



**Graduate School  
of Management**  
St. Petersburg University

# Interactive Classes in Digital Environment:

## A Framework for Teaching Scenario Design

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

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# Letter from the Editor and Key Concepts

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**At the Graduate School of Management (GSOM SPbU) we believe that the world around us is changing fast.** With the fourth industrial revolution in full swing, we live in an unstable world that scientists have dubbed VUCA.

## VUCA –

A white lowercase letter 'i' inside a blue diamond shape, serving as an information icon.

VUCA is an acronym which describes a reality where everything is subject to volatility (V), where there is a lot of uncertainty (U) and where life is increasingly growing in complexity (C) and ambiguity (A). The VUCA world is already being superseded by the BANI world: brittle, anxious, nonlinear and incomprehensible.

**In these circumstances, flexibility, emotional intelligence and well-developed soft skills are becoming ever more valuable.**

Professionals are increasingly expected to be able to find solutions in the changed environment on their own, instead of using someone else's templates. Besides, machine learning algorithms are gradually driving out of the market those whose jobs can be digitized.

**Our expectations for education are also changing.** Today, its task is not just to give knowledge but to equip us with the skills to solve real-world problems, to create a knowledge system and provide hands-on experience. The transformation of the education system is intrinsically related to the developments in pedagogy and teaching methods. A significant number of digital tools and environments available to a university instructor call for making sense of and being integrated into teaching practice.

**The GSOM SPbU Teaching Excellence Lab** develops teaching methods in a digital environment that help make learning practice-based and interactive, while enabling students to reach their learning objectives.

We address this report to instructors, methodologists, developers of educational software for universities and many more: to all those eager to design exciting and useful classes for students, enjoy their jobs and receive positive feedback.



The White Paper describes the GSOM SPbU's framework for designing interactive classes in a digital environment. It can serve as a basis for specific teaching scenarios.

**You will learn:**

- which key steps are crucial to the design of any class
- which nuances you should be aware of to create a comprehensive class
- how to tell when your students have mastered something and whether the new format works.

**I am an experienced instructor.  
Will I find it useful?**



We know that many instructors work out a pedagogically appropriate approach to class design by trial and error. Our report will help structure your knowledge and make more informed choices based on the developments in instructional design.

However, it is not always easy to clearly see what connection there is between instructional design and practice. Our goal is to show how theory can be put into real-world teaching practice.



**It is time for higher education to change.  
Let us make these changes together!**

Alexandra Dmitrieva  
Head of Methodology, GSOM SPbU Teaching Excellence Lab

# What Is a Teaching Scenario?

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This White Paper is titled

**A Framework for Teaching Scenario Design.**

But what is a teaching scenario?

## A teaching scenario

is a goal-oriented, student-centered and systematic set of teaching methods and technologies designed to reach teaching goals.

In other words, it is a template of a class or a course built according to instructional design rules. It describes both the main stages of a class and the methods and technology that the instructor should use so that the group may achieve their anticipated learning results.

While a scenario can be designed for an entire course, here we are only going to focus on **designing a class**.

# Interactive Class Principles

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Interactive learning is a natural form of active learning where new theoretical knowledge is mastered through practice. This is the way all babies learn, but when adults use this format it helps them keep up their inherent interest in learning and reduce resistance. The knowledge and skills gained empirically can easily serve in real life.

When designing an interactive class, it is important to abide by some principles, including active learning and learning by doing.

**01**

**All elements of a class including the learning environment should help students achieve learning objectives.**

A learning objective is our final destination, and something we create our class for, e.g. students have learnt how to do X and have understood Y.

Whatever we do in teaching should help students reach this goal.

**02****Students are agents, active participants of learning.**

They are not mere “data receivers”, they interact with their instructor, other students and the learning environment; they give and receive feedback.



It is students' agency and comprehensive learning experience that help get a deeper understanding of the content and later put theory into practice, rather than simply memorize the information and reproduce it.

**03**

From this perspective, an instructor is not a transmitter of information but **a mentor and a facilitator**. With their accumulated expertise, instructors gradually pass their knowledge and responsibility on to students, help them become independent, and foster critical thinking and reflection.

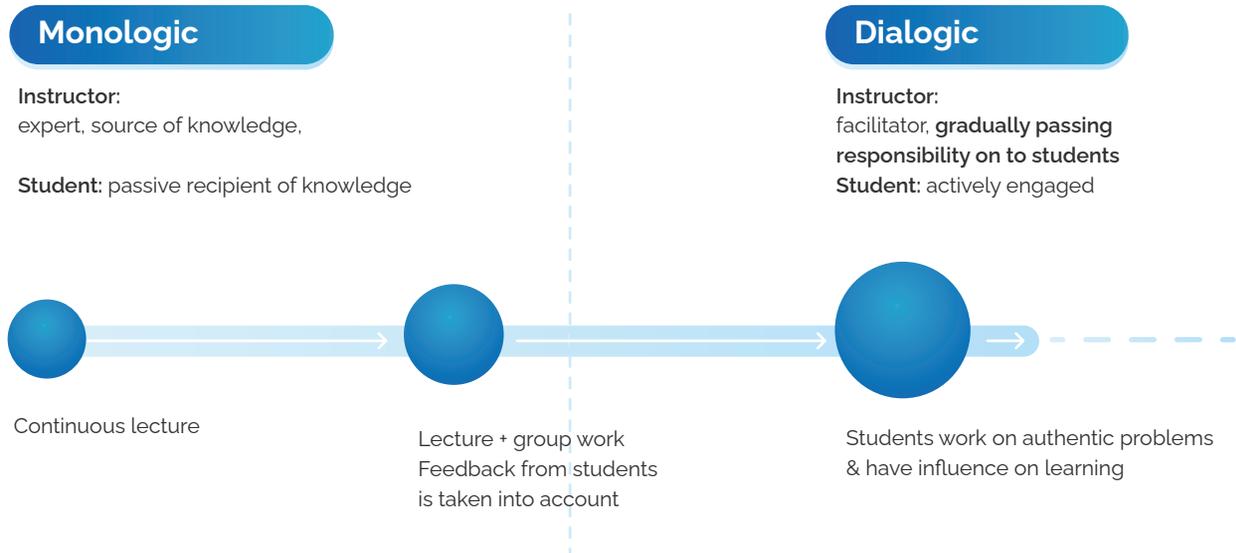
In an interactive class, the instructor does not possess sacred knowledge but is someone who has **pedagogical knowledge of the content**.

