Graduate School of Management
St. Petersburg University

Design Framework for Interactive Classes:

Hands-On Experience of the 2022 Summer School Participants

Teaching Excellence Lab at the Graduate School of Management, St. Petersburg University

St. Petersburg
2022

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Design Framework for Interactive Classes: Proof of Concept

In Summer 2022 we presented our approach to designing an interactive class: the instructional design principles translated into a step-by-step algorithm that helps design engaging and productive classes for a variety of subjects and student groups with the use of technological solutions.

It is important for us to offer **our colleagues usable and useful tools.** That is why we constantly test and upgrade our approach within GSOM SPbU, and welcome contributions by the teaching community from outside our Business School.

One of such proofs of concept has been our 2022 Summer School on Designing Today's Teaching Methods. It featured **95 participants from universities and corporate universities from across Russia and CIS,** eager to develop new approaches to designing learning activities and technologies.

The Summer School enabled its participants to:

- get a general understanding of the tasks that higher education and education as a whole are facing today
- share experience of working with students and designing various learning formats;
- get an insight into the specifics of hybrid learning, and learn about the development of VR and which online tools and services can be used in class ;
- **study the design framework for interactive classes from start to finish, design their own scenarios and hold sample classes.**

We are very grateful to all the Summer School participants who trusted us and tested our design approach. Throughout the Summer School we were actively collecting feedback, analyzing everything that was going on in terms of practice, and registering challenges and questions that the participants came upon.

Built on our colleagues' feedback and involvement, this report includes observations and recommendations that can be of help should you decide to use our design approach.

To illustrate, we will provide excerpts of the **real scenarios designed** during the Summer School and the examples based on the participants' experience. This will help demonstrate the transition from theory to practice.

Should you have any questions or comments upon reading this report, do not hesitate to share them with us!

Alexandra Dmitrieva
Head of Methodology, GSOM SPbU Teaching Excellence Lab

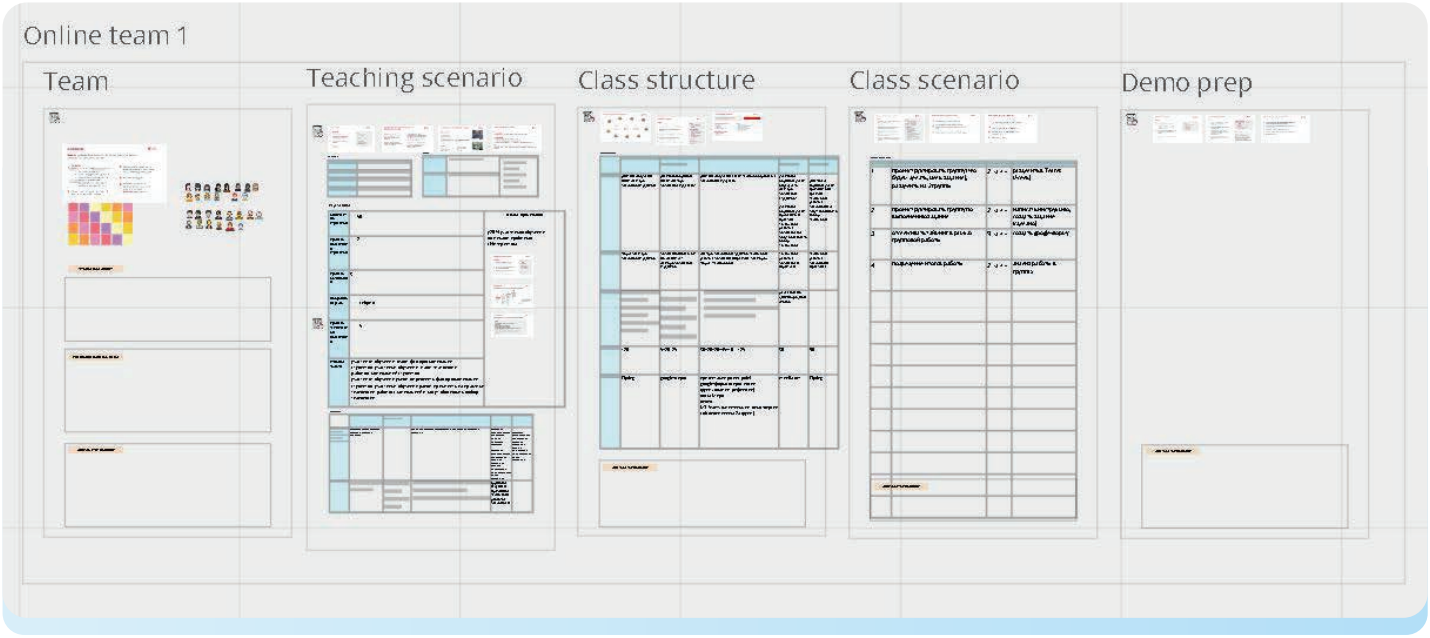
Working on the Interactive Class Design Framework

