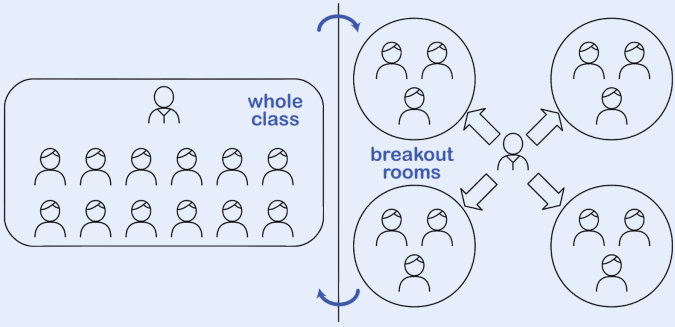
To train your learners to evaluate/create, pick from:

- What would be a better solution for ...?
- Do you agree with this proposal/this situation/this outcome? If yes/no, why?
- What is your assessment of the significance of ...?
- If ... , what would you choose and why?
- What is your opinion on ...?
- What would be your recommendation in relation to ...?
- Could you think of a way to switch from ... to ...?
- If you had to create a new ..., how would you go about it?
- How would you minimize/maximize ...?
- What ideas would justify ...?
- What is the function of ...?
- What would be a possible solution to ...?
- What is your prediction for ...?

Box 5 | Structuring group work

When teaching in person, you were probably used to having learners work in groups at some point during class. It seemed simple enough to gather around a table and discuss. How could you make the same happen online?

Many video conferencing tools offer a feature called "**Breakout Rooms**", which allows to split participants into virtual rooms, in a few clicks (see tutorial for Zoom and BigBlueButton). The participants then have a private video conference in which they can discuss, share their screens, documents, etc. The teacher can then move from room to room and switch back to "whole class" mode whenever he wants.



In case your video conferencing software does not offer this feature, each group can create their own video using any tool (jitsi, skype, ...) and complete a shared online document so they can share the link with the teacher. Other alternatives such as Discord or Rocket.chat would also allow you to organize private chat rooms and to navigate between them.

Learners appreciate being able **to jump among groups** to discuss with them when they are stuck. Therefore, allow your learners (or one representative per group) to navigate freely, for example by assigning them to be co-facilitators of the meeting in your video conferencing software.

The simultaneous use of a chat software (Slack, Rocket.chat, Discord) allows to keep track of discussions and to exchange messages to everyone while they are in breakout rooms.

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The flipped classroom

Alexandra is preparing her video conference course for tomorrow. Since her class last week, her 180 students have been working well: all five videos of the week have been viewed and students have answered all the questions that accompanied them. Some students even answered questions in her place on the forum.

Alexandra reviews the results. Out of the 15 multiple choice questions, students failed three: less than 30% of correct answers! Since the students now know the answers and have read the explanations, she creates variations by changing how to apply the concept, which she will use to start her course.

Alexandra also takes a look at some of the answers to the open-ended questions. An error of reasoning repeatedly occurs in one of the questions, and the students obviously don't know how to criticize a result! So she creates a few slides to re-explain the correct reasoning: she copies one of the incorrect answers, then another partially correct answer, and finally an exact answer. She will simply comment on the answers during the videoconferencing. However, in order to train the students to have a correct reasoning, she will give them two multiple choice questions, making sure to include the incorrect reasoning among the possible wrong answers.

Regarding results analysis, Alexandra provides some rules of thumbs along with examples of correct interpretations. Then she plans two application exercises that she will set up with the think-pair-share technique. This will take her students at least an hour to complete. The second hour of her class is "freed up" to compensate for the time spent by the students working before the synchronous session. Some will begin the activities for the following week, others will take advantage of this time to work on another subject.

General principle

The idea is to aptly combine activities to be carried out between sessions during which each learner works at his or her own pace, and synchronous activities during which the instructor gives feedback on errors made by learners and offers new activities to revisit or deepen certain concepts.

This process is supported by the analysis of the learners' work that the instructor carries out during the “in-between times”, i.e. between the end of the asynchronous activities and the beginning of the synchronous activities.

Why and how does it work?

Asynchronous online activities allow learners to work at their own pace. Multiple choice questions, open-ended questions and other activities accompanying the videos and materials engage learners in an active listening/reading experience that goes beyond merely being exposed to information.

Because the results of asynchronous activities have been analyzed in advance, the synchronous session can be adapted to the learners' level and views. Comments on the work done are short and focused, and corrective or in-depth exercises are proposed.