**The instructor knows:**

- the subject (the content)
- why students need to study it
- how students study the subject and how to help them: the basics of designing a class and teaching plus an understanding of the teaching dynamics and typical errors.

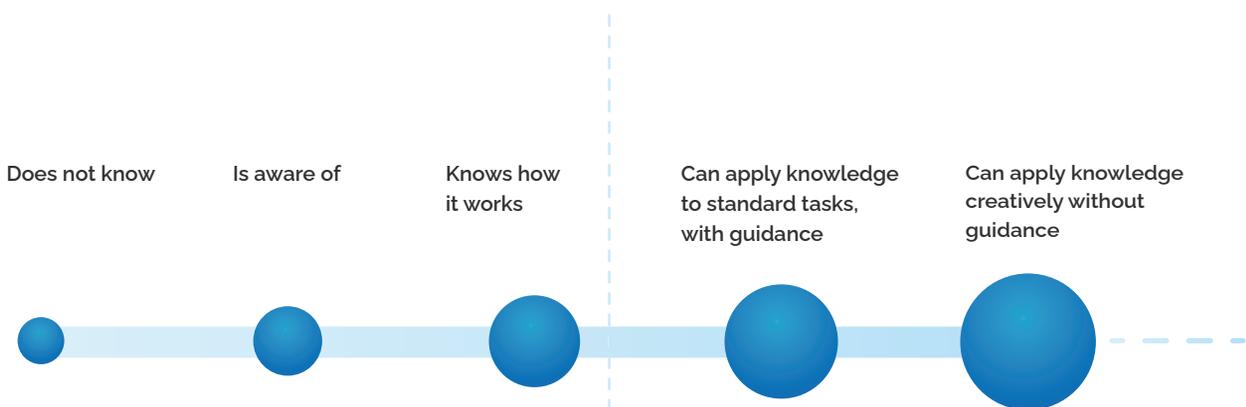
04

Teaching a group, the instructor is making a shift **from a monologue to a dialogue** step by step. He or she does not only share information but also gives and receives feedback and communicates with the group.



05

The instructor **is gradually handing over the responsibility** to the group **and they become independent.** At first, the students draw on the instructor's knowledge and complete tasks under his or her supervision. Over time, however, they become more independent, moving out of the classroom into the real world, i.e. from "being aware of" a phenomenon to "being able to apply knowledge creatively and autonomously".



06

The class activities and formats are **diverse**. The instructor offers the students various types of interaction, mechanics and tools of the environment such as individual, pair or group work, standard or creative tasks, presentation of a project, etc.



The students thus avoid getting stuck in the "study routine" which helps maintain their interest in learning. However, diversity should have its limits, because holding an interactive class for its own sake means wearing out the group and losing the sense of the class. The size of the interactive part should be in line with the conditions and the learning objective.



# Designing an Interactive Class

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Having discussed key principles, let us see the steps of controllable class design. These can be used to design your own series of classes, a module or an entire course.

We have built our approach on the four-component instructional design (4C/ID)\* model (van Merriënboer, 1997), one of the most popular models of instructional design, and present here its adaptation for higher education needs.

\* 4C/ID, or the four-component instructional design model, was developed by two professors from Maastricht University, the Netherlands, Jeroen J.G. van Merriënboer and Paul A. Kirschner. The science behind it is the study of memory and attention (Cognitive Psychology). Its theoretical foundation is teaching through problem-solving, which allows one to acquire new knowledge through solving theoretical and practical problems and tasks that arise within a problem-based situation. (Viacheslav Sitarov. Problemnoye obucheniye kak odno iz napravleniy sovremennykh tekhnologiy obucheniya [Education Through Problem Solving as a Trend in Modern Educational Technologies], 2009).

We will base our design on the principles of the 4C/ID model:

- The class draws on a real-world **authentic learning outcome** that our teaching can help to solve

We understand which real-world tasks are related to what we are going to teach. For instance, basic math enables a future manager to properly analyze statistics at work.

An **authentic learning outcome is the foundation for setting learning objectives**. It helps identify a set of knowledge and skills that will indeed be useful to future professionals.

- The content/activities are gradually evolving from simple to complicated
- Responsibility is being gradually passed on from the instructor to the students.

Every class features the following stages: before class, the beginning of class, the main part, the end of class, and after class. Each stage has its own role and each is important for a comprehensive learning experience and consistency.

|              |   |   |  |   |
|--------------|---|---|--|---|
| Before class | At the beginning of class<br>introductions, immersion into context, mutual adjustment | The main part<br>theory and practice in different formats | At the end of class<br>reflection, (self-)assessment | After class<br>practice/assimilation of knowledge |
|--------------|---|---|--|---|

Class design consists of a number of consecutive steps:

- 1 Setting an **authentic learning outcome** and a **learning objective** for the class.
- 2 Specifying the **parameters**: what **audience** we are working with and in what environment.
- 3 Setting **learning tasks** for specific stages of the class.
- 4 Developing **metrics** for assessing learning quality.
- 5 Arranging learning tasks in line with the class structure.
- 6 Selecting the **content, mechanics and tools of the environment**.
- 7 Assembling the **scenario**.