We offered the Summer School participants to work in mixed teams and design an interactive class on one of the set topics:

- Motivating students who do not understand the purpose of being in the class ;
- Managing online student involvement;
- Managing student involvement during long offline classes.

The topics were selected to make sure that all participants were familiar with the content, but also so that they would concentrate more on the design steps themselves rather than their expertise.

For this activity we used a template **uploaded to Miro.**



A total of about 70 people participated in designing an interactive class. They were divided into **ten** teams, **two** of which consisted of online Summer School participants and the other eight were offline groups.

The groups were accompanied by trackers, our experienced teachers, who were facilitating group work and were there to answer questions concerning design methods.

From our experience, as someone who possesses expertise in their field, an instructor often designs classes based on what they wish to tell, what topics they want to cover and in what way. If you are a teacher and would like to master a methodological framework or if you are a methodologist and your task is to help the faculty to start using it, make sure to go beyond the "subject" level.

Before working on the content of a specific course or class, you should try applying the same approach to some non-related topics so as not to be limited to the content or expertise.

Each group was given the **input data:** the subject, the topic of the class, a very general description of the group they were designing the class for, and the duration of the class.

Example 1

Input data

Subject	The Basics of Modern Pedagogy
Topic of the class	Motivating students who do not understand why they are here
Students (audience)	Instructors of continuing professional development programs
Duration	180 minutes (two periods)

Example 2

Input data

Subject	The Basics of Modern Pedagogy
Topic of the class	Managing student involvement during long offline classes
Students (audience)	Bachelor program instructors
Duration	180 minutes (two periods)

Example 3

Input data

Subject	The Basics of Modern Pedagogy
Topic of the class	Managing online student involvement
Students (audience)	Beginning university faculty Young instructors, graduates of teacher training departments
Duration	180 minutes (two periods)

While working out teaching scenarios, the participants also came up with the following **variables** for their colleagues:

- Number of students in the group;
- Level of proficiency in the subject (initial preparation level) on a scale of 0 to 5;
- Technical competence on a scale of 0 to 5;
- Motivation level on a scale of 0 to 5;
- **Special considerations – additional comments on the group's specifics.**

We added the last point while getting ready for the Summer School, and we would recommend specifying all the information about the group that can have an impact on designing and holding classes.

Our colleagues left the following comments:

- 20% of learners experience problems with the Internet connection,
- the learners hold a Doctorate degree,
- the learners have a 900-hour academic workload,
- the learners have unrealistic expectations of the results,
- the group of international learners pursue a work-study program,
- the learners are demotivated.

Variables

Number of students	20	**Special considerations** problems with the Internet connection
Student preparation level	different levels, 0-5	
Motivation level	different levels, 0-5	
Technical competence среда		
Technical competence	3/5	
Learning tasks	Goal: the learners can keep online student involvement at 80% or higher 1. The learners know the types of student involvement 2. The learners can identify the types of student involvement 3. The learners know the techniques for managing student involvement 4. The learners apply the techniques for managing student involvement in a controlled environment (case study) The learners apply the techniques for managing student involvement in a new environment	

Based on the input data, each group completed the design and prepared a 15-minute fragment of their class to be tried on real audience featuring the School participants, in order to see the results of the design being put to practice.

The classes were designed for three types of environment:

- Offline — interactive offline classes for offline students with the use of interactive digital tools
- Online — synchronous classes for online students with the use of video conferencing.
- Hybrid — synchronous learning featuring online and offline students in special hybrid classrooms, as well as a possibility of asynchronous teaching of online students.

The groups get their **type of environment** only after they had built **a high-level class structure** and decided what they wished to do in terms of **methodology.** This choice was intentional: our goal was to help the participants to focus on the tasks they would like to solve during their class rather than on the technology on hand.