Videos should be designed to facilitate the comprehension of their content and should be associated with activities that address it. Learning will improve if activities go beyond simple recalls and require instead a genuine understanding. Adding immediate feedback, both corrective and explanatory, further enhances the overall effectiveness of this approach.

Videoconferencing adds value if learners are not just exposed to information that duplicates the material shared beforehand, or to a

simple Q&A session. Providing activities targeted at the problematic topics as identified by the instructor is optimal.

Your turn!

Preparing asynchronous work:

- Prepare or link to **videos or materials** to be used as **resources** (Box 6).
- Prepare **activities to be carried out following each resource**: answering multiple choice questions (Box 1) or open-ended questions (see examples in Box 4), manipulating software, etc. Since the main objective is to foster understanding, add **explanations** that will appear once each learner has answered, and if possible, allow for **multiple attempts**.
- **Organize** your videos and activities in your LMS (Box 7).
- **Communicate** to your learners **which tasks need to be done**. Set the **deadline** based on your availability and the time you need **to analyze the answers**.

Managing online activities:

- **Answer** requests for clarification on the forums.
- **Remind students of deadlines**.
- **Monitor student progress** throughout your course and adjust your expectations.

Right before the synchronous session:

- **Analyze the results of the activities**: record MCQs with a low rate of correct answers and read all or part of the answers to open-ended questions. For these, **select a few typical answers**, including incorrect answers, partially correct answers, and correct answers.

- For each typical mistake, create additional **explanatory** slides and **follow-up activities**: new MCQs and open-ended questions. For instance, "Which of these explanations is correct/the most general?" (MCQ) or "How can this answer be completed/reformulated more precisely to make it correct?" (open-ended question).
- If few errors were made, plan some follow-up activities to **deepen understanding**.

Synchronous Session:

- Lead your meeting by **reviewing the different activities** carried out during the asynchronous work: present the typical errors, your additional explanations and then have the participants answer the multiple choice questions (Box 2 and Box 3) and the open-ended questions (Scenario 2).
- **Summarize** the work done during the session and **outline** the work to be done for the following week.

Should learners' answers be recorded?

Depending on your learners' profile, it may be necessary to score participation in asynchronous activities to motivate their achievement. In this case, evaluate each of the answers (or alternate if you have a large number of learners) on the basis of **effort only**, and not on the accuracy of the answers. Including these assessments for **5-10%** of the overall grade generally ensures that 80-90% of learners contribute.

Variation:

Asynchronous activities can be performed in a synchronous meeting, which would represent a special case of scenario 2.

Box 6 | Designing memorable videos

Your course materials are the primary resources for learners. Since the brain can only manipulate between 4–7 informations simultaneously, help learners **pay attention to the right elements** and limit their number. They will therefore be better able to **organize them mentally** in a coherent way, in order to relate them to their own knowledge.

The two main principles for preparing material are to **direct attention** and to **limit complexity**.

In order to direct the attention of your learners:

- **Highlight** important elements **as they are discussed**: use bold words or graphic elements to focus attention (e.g., circle or mark with an arrow).
- **Eliminate any unnecessary elements** that may disrupt the main message: unnecessary text, unrelated images or music, and even your own image if other graphic elements are presented.

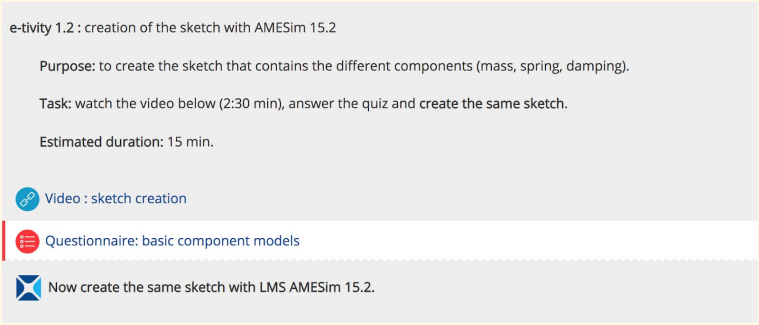
In order to limit the complexity of your videos:

- Display the elements **one step at a time** (text, graphics, illustrations or equations). The content of a slide should build up as you go along, in relation to your speech.
- Your **text should be short** and, in an illustration, placed **next to** the designated element.
- Keep your videos **short**. The optimal length is very dependent on the content and the learners. However, analysis of learner behavior in MOOCs shows that the average viewing time of a video does not exceed **6 minutes**. Short videos make it also easier to search for and navigate among specific informations.