Below is a template for an instructional scenario. You are going to fill it in as you go through each of the stages. In the process you will determine the learning design vector, parameters and class structure which will give you a class scenario as a result.

### Input data:

- Subject:
- Class topic:
- Students (audience):

### Design vector:

|                            |  |         |
|----------------------------|--|---------|
| Authentic learning outcome |  | Metrics |
| Learning objective         |  |         |

### Parameters:

|                           |  |
|---------------------------|--|
| Student proficiency level |  |
| Motivation level          |  |
| Selected environment      |  |
| Technical competence      |  |
| Learning tasks            |  |

### Class structure:

Before class  
preparation

At the beginning of class  
introductions, immersion  
into context, mutual adjustment

The main part  
theory and practice  
in different formats

At the end of class  
reflection, (self-)  
assessment

After class  
practice/assimilation  
of knowledge

|               |  |  |  |  |  |
|---------------|--|--|--|--|--|
| Learning task |  |  |  |  |  |
| Content       |  |  |  |  |  |
| Mechanics     |  |  |  |  |  |
| Timing        |  |  |  |  |  |
| Tools         |  |  |  |  |  |

**Class scenario:**

| Step | Activity | Timing | Technical requirements |
|------|----------|--------|------------------------|
|------|----------|--------|------------------------|

**Before class**

|   |  |  |  |
|---|--|--|--|
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |

**At the beginning of class**

|   |  |  |  |
|---|--|--|--|
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |
| 6 |  |  |  |
| 7 |  |  |  |
| 8 |  |  |  |

**The main part**

|   |  |  |  |
|---|--|--|--|
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |
| 6 |  |  |  |
| 7 |  |  |  |
| 8 |  |  |  |

**At the end of class**

|   |  |  |  |
|---|--|--|--|
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |
| 6 |  |  |  |
| 7 |  |  |  |
| 8 |  |  |  |

**After class**

|   |  |  |  |
|---|--|--|--|
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |

Below is a template for an instructional scenario. You are going to fill it in as you go through each of the stages. In the process you will determine the learning design vector, parameters and class structure which will give you a class scenario as a result.



### Example: Input data

Subject: Management

Class topic: Organizational Culture of a Company\*

Students (audience): first-year students

\* Organizational culture is a set of norms, values and behavior patterns in a workplace. Although its components tend not to be formally regulated, everybody in a company is familiar with them and tries to follow them. They are a sort of informal rules of a company, as in "staying late at work is an informal rule".

## 01

### Setting an authentic learning outcome and a learning objective for the class.

For every subject, it is important to understand what problems students will meet in real life and what they will need the content of a particular class for. When we choose an authentic learning outcome, i.e. a real-world problem which our class is intended to help solve, we are able to, on the one hand, make a better choice of useful content and activities, and, on the other, give students a well-reasoned explanation why they need to be in class or complete this or that project.

When students understand why they study, their motivation and responsibility levels go up, they get more actively involved in learning, and the interaction becomes more effective.

An authentic learning outcome can be set both for a class and for a course or a module as a whole. It is important for the instructor to understand why the students need this knowledge. Even if we are speaking about the very basics, it is this foundation that will later help professionals find their way around new knowledge, come up with effective decisions and build up more complex knowledge and competencies.

Once the authentic learning outcome is set, we can specify a learning objective as well – the anticipated results we are going to focus on within a class.

A learning objective can also be set for several classes or an entire study module.

The formulated goals and objectives are entered into the design template to always keep them visible.



**Example: Design vector**

|                            |   |         |
|----------------------------|---|---------|
| Authentic learning outcome | To identify the type of organizational culture of a company and to be able to take due account of its specifics when making managerial decisions. | Metrics |
| Learning objective         | Students understand what types of organizational culture exist, how to distinguish between them, and how to act within each of the types.         |         |



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1 Setting an authentic learning outcome and a learning objective for the class.

STEP

## 02

## Specifying the parameters: what audience we are working with and in what environment.

To skillfully design a class, we need to understand who we are conducting this class for and where. These parameters determine the level at which the content is delivered and the tools, both instructional and technological, that we are going to use.

We should know three things about our audience:

We should know **three things** about our **audience**:

- 1 **Student proficiency** level shows how much the students have mastered the topic. This determines the level at which the content is delivered and the need for additional materials.

For your convenience, you can introduce a grading scale, where 0 = have zero knowledge, and 5 = are experts in their area.

- 2 **Motivation** level shows to what extent the students understand why they attend this class and whether there is resistance. This will be an indicator of whether a stronger focus on maintaining the students' motivation is needed.

You can establish a student motivation scale in a similar way.

- 3 **Technical competence** level shows to what extent the students are familiar with the technical tools and technology they will use: video conferencing, hybrid classroom, etc. This will tell you whether the students need additional information or training on a specific tool when we are working in a high technology environment. Here, a scale for measuring technical competency can also be introduced.

Training all students on system services (LMS and video conferencing at the least) is a program administration task. However, the instructor should make sure that the students are familiar with all the services and tools he or she is going to use.

You might also need to know the size of the group to plan group/pair activities.

Now let us select the **environment**.

At this stage, **you do not have to select specific tools**. It is important to just determine whether you are going to work in an online, offline, hybrid or, for instance, AR/VR classroom. If you are using a specific video conferencing service or LMS, you can also register that.



We set the environment at the very beginning of the process because in some cases it can have an influence on learning tasks. For instance, when using a medical simulator in teaching, you will first need to master the device itself.