From our experience, class design tends to be driven by technology. For instance, if we have certain solutions for interactive polling, why not build our class around them? So as not to let technology override learning objectives, you should determine which solutions and tools to use only after you have built your class structure around learning objectives. Then you will be able to decide how to realize your ideas with the resources you have.

If your design is driven by technology, it might turn out that with all the effort, time and money invested in it, the solution is not used in teaching after all.

Later on in the White Paper we will walk you through **every design stage** and highlight the challenges that the participants faced, along with our observations and advice. The examples used below are either taken from the actual work by the Summer School participants or are based on it.

Design of Interactive Classes: Experience and Advice

1. Setting an authentic learning outcome
2. Setting a learning objective
3. Specifying the parameters
4. Setting learning tasks
5. Developing metrics for assessing learning quality
6. Arranging learning tasks and content in line with the class structure, developing mechanics, and selecting tools
7. Assembling the scenario

01 Setting an authentic learning outcome

The first step in class design is setting an **authentic learning outcome** for a class or course.

An authentic learning outcome —

is a real-world task that our teaching can help to solve.

It may look like this: a professional at work/in the real world accomplishes certain tasks/achieves certain goals.

We set an authentic learning outcome to identify the knowledge and skills that will be useful to students, and to have ready answers to the question "Why do we need to learn/do this?". If students understand why, their involvement in learning improves.

It is not always easy for an instructor to set an authentic learning outcome out of touch with their subject, and they might confuse an authentic learning outcome with a learning objective.

As an example, let us look at a class on student motivation and involvement techniques for university faculty/continuing professional development program instructors.

Let us consider several wording options and analyze them from the point of view of a meticulous student who doubts whether they need this class:

1. Mastering the skill of motivating students;
2. Self-preservation in professional environment;
3. Holding classes efficiently;
4. Knowing how to manage student involvement to achieve required learning results.

From the perspective of a doubting student, the last option is the most appropriate. Not only does it answer the question "What will I do with this knowledge?", but it also shows a specific result that they will get if they use this knowledge.

We recommend applying the following formula to make an authentic learning outcome as clear as possible: what I as a professional will do in real life, and how I will benefit from that.

For instance, an **authentic learning outcome** for IT students taking P.E. classes might be: with this course students will be able to adopt a healthier lifestyle to stay more productive at work, get ill less often and improve well-being.

02 Setting a learning objective

Once an authentic learning outcome is set, the next step is setting a **learning objective.**

A learning objective —

is the final destination of the entire class, module or course. It is a foreseeable result of learning for a student.

A question for setting a learning objective: "What will students know/be able to do after our teaching?" This stage helps turn an authentic learning outcome, which may seem quite abstract, into a specific destination we are going to move forward to.

A learning objective is our benchmark. We will assess its achievement at the end of a learning event, which means it should be **measurable** and **specific,** ideally **set from a student's perspective.**

From our experience, a learning objective can be set at a high level without going into detail, but in such a way that it could be easily broken down into learning tasks.

It is important to make sure that your learning objective **is linked to the authentic learning outcome,** i.e. everything in your authentic learning outcome should be reflected in the learning objective. In this way, your class/module/course will have all the needed content and practice – and nothing more, while you will be able to communicate the meaning of absolutely all the activities to your students.

Let us consider examples of learning objectives for the authentic learning outcome defined as **"Knowing how to manage student involvement to achieve required learning results"**:

1. Developing the students' skill in managing their involvement;
2. Learners can identify key distractions that affect online student involvement; they know and are able to apply techniques that minimize the effect of these distractions;
3. Learners can apply techniques for managing student involvement that fit in with class goals;
4. Learners know student involvement parameters and factors causing drops in involvement; they master influence strategies, know the tools and are able to use them.

Judging by the input data, the third example would be the best: we see that the learning objective covers both managing student involvement and different class goals (with learning results behind them). The rest of the options are more focused on the former.

When setting a learning objective, we recommend trying to "forget" for a while everything you know in your subject area and to concentrate on how the authentic learning outcome is defined. This will allow you to retain the practical sense of learning.

03 Specifying the parameters

Next step is setting the **parameters.** At this stage, it is important to assess motivation, level of training and technical competence of the audience, and to understand the size and specifics of the group.