A simple **narrated slideshow** works very well. PowerPoint or any videoconferencing software (Zoom, BigBlueButton, etc.) make this user-friendly.

Box 7 | Designing online activities

To facilitate the work of your learners on an online platform (Moodle, Canvas, etc.), and to ensure their commitment, the content gains in being organized as ***e-tivities***, i.e. **activities to be carried out online** (see example below).



To design a good *e-tivity*:

- **Number** each e-tivity for **unique identification** and future reference.
- Specify its **goal** by answering the question: « What is the benefit to your learners from doing this e-tivity? ».
- Write the **task** (action) by answering the question: « What do you specifically expect learners to do? ». Arrange course videos and documents as necessary resources to complete e-tivities such as multiple choice questions, forum discussions, etc.
- **Clearly indicate** what you want learners to do ("Answer the multiple choice question below.", "Post at least 1 message in the forum and comment on 2 others.").
- Give an estimate of the **time required** to complete the e-tivity. For instance, for five MCQs to be answered in combination with watching a 6-minute video, allow 15 minutes.
- Specify the **deadline** if there is one.
- Provide **a forum for each *e-tivity*** (or each group of e-tivities), so that learners can exchange ideas on the topic, but also for requesting technical assistance, clarifying instructions or explanations, and for mutual help between learners.

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Community building

When his online course officially starts, but well before the first synchronous session, Tom invites his 36 participants to connect to their LMS. Their task is to do several e-tivities in order to learn how to use the tools employed in his course: video conferencing software, synchronous and asynchronous chat and collaborative online documents. Tom provides the rules for the expected use of these technologies, how learners can contact him, and the way he will respond to them.

Tom generates three discussion channels in the chat. The first one is used to remind participants of the current e-tivities and the upcoming synchronous session. The second one is for feedback and questions on problem areas (technical questions and FAQs), and the third channel allows participants to exchange with each other on topics of their choice, as they would do during breaks. He creates an e-tivity to invite participants to introduce themselves professionally in the third channel, asking them also to mention one of their hobbies.

After two days, Tom notices that all three channels are heavily used, with almost 90% of registrants participating. He reports this to the participants, congratulating them for their involvement and for the quality of their questions and discussions. He also introduces himself on the third channel. He also sometimes responds directly to a learner or writes a collective response to recurring concerns. He personally reaches out by email to those who did not participate.

In the first synchronous session, Tom explains that e-tivities are built to offer everyone opportunities to exchange, share, and build on each other's ideas. To further promote team-building, Tom creates a virtual escape room e-tivity, which takes place right after this first session.

General principle

Supporting learners in using information and communication technologies to build a learning community. Learners are more involved when they know exactly what they have to do, with whom, how to do it, and where they have to do it.

Why and how does it work?

Strategies that develop a sense of belonging to a community and improve digital skills help to increase learners' autonomy and to limit drop outs. Good social relationships do not guarantee learning, but only in an environment of mutual trust will learners feel comfortable to share in a productive way.

The activities structured as *e-tivities* (see Box 7) make learners interact with one another, while helping them to discover the technological tools they will have to use in the course. As the training goes on, *e-tivities* will involve more collaborative work around the core concepts of the teaching/training.

Your turn!

Key points:

- Expect learners to have **uneven** skill levels with online technologies. Therefore, carefully present any practical information necessary for connecting to the platform or for installing and operating different software you will want them to use in your course. Make this information clearly apparent on your LMS and/or other platforms you use. Provide a communication channel for technical support (chat, forum, email, phone).
- Select the most **appropriate tools** (among those you are proficient in) to reach the learning objectives. Emphasize the importance of being familiar with these tools to efficiently work online.
- **Structure your *e-tivities*** (see Box 7) to foster the mastery of **technological tools** and/or to develop **good social relationships** (see Box 8).
- Set up appropriate strategies to avoid being overwhelmed by frequent learner feedback. Rather than responding to each post, learn how to **weave and summarize** (see Box 9).

If you still have time:

- Take advantage of the **time between sessions** to continue building good social relationships. At the official start of the course/training, offer *e-tivities* for participants to get to know one another. During the following synchronous session, refer to some aspects from these discussions.
- To make it easier for learners to see the benefits of distance learning, involve **past learners** who will share their satisfaction with developing their ability to work online in a group and offer advice based on their experiences.