### Example: Parameters

|                           |   |
|---------------------------|---|
| Student proficiency level | Zero (the students see the material for the first time)                       |
| Motivation level          | 2 out of 5 (the students do not really understand why they need it)           |
| Selected environment      | Online. MS Teams, Moodle  |
| Technical competence      | 4 out of 5 (the students already completed some online courses last semester) |

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Specifying the parameters: what audience we are working with and in what environment.

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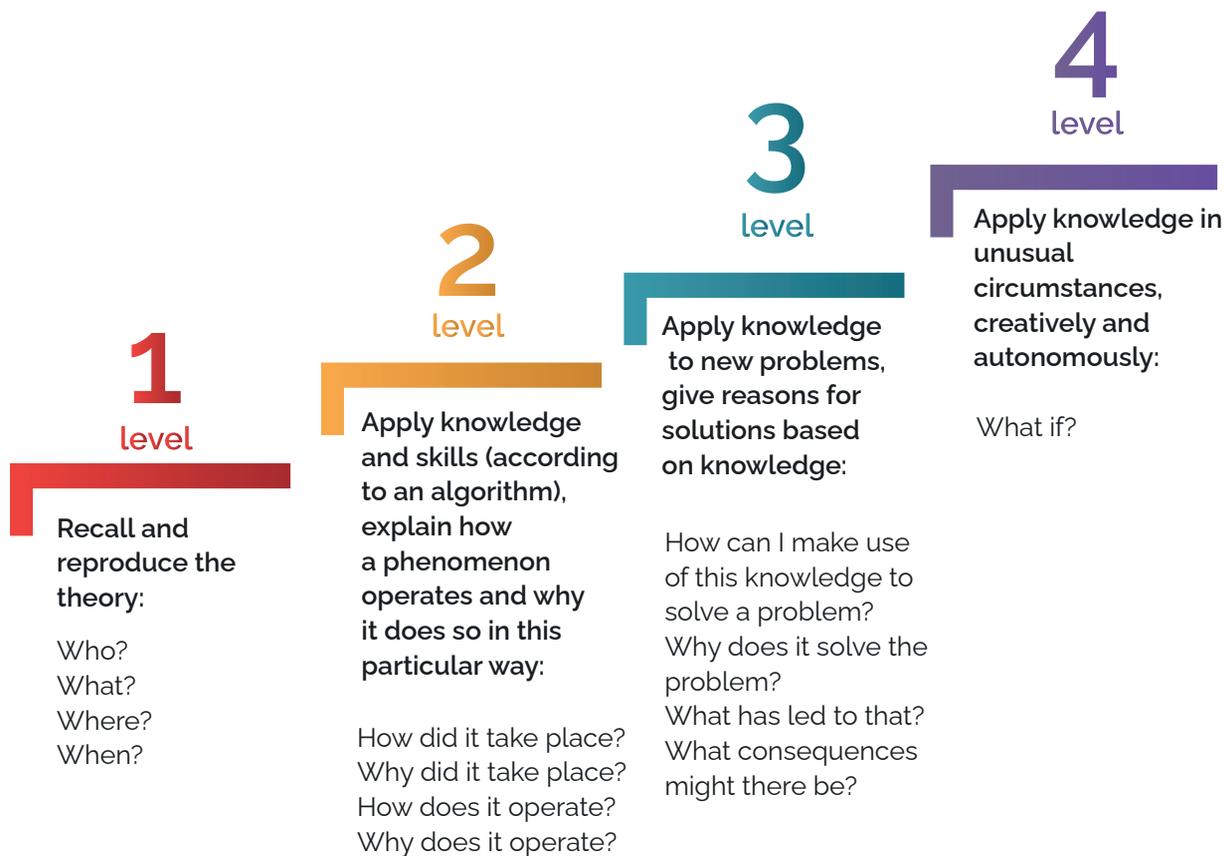
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## 03

## Setting learning tasks for specific stages of the class.

Now that we know the learning design vector and parameters, we can move on to the class structure. We need to deconstruct the learning objective into single components. We recommend setting no more than five learning tasks per class, preferably 2 or 3.

There are various approaches to setting learning tasks. Webb's Depth of Knowledge (DoK) allows to rank all learning tasks by difficulty and can serve as a framework for gradual delegation of responsibility and increase in complexity. We create a path from "being able to name the elements of a phenomenon" to "being able to solve real problems".



Let us get back to our example and set the learning tasks.

|  <b>Example: Parameters – Learning tasks</b> |   |
|---|---|
| Preparation level   | 2 out of 5 (they do not really understand why they need it)   |
| Selected environment  | Online. MS Teams, Moodle  |
| Technical competence  | 4 out of 5 (they already completed some online courses last semester)   |
| Learning tasks  | <p>(1) Level 1: The students understand what organizational culture is and what its types are.</p> <p>(2) Level 2: The students can tell the difference between various types of organizational culture by key features.</p> <p>(3) Level 3: The students can make an effective managerial decision based on the organizational culture type of a team/company.</p> |



In this case, the Level 4 tasks could only be achieved when the students are able to complete the task fully independently.

**For this class, we decide not to include the Level 4 learning tasks in our design.**

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Setting learning tasks for specific stages of the class.

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04

Developing metrics for assessing learning quality.

One of the principles of efficient class design is developing instructional scenarios based on data, using the data-driven approach.

Data will help us make sure that everything we have designed is working towards our learning objectives. And if it is not, data will help us understand what the problem is and fix it.

For data-driven decision-making and learning quality control, we need to answer three questions:

- 1 What do we measure?
- 2 How do we measure?
- 3 What do we do with the results of measurements?

At this stage, based on our learning objective and learning tasks, we plan how and with what indicators we will be able to measure the effect of studying. **Metrics** for assessing learning quality will help us find out what the students have indeed learnt. The key focus is on **achieving learning objectives**.