From our experience, instructors and methodologists can sometimes describe the audience based on their own assumptions. If that is the case, some important parameter, which will significantly influence your class, might go unnoticed.

For instance, if you are holding a hybrid or online class and assume that your students master the video conferencing solution while they are hardly familiar with it, part of the class will be spent on dealing with technical issues.

Here are the practices that we and our colleagues are already using:

1. Going through the list of previously taken courses;
2. Talking to other instructors who have worked with this group;
3. Allowing time for trouble-shooting before the start and at the very beginning of the course/class, and ensuring flexibility of the program where possible;
4. Making the first tasks with new tools simple and introductory to make sure that everybody masters them.

For instance, you can conduct a quick student assessment using one of the interactive polling services right at the beginning of a class, and then choose the depth of immersion.

04 Setting learning tasks

The next step when working on a class is **elaborating learning tasks.**

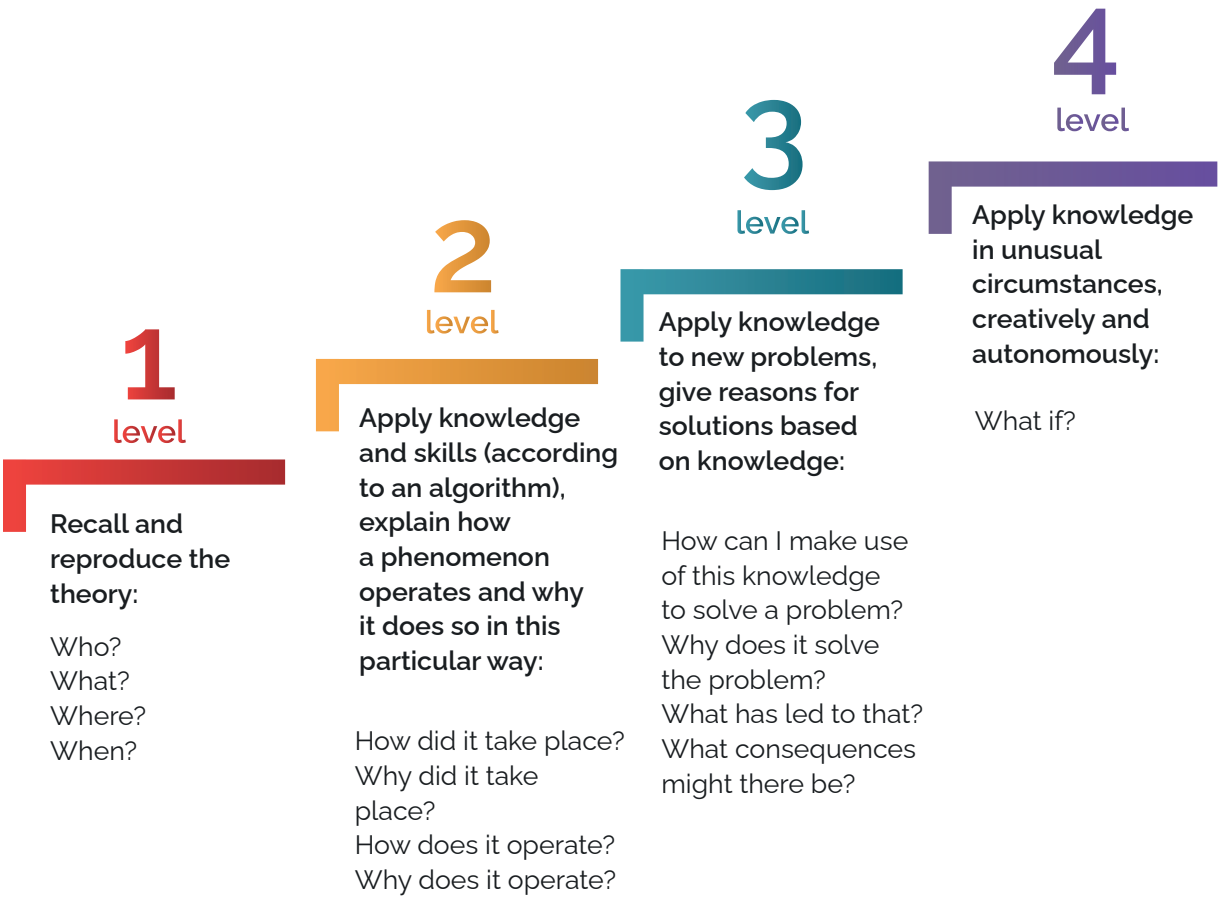
Learning tasks —

are a deconstructed learning objective.