- Propose **collaborative *e-tivities*** that take advantage of the Internet, such as large-scale studies or research projects that can only be carried out by several people. Consider activities that involve consulting a set of documents before analyzing and discussing them to formulate a new hypothesis or stimulate a debate.

Box 8 | Creating an effective learning environment

Properly using technology is essential to create a welcoming environment, in which everyone feels comfortable to participate in course discussions. See your learners as unique individuals, with their own personalities!

In order to promote online collaborative work, follow these steps:

- Offer *e-tivities* to allow learners to get to know each other and build **social relationships**. Good small group icebreakers are for example: "Introduce yourself by pointing out something unusual that characterizes you", or "Introduce yourself to each other in pairs and then introduce your partner to the rest of the group". This second option also allows you to test the breakout room feature (see Box 5) in an informal atmosphere. In a large group, divide the learners into four and ask them to introduce themselves quickly and share their expectations for the training. Then, conduct a whole class debriefing.
- Have your learners **explore the functionalities of your LMS** through simple *e-tivities* ("Open this folder to download this document/to watch this video and answer this question"). Take into account that **not everyone is equally at ease with the digital world**.
- **Moderate discussions** between learners regularly and constructively to set the right tone. Summarize, consolidate or reopen discussions (see Box 9).
- **Actively monitor the exchanges**: no one should monopolize or avoid the discussions. Offer **individual support** to less active learners. Frequently ask for feedback on your course (about content and presentation) and show how you take it into account.
- Depending on the number of learners, create groups of 15-25 persons for chat and forum discussions in order to foster **a sense of belonging to a community**.
- In your conversations and feedback, call learners by their first or last name —according to your preferences and the culture of your institution— and let learners know this choice.
- **Demonstrate empathy** and motivation to see your learners succeed! Compliment (publicly and privately) the most active online learners or groups of learners and/or give points (percentage of final grade) for high quality contributions.

Box 9 | Moderating online discussions

For written *e-tivities* involving forums, where students interact, you play the role of an "e-moderator". Online moderating consists in **weaving** during the exchanges and **summarizing** the learners' contributions to wrap up discussions.

What is "weaving" about?

- **Explicitly connect** the posts from different student with one another and with the course concepts learners may not have had identified. Through guiding discussions, you help learners stay focused and get back on track if they needed to. Moderating will encourage learners to trust you as an instructor.
- **Highlight common themes** that emerge from several messages.
- **Quote excerpts verbatim** from your learners, by associating their names, in order to encourage them to interact, which will help you boost socialization.
- Finish with a question that will **call for another dialogue**, thereby "passing the mic" back to learners.

Some examples of weaving:

- "It seems to me that @Hermione ("Your thermometer does not always measure the same temperature") and @Ron ("Once I obtained 11.8°C, and right after that 12.7!") both refer to the notion of measurement uncertainty. @All: Would you be able to give other concrete examples about this notion from your day-to-day life? What consequences does this notion have on our lives? »
- "@Luke and @Leia: Are you both working on the same topic? Do you observe the same pitfalls in applying the theory?"

Knowing how to weave takes time, but is really worth it to promote learning!

How to write good summaries?

- Encourage learners by **recognizing their effort** and by commenting on the **quality of their posts**.
- Gather all contributions in **a single message**.
- Emphasize where learners **agree** and where they **disagree**.
- Add your own constructive comments.
- Pick a title that stands out.
- Close the discussion and **mark the end** of the e-tivity.

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Outlook

With this booklet, our concern was to address the most immediate needs of teachers and professional developers, while uncertainties remain about this ever-changing 2020-21 academic year.

To that end, we highlighted major findings from educational research. We did not therefore present our own ideas or personal views on "what works", but instead what is currently the consensus in scientific and education research. In addition, we regularly put these different scenarios and tools into practice in our own courses and workshops.

For further principles and examples, we invite interested readers to turn to the excellent resources available at CWSEI, Brown University and Tomorrow's Professor Postings. For those of you able to read French, we published in 2019 a book with Dunod[1] which covers the key aspects of academic interactive teaching in 38 practical tools.

In order to deepen your knowledge about teaching, you will find below our favourite references on general topics such as the impact of active learning and the main principles of cognitive psychology research applied to teaching.

Happy reading!

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Quentin Vicens

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[1] J.-F. Parmentier & Q. Vicens, *Enseigner dans le supérieur - Méthodologie et pédagogies actives*, [Teaching in higher education - Strategies for active learning], Dunod, Paris, France, 2019.

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