To see whether teaching has had its effect, it is important to make sure that the students have achieved the authentic learning outcome and learning objective.



Example: Metrics

|                            |   |   |
|----------------------------|---|---|
| Authentic learning outcome | To identify the type of organizational culture of a company and to be able to take due account of its specifics when making managerial decisions. | <p style="text-align: center;">Metrics</p> <p>Students understand what types of organizational culture exist, how to distinguish between them, and how to act within each of the types.</p> |
| Learning objective         | The student understands the different types of organizational culture and knows how to identify them and what should be done in each case.        |   |

Since educational analytics is a task that is worth a separate discussion, we shall pay closer attention to measurements and analysis in the next chapter.

05

## Arranging learning tasks in line with the class structure.

First, we should place learning tasks within various stages of the class.

When arranging learning tasks, we refer to:

- the content guidelines for every stage of the class
- the simple-to-complex principle.

Each of the stages has its own specifics.

### Before class

We get the students ready for work and immerse them into context. At this stage it is important to share with the students what to expect in the class. You can also provide lead-in material for self-study.

The difficulty level of the tasks and content: the lowest possible for this audience and topic.

### At the beginning of class

The work begins and the students are tuned into active participation. We announce the goals of the class and the authentic learning outcome to boost the students' involvement, we set the rules and begin the immersion into the topic.

The difficulty level of the tasks and content: the lowest possible for this audience and topic.

### The main part

Active practice. We alternate various formats and tools and let the students be more independent.

The difficulty level of the tasks and content: from the lowest to the highest possible for this audience and topic.

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Arranging learning tasks in line with the class structure.

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**At the end of class**

The results, reflection. We sum up what we have studied, register and assess what we have done, and slow down.

The difficulty level of the tasks and content: the lowest possible, zero new information.

At this stage, the students are already tired and will not process any new information. Instead, reflection and (self-)assessment will help register the results and see that the class has indeed been useful.

**After class**

The students extend their knowledge on their own, carry out study projects and have real-world practice.

The difficulty level of the tasks and content: the highest possible, which calls for applying a **system** of knowledge and skills.



**Example: Class structure – Learning task**

In the table, for each learning task we will use their respective numbers.

|               | Before class preparation | At the beginning of class introductions, immersion into context, mutual adjustment | The main part theory and practice in different formats | At the end of class reflection, (self-)assessment | After class practice/assimilation of knowledge |
|---------------|--------------------------|--|--|---|--|
| Learning task | ①                        | ①  | ② ③  | ③   | ③  |

5 STEP WArranging learning tasks in line with the class structure.

- 7
- 6
- 5
- 4
- 3
- 2
- 1

06

## Selecting the content, mechanics and tools of the environment.

We have placed learning tasks on the timeline and can now choose content, mechanics, and tools for students to work with.

### Content —

the material required to reach learning objectives. The content is chosen based on the learning tasks.

E.g. understanding the term "organizational culture", looking at the types of organizational culture, etc.

### Mechanics —

the format in which students work.

E.g. group or pair work, case study, watching and discussing the video.

### Tools —

physical and digital resources required to realize pedagogical ideas.

E.g. classroom equipment (projector, speakers, computer), digital services (video conferencing, online whiteboards).

7

Selecting the content, mechanics and tools of the environment.

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We begin by selecting **the content** based on the learning tasks. Depending on the parameters above, the content may change. With third and fourth year students we can start by revising the theory based on real cases, and with MBA students it can be useful to analyze real work situations.



If at **the content** planning stage you come up with specific mechanics, you can pair them with appropriate content. You can also leave some content cells blank until you come up with activities and find out what exactly is still missing.



Besides the core content you may also need additional information such as references to previously studied materials or video conferencing guidelines.

7

Selecting the content, mechanics  
and tools of the environment.

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STEP

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Example: Class structure – Content

| Learning task | ①                                       | ①  | ② ③  | ③  | ③                        |
|---------------|---|--|--|--|--------------------------|
| Content       | Theory: what is organizational culture? | Goals and objectives. Authentic learning outcome (why we are learning it). Theory: what is organizational culture, types and features of organizational culture. | Examples of situations in which different types of organizational culture can be seen. Multiple choice and open-ended questions. Theory cheat sheet. | Final task materials: identify the type of organizational culture and make a right decision; give reasons. | Group project materials. |

**Next step is choosing the mechanics.**

While looking for ideas for your class, you can use various learning activity design toolboxes. They will help you choose the solution best suited for your audience and objectives.



Sample mechanics resource:

[lllab.eu/onlinele](http://lllab.eu/onlinele)

[l.netology.ru/educational-toolbox](http://l.netology.ru/educational-toolbox)





### Example: Class structure – Mechanics and timing

In the example we suggest high-level mechanics, each of them consisting of a number of steps. At one stage we survey the students, at another the students work in a common space.

| Learning task | Before class preparation                    | At the beginning of class introductions, immersion into context, mutual adjustment   | The main part theory and practice in different formats   | At the end of class reflection, (self-)assessment  | After class practice/assimilation of knowledge  |
|---------------|---|--|--|--|---|
| Content       | Theory: what is organizational culture?     | Goals and objectives. Authentic learning outcome (why we are learning it). Theory: what is organizational culture, types and features of organizational culture. | Examples of situations in which different types of organizational culture can be seen. Multiple choice and open-ended questions. Theory cheat sheet.                                       | Final task materials: identify the type of organizational culture and make a right decision; give reasons.   | Group project materials.  |
| Mechanics     | Independent reading and watching the video. | 1.Group discussion of the studied material, brief group presentations.<br>2. Lecture.  | 1.Sample problem solving as a group and discussing the problems with the instructor.<br>2.Pair problem solving, peer assessment based on set criteria. Brief feedback from the instructor. | 1. Working in mini groups on real corporate cases: the task is to suggest a reasoned solution and give your arguments in a 3-minute speech.<br>2. Group reflection and summing up. | Project (individual) - develop recommendations for introducing new software based on the company's organizational culture. The type of organizational culture is to be identified from the materials. |
| Timing        | 2 hrs.                                      | 27 min.  | 126 min.   | 27 min.  | 6 hrs.  |

When the content and mechanics are outlined and approximate timing is set, we move on to selecting **the tools**. At this stage you should clearly understand what each of the mechanics means and what specific actions the group and the instructor will perform. This should be recorded in the bottom row.