Learning tasks are at the very basis of a class structure. They determine the content, mechanics and tools we are going to use.

Learning tasks are subject to the same principles as learning objectives: they should be **specific, measurable** and linked to the **authentic learning outcome.**

Moreover, based on Webb's Depth of Knowledge, learning tasks should have different levels of difficulty and requirements for students' autonomy in order to foster the students' transition from being dependent on their instructor to being ready to act and think independently.



From our experience, when moving on to learning tasks, instructors and methodologists sometimes **lose contact with the learning objective and authentic learning outcome.** It is important to make sure that when setting learning tasks you take into account everything that the learning objective consists of, particularly if the students are expected **to be able** to do something as a result.

Let us consider some examples of learning tasks for the authentic learning outcome defined as **"Knowing how to manage student involvement to achieve required learning results"**:

We have already selected a fitting learning objective:

Learners know student involvement parameters and factors causing drops in involvement; they master influence strategies, know the tools and are able to use them.

Let us assume that our learning tasks are as follows:

1. Learners understand what student involvement is;
2. Learners understand the benefits of managing student involvement;
3. Learners know the tools for managing student involvement;
4. Learners can identify what causes drops in student involvement and apply a specific tool to improve/manage student involvement in typical situations.

We see that the authentic learning outcome and learning objective imply that learners will be able to manage student involvement as a result. The set of learning tasks gradually prepares students for autonomy. First, it answers the questions “What is student involvement?” and “Why do we need to manage it?” Then, it explains how exactly this can be done and gives an opportunity to put the knowledge into practice. Such learning task structure enables instructors to design classes in a logical way and achieve a specific result in the end.

05 Developing metrics for assessing learning quality

The final step before moving on to class design is selecting **metrics for assessing learning quality.** The key metric for us is **achieving a learning objective.**

Indeed, incorporating metrics into our design enables us to control the effect of our teaching and the achievement of learning objectives. We need to answer the questions "**What** do we measure?" and "**How** do we measure?" (format, tools), as well as to consider the **indicators** and to decide **what** to do with the **results.**

The **learning objective and learning task** answer the question **"What do we measure?"**, and determine our choice of assessment formats and tools.

When developing metrics, we recommend making sure that the format of control/assessment is clearly linked to **the authentic learning outcome and learning objective, and to each of the learning tasks.** For instance, if you want your students to **be able** to do something after learning, make sure that you can "prove" it with some kind of data.

A safe option would be to take **learning tasks** one by one and to explain how exactly their achievement is assessed.

1. Learners understand what student involvement is – a test;
2. Learners understand the benefits of managing student involvement – reflection at the end of the class;
3. Learners know the tools for managing student involvement – a case study;
4. Learners can identify what causes drops in student involvement and apply a specific tool to improve/manage student involvement in typical situations – a business game graded according to the score.

It is preferable to assess all knowledge and skills before learning to determine realistic target indicators. For instance, if we know that in the beginning only 10% of the students know why they need to manage involvement, we should aim for 80% of the students to reach this understanding during the reflection at the end of the class.

A typical mistake which we have observed when developing metrics is the discrepancy between learning tasks and assessment formats.

Example:

Learning task: knowing how to identify techniques for managing involvement.

Assessment format: feedback at the end of class.

In this case we are simply asking the students if they have learnt anything. Their answer will most likely be "Yes, we have". But can students' self-assessment be accurate enough?

Here is a table of tools for assessing the achievement of learning objectives and learning tasks which can help you select a measurement method that fits your learning tasks.

Type of learning objective/learning task	How to assess the achievement
Students are able to _____. Practical skills, performing real tasks. *E.g., being able to manage group dynamics; being able to do push-ups properly.*	A business game, a real case study, a project, demonstration/hands-on session graded according to the score, product development, internship.
Students know ____. Theoretical knowledge. *E.g., knowing the stages of group dynamics; knowing the principles of proper push-ups.*	Tests, open-ended tasks (essay-style), case study, graded oral quiz, theory-based practical activities.
Students understand ____. Understanding the purpose of acquired knowledge and skills. *E.g., understanding why it is important to build group dynamics properly; understanding why it is important to observe the main principles of push-ups.*	Collecting feedback, assessing involvement in the class, open-ended tasks (essay) – with obligatory reflective questions (why it should be done in this particular way).

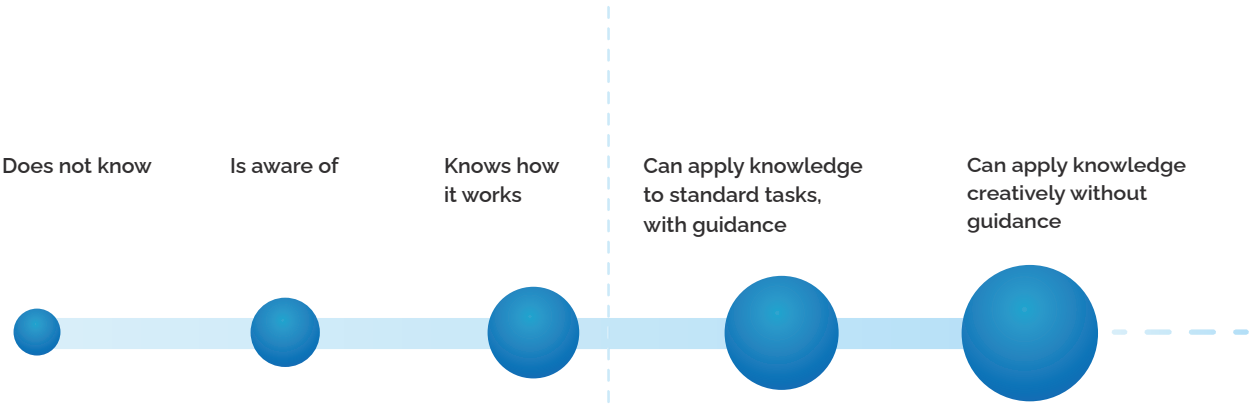
06 Arranging learning tasks and content in line with the class structure, developing mechanics, and selecting tools

Once the foundation for design is laid down, it is time to arrange learning tasks, content, mechanics and tools within the class structure.

> From our experience, at this stage it is important to check if learning tasks are arranged from simple to complex, and from less autonomy to more autonomy.

To achieve a smooth transition to students' autonomy, you can use the SSDL model. It helps take students from a "dependent" position at the beginning of the class/course to autonomy at the end.

In the previous white paper we had already studied students' transition from a beginner to an autonomous professional within a class or a course. The SSDL model helps clarify student and instructor roles depending on the class stage, and select appropriate activities that will stimulate this transition.



Class stage	Before class/At the beginning of class	The main part		At the end of class/ After class
Student role	**Dependent –** insufficient knowledge, unstable motivation	**Interested –** increasing loyalty, first challenges, becoming aware of gaps in knowledge, unstable motivation	**Involved –** first challenges left behind, gaining confidence, eager to work, increasing concentration level	**Self-Directed –** confident in abilities and knowledge, ready to work autonomously, eager to see if they can already do everything
Instructor role	Authority, coach, expert	Motivator	Mentor, facilitator	Consultant, assistant
What fits this stage	Clear instructions and explanations, immediate feedback, lecture, easy and motivating activities, lead-in and get-to-know-you activities, entry assessment	Lecture with discussions, active student engagement, easy activities that guarantee immediate success, supportive feedback, clear instructions	Independent work according to an algorithm and under guidance, moderated group work, discussions with the audience as equals, students have the opportunity to make suggestions and changes into the process, feedback with support and constructive criticism	Independent group or individual work with the possibility to get advice, tests, projects, real-world tasks, reflection on new experience, self- and peer-to-peer assessment

When developing and selecting **mechanics,** it is important to remember that an interactive part inevitably involves students' interaction with somebody or something. Here is a cheat sheet that can help you build a fitting solution.

You will need to answer the following questions:

1. What kind of task should the mechanic solve?
2. Is interaction synchronous or asynchronous?
3. Does the instructor participate in the interactive part?
4. Who or what will the students interact with?

You will find sample answers to these questions in the chart below.

From our experience, relevant mechanics can be found in books or online if you search by tasks and interaction format. For instance, pairwork activities for reflection, individual tasks to boost motivation in class, etc.