**Example: Class structure – Tools for online classes**

We already know that we are conducting the class online and we have MS Teams and Moodle at our disposal. Now we will select the tools **for the online class.**

|                | Before class preparation                   | At the beginning of class introductions, immersion into context, mutual adjustment   | The main part theory and practice in different formats   | At the end of class reflection, (self-)assessment  | After class practice/assimilation of knowledge  |
|----------------|--|--|--|--|---|
| Learning tasks | ①  | ①  | ② ③  | ③  | ③   |
| Content        | Theory: what is organizational culture?    | Goals and objectives. Authentic learning outcome (why we are learning it).<br>Theory: what is organizational culture, types and features of organizational culture | Examples of situations in which different types of organizational culture can be seen. Multiple choice and open-ended questions. Theory cheat sheet.                                       | Final task materials: identify the type of organizational culture and make a right decision; give reasons.   | Group project materials.  |
| Mechanics      | Independent reading and watching the video | 1.Group discussion of the studied material, brief group presentations.<br>2. Lecture.  | 1.Sample problem solving as a group and discussing the problems with the instructor.<br>2.Pair problem solving, peer assessment based on set criteria. Brief feedback from the instructor. | 1. Working in mini groups on real corporate cases: the task is to suggest a reasoned solution and give your arguments in a 3-minute speech.<br>2. Group reflection and summing up. | Project (individual) - develop recommendations for introducing new software based on the company's organizational culture. The type of organizational culture is to be identified from the materials. |
| Timing         | 2 hrs.                                     | 27 min.  | 126 min.   | 27 min.  | 6 hrs.  |
| Tools          | A Moodle module                            | - MS Teams: presentation, dividing into groups of 5-7 people,<br>- Student survey tool   | - MS Teams: presentation, dividing into groups of 5-7 people,<br>- A tool for dividing students into pairs (individual Telegram calls?)  | - MS Teams: presentation, dividing into groups of 5-7 people,<br>- Student survey tool   | A form for uploading tasks into Moodle  |

Learning environment is an important variable, and it can be adjusted to one's needs and goals.



### Example: Class structure – Tools for a hybrid class

Let us assume that we are designing the same class but for a **hybrid environment**, which means that there are both offline and online students.

|                | Before class<br>подготовка                 | At the beginning of class<br>introductions, immersion into<br>context, mutual adjustment   | The main part<br>theory and practice<br>in different formats   | At the end of class<br>reflection,<br>(self-)assessment  | After class<br>practice/assimilation<br>of knowledge |
|----------------|--|--|--|--|--|
| Learning tasks | ①  | ①  | ② ③  | ③  | ③  |
| Content        | Theory: what is organizational culture?    | Goals and objectives. Authentic learning outcome (why we are learning it). Theory: what is organizational culture, types and features of organizational culture.         | Examples of situations in which different types of organizational culture can be seen. Multiple choice and open-ended questions. Theory cheat sheet.   | Final task materials: identify the type of organizational culture and make a right decision; give reasons.   | Group project materials.                             |
| Mechanics      | Independent reading and watching the video | 1.Group discussion of the studied material, brief group presentations.<br>2. Lecture.  | 1.Sample problem solving as a group and discussing the problems with the instructor.<br>2.Pair problem solving, peer assessment based on set criteria. Brief feedback from the instructor.   | 1. Working in mini groups on real corporate cases: the task is to suggest a reasoned solution and give your arguments in a 3-minute speech.<br>2. Group reflection and summing up. | Group project materials.                             |
| Timing         | 2 hrs.                                     | 27 min.  | 126 min.   | 27 min.  | 6 hrs.   |
| Tools          | A Moodle module                            | - MS Teams: connecting online participants, presentation, dividing into groups of 5-7 people,<br>- Group survey tool<br>- Hybrid classroom (cameras, online whiteboards) | - MS Teams: connecting online participants, presentation, dividing into groups of 5-7 people,<br>- A tool for dividing into pairs (individual Telegram calls?)<br>- PC for offline students to participate in mixed groups<br>- Hybrid classroom (cameras, online whiteboards) | - MS Teams: connecting online participants, presentation, dividing into groups of 5-7 people,<br>- Group survey tool<br>- Hybrid classroom (cameras, online whiteboards)           | A form for uploading tasks into Moodle               |

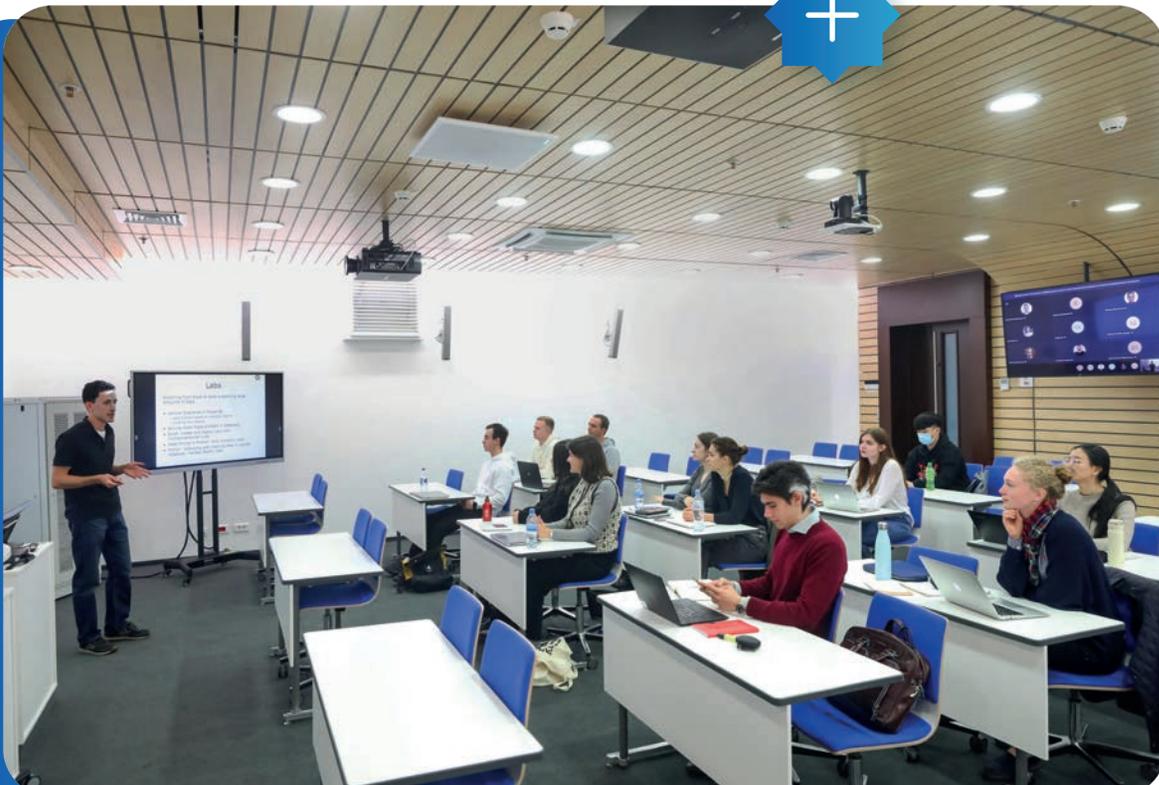
## 07

## Assembling the scenario

When the class is designed at a high level, we have to assemble it into a unified scenario. In the scenario all the activities are arranged as sequential steps with their timing and technical requirements.



Class design is a dynamic process, and at each stage you can go back one or two steps and correct your work.





### Example: Scenario of an online class

The beginning of the **scenario for an online class** may be as follows:

| Step         | Activity              | Timing | Technical requirements                                  |
|--------------|-----------------------|--------|---|
| Before class | Students study theory | 2 hrs. | Moodle, theoretical materials on organizational culture |

#### At the beginning of class

|   |  |                          |  |
|---|--|--------------------------|--|
| 0 | Sound and video check and equipment setup. Uploading the tasks and checking the materials. | 20 min. before the class | MS Teams, slides, all the task templates   |
| 1 | Participants connect online, sound and video check, welcome remarks                        | 5 min.                   | MS Teams – presentation mode, slides   |
| 2 | Setting the task for the class, actualizing the topic                                      | 5 min.                   | MS Teams – presentation mode, survey tool, slides  |
| 3 | Participants are divided into groups   | 2 min.                   | MS Teams – dividing into groups, participant guidelines (optional)   |
| 4 | Discussing the materials studied at home, in groups of 5-7 people                          | 6 min.                   | MS Teams – dividing into groups, student presentation mode, slides with the task, template for task completion |
| 5 | Participants return to the main room   | 2 min.                   | MS Teams – dividing into groups  |
| 6 | Presentation of the group work results   | 5 min.                   | MS Teams – dividing into groups, student presentation mode   |
| 7 | Lecture – basic theory   | 10 min.                  | MS Teams – presentation mode, slides with the task   |

In this example we see some technical steps: connection, sound and video check, dividing students into groups. All of these steps require time. We also see that the 30 minutes we have originally planned for the first part is not enough: some of the time is filled with online-specific activities, and the timing should be optimized.



### Example: Scenario of a hybrid class

If we switch to the **hybrid** environment, the **beginning** will be as follows:

| Step         | Activity              | Timing | Technical requirements                                  |
|--------------|-----------------------|--------|---|
| Before class | Students study theory | 2 hrs. | Moodle, theoretical materials on organizational culture |

#### At the beginning of class

|   |   |                             |   |
|---|---|-----------------------------|---|
| 0 | Sound and video check and equipment setup. Uploading the tasks and checking the materials   | 40 minutes before the class | MS Teams, slides, all the task templates, cameras, microphone, interactive whiteboard, IT specialist contacts   |
| 1 | Participants connect online, sound and video check, welcome remarks, offline participants take their seats                        | 5 min.                      | MS Teams – presentation mode, slides, cameras, microphone, interactive whiteboard   |
| 2 | Setting the task for the class, actualizing the topic (what we are learning and why we need to know it)                           | 5 min.                      | MS Teams – presentation mode, a survey tool, slides, cameras, microphone, interactive whiteboard  |
| 3 | Participants are divided into groups  | 5 min.                      | MS Teams – online participants divide into groups, participant guidelines (optional), guidelines for offline participants on how to divide into groups                                    |
| 4 | Discussing the materials studied at home, in groups of 5-7 people (what organizational culture is and how it can manifest itself) | 6 min                       | MS Teams – dividing into groups, student presentation mode, slides with the task, template for task completion, offline template for task completion                                      |
| 5 | Participants return to the main room  | 2 min.                      | MS Teams – dividing into groups   |
| 6 | Presentation of the group work results  | 5 min.                      | MS Teams – dividing into groups, student presentation mode, cameras, interactive whiteboard, presentation principle for online/offline participants, microphones for offline participants |
| 7 | Lecture – basic theory (types of organizational culture and their key features)   | 10 min.                     | MS Teams – presentation mode, a survey tool, slides, cameras, interactive whiteboard, microphone  |

Timing has also slightly changed for this environment, because hybrid mode requires more technical work.