You might want to use the following keywords:

Task (supra-educational):

- Networking
- Motivation
- Reflection
- Rest/switch

Task (educational):

- Working with theory
- Practice, skill-building

Who/what with:

- Students on their own (individually)
- Students + another student or students
- Student(s) + the leader of the learning process
- Student(s) + context
- Student(s) + environment

07 Assembling the scenario

Once the framework is complete, we move on to a step-by-step scenario.

We have observed that instructors are often unwilling to spend time on writing a detailed scenario. However, we strongly recommend doing so, at least for the first class.

A detailed scenario is an opportunity to see how much time you will need for activities and technical setup, particularly if you teach an online or hybrid class or are planning to use digital tools in an offline class.

Ideally, when designing a scenario, you should walk through every step: try to open every link, enable screen sharing, and work in digital templates. If needed, ask your colleagues or relatives to help you out.

By just reading the scenario aloud to yourself you will be able to see, for instance, if you have not allowed enough time for an important discussion, or have overloaded your class with a digital tool.

It is important to remember that a group will mirror the pace of the slowest students, particularly in group activities. This should also be taken into account.

The Summer School demo classes have once again shown how crucial it is to check if everything you would like to have in your class fits the timing. Otherwise, instructors will have to speak faster and skip activities, which might have a negative effect on achieving learning objectives and leave the students with a blurred impression of the class.

Notes on learning environment

Since the Summer School groups designed and tested their classes in different environments, we were able to collect some observations that are important for designing offline, online or hybrid classes.

Let us present them in brief.

For offline classes with interactive (digital) tools

Offline learning – interactive offline classes for offline students with the use of interactive digital tools.

1. **Technical competence:** make sure that participants have Internet access and devices to work with digital tools, and relevant skills. Also check that there are ways to share links (a QR-code in presentations, a link to join a chat, etc.).

2. **Time** to launch digital tools: be aware that just as with online classes, participants might not join polls or interactive whiteboards immediately.

For online classes

Online learning — synchronous classes for online students with the use of video conferencing.

1. Since in online classes people get distracted much more easily and cannot stay concentrated for long, you should include **as many hands-on activities as possible** and keep "talking head" segments to the minimum. In order to feel involved, participants should be able to start interacting with you and each other almost immediately.
2. **Instructions:** make sure to work out in advance how participants can access templates and complete tasks if the connection is lost.
3. **Visualization:** all the instructions should be given using a ready template, and all the discussions should be held with a demonstration of the groups' projects.
4. **Tech check:** before you begin, make sure that participants can see and hear you, that they can open relevant templates and useful links, and communicate with you directly.
5. **Time for technical issues:** when preparing your class, make sure to allow time for joining groups, opening templates and unexpected problems with the connection. Ideally, you should have a plan B, in case something that you have planned does not work due to technical issues.

For hybrid classes

Hybrid learning — synchronous learning featuring online and offline students in special hybrid classrooms, as well as a possibility of asynchronous teaching of online students.

When planning a hybrid class, we have to keep in mind two types of environment at once and think about how students working in different environments will interact. That is why all tips for online and offline teaching will work for hybrid classes as well. However, there are some things to consider.

1. **Technical setup:** make sure that you have thoroughly planned how instructions and tasks will be delivered to participants in **both** environments simultaneously, and that you know what to do if something goes wrong.
2. **Contact with online participants:** make sure that online participants are involved from the very beginning and are able to ask questions and answer them, that they can take part in all the activities and be heard. It is also important to work out ways to help online students with technical issues.
3. **Templates, presentations and sound settings that fit both environments:** make sure that everything that students will work with fits both online and offline environments, and that all the participants will be able to see and hear everything during discussions.
4. **A mode that fosters connection between online and offline:** since online participants of hybrid learning may easily feel excluded from in-class activities, first of all work out how interactive activities can ensure this connection.

We can see that whatever environment we work in, it is important to look at everything you design **from a student's perspective, to test** your ideas and **to walk in students' shoes** from time to time. This, alongside with all the instructional tools, helps us better understand what will work and why, and how to structure classes so that they are indeed useful for students and make both us and students pleased with the results.

Credits and Invitation to Collaborate

Thanks to our colleagues we have been able to look at our framework from various sides, from the perspective of different professional experience. The framework has already proved to be working for instructors and methodologists from a variety of areas and with diverse experience. Our joint efforts are only making it better.

We would like to keep on testing our ideas, discussing, fine-tuning and getting inspired.

Today, instructors and methodologists are expected to be able to adapt quickly, update content, formats and harness new technologies. We sometimes have to run as fast as we can, just to stay in place.

In these circumstances, no single framework, principle or algorithm of class design could work if we do not test it continuously in new conditions and adapt it to the changing reality. And since this cannot be achieved alone, we invite you to join the dialogue and collaboration to build new approaches to higher education and beyond.

We would be grateful if you could try out our framework and tips, discuss the results of the test run, suggest your own ideas, and share experience.

GSOM SPBU TEACHING EXCELLENCE LAB

The Graduate School of Management at St. Petersburg University is home to the Teaching Excellence Lab. It develops and integrates innovative teaching methodologies and one-of-a-kind digital tools into learning as well as trains and upskills the faculty.

The launch of the Teaching Excellence Lab in 2022 has been a major step towards GSOM SPbU's strategic goal – becoming Russia's leading business school with a unique learning environment and faculty dedicated to continuous improvement by 2025.

It is important for us to bring together people who are enthusiastic about education and technology. We are happy to inspire our colleagues and share our experience of digitalization in education.

More on other projects of the GSOM SPbU Teaching Excellence Lab at:

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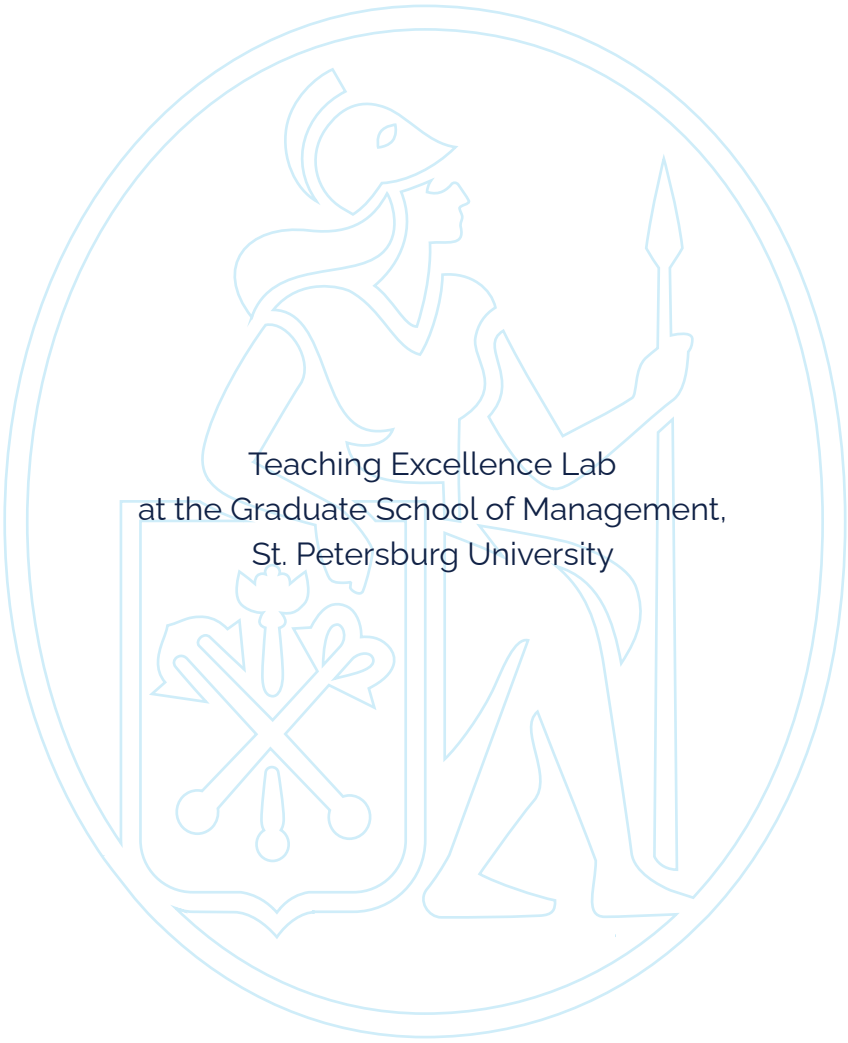

Teaching Excellence Lab
at the Graduate School of Management,
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St. Petersburg
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