To easily design classes for any learning environment, it is important to test all the tools that you are planning to use. If it is your first online or hybrid class, it makes sense to go through the whole scenario, clicking the links, opening group work rooms, etc. It can also be useful to experience learning in a selected environment: you will see the process from the students' perspective and understand what needs to be taken into account while designing your own class.



# From a Teaching Scenario to a Successful Class

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The scenario is assembled, and it is time to put ideas into action. An important step of pedagogical scenario implementation is evaluation of its effectiveness. In order to be sure that our ideas are efficient in real life we should follow a data-driven approach. This means collecting and analyzing data to make decisions about improving the pedagogical scenario.

To make decisions based on data and control the quality of education, we should answer three questions:

- 1 What do we measure?
- 2 How do we measure?
- 3 What do we do with the results of measurements?



It is important to remember that metrics are usually developed at the level of a module or a course rather than at the level of a single class.

## 01

## What do we measure? Choosing educational metrics

Instead of creating your metrics from scratch you can choose from the ones offered by the educational standards. For instance, see how the competences can be measured through the lense of learning objectives and tasks.



You can also select the metrics by adapting **the Kirkpatrick model** for your needs. The model was designed to evaluate training effectiveness for business, and it can prove especially useful for continuing professional development programs.

We have chosen educational metrics at the design stage. The parameters selected for the pedagogical scenario – the level of proficiency and motivation, technical competence, and the environment – influence the accomplishment of learning tasks and achievement of a learning objective.



### Example: Metrics – What do we measure?

Students **understand** what types of organizational culture exist, how to distinguish between them, and how to act within each of the types.

## 02

**How do we measure? Assessment formats, target indicators, and tools**

The metrics we choose should be measurable. We should clearly understand what indicators will show that we have reached the goal.

Assessment **formats** can be:

- quantitative (tests, surveys, etc.)
- qualitative (emotional climate in the group, observing the students)

The **indicators** are better to be presented as numbers, comparing the performance before and after your class or before and after the change.



E.g. students demonstrate accomplishment of the learning objective in the **final** test by showing at least 30% growth compared to the **entrance** test.

Assessment **tools** can be:

- automated and “manual” (collecting data inside LMS/manual data input into a table)
- digital and analog (a table/a notebook)
- hybrid (manual data input into a table and automated calculation of the results).

**Example: Metrics – How do we measure?**

**Assessment format:** testing

**Target indicators:** no less than 80% of the test is successfully completed

**Tools:** automated testing in Moodle; results are shown and recorded instantly.

## 03

## What do we do with the results of measurements?

## Data-driven analysis and decision-making

When data is collected, it is important that it works for us.

A basic spreadsheet is enough to begin your work with study analytics.


**Example: Metrics – What do we do with the results of measurements?**

We have collected the data on how three different groups of students (from the weakest to the strongest) completed the test on the types of organizational culture before and after the class. The data is recorded in the table.

| Group       | Group 1 | Group 2 | Group 3 |
|-------------|---------|---------|---------|
| Test before | 40%     | 50%     | 60%     |
| Test after  | 50%     | 74%     | 96%     |

It might seem that the students from Group 1 have hardly learnt anything.

However, if we calculate the average percentage increase, we will see the following result:

| Group       | Group 1 | Group 2 | Group 3 |
|-------------|---------|---------|---------|
| Test before | 40%     | 50%     | 60%     |
| Test after  | 50%     | 74%     | 96%     |
| % increase  | 25%     | 23%     | 20%     |

The measurements have shown:

- 1 The class “worked out” better for the group with weaker students;
- 2 If we want to reach 80% success in testing, we should change our approach to teaching the weaker groups. Alternatively, we can change the metrics and measure the percentage increase rather than the average percentage.

# I Do Not Have Time to Design Every Single Class. What Do I Do?

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We have discussed the key steps of designing any modern class: from finding an authentic learning outcome to assembling the whole scenario.

At first glance the design framework may seem bulky. Too much time is required if every single class is planned according to the framework.

## What can be done to simplify the task?

- 1 The authentic learning outcome, the learning objective and the metrics are usually set once for the whole course or module. Once they are thought through and put into the template, you will only have to see whether there have been any changes.
- 2 The parameters can also be fixed for the course or module. If your course is held for young specialists in an online mode, it can be put into the template once and then copied into new classes and modules.
- 3 Things that change from class to class are learning tasks, mechanics and tools. If you have a universal template, a couple of minutes should be enough to update the details.
- 4 The class scenario is also fixed. If your classes last the same amount of time and you hold them in the same environment, you can have technical and preparation parts unchanged and only edit the scenario in terms of mechanics.

After some time you will have your own collection of mechanics, and you can copy and paste from one scenario to another, especially if you teach and design several courses. Besides, you can share your experience with colleagues and exchange scenarios designed for various objectives.

We encourage you to apply the approach that has been discussed to your work needs, to share your feedback, ideas and modifications, and to ask questions should you have any.

Together we can build a new, modern approach to higher education and strengthen the ties within the professional community!



# GSOM SPbU Teaching Excellence Lab

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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 and hybrid learning transition.



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



[method.gsom.spbu.ru](http://method.gsom.spbu.ru)

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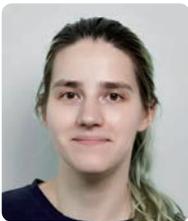
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