



**Adaptation of learning content for students with SLDs**  
**What are Specific Learning Disorders (SLDs)?**

## **Pre-production help document**

### **Introduction**

Serious games promote student engagement and are a great tool for learning. However, designing both an engaging and educative game can be challenging.

We present here a framework and a checklist to help subject matter experts participate in serious game design and ideation, hand in hand with developers.

### **What you should take into consideration**

#### **The Art of serious game design framework (Ryerson University, n.d.)**

This framework focuses on pre-production as this is where subject matter experts will be the most useful to the process.

This [video](#) explains the framework, it aims at helping brainstorm game ideas and to order them according to 4 elements: learning, storytelling, gameplay, and user experience. The complete pdf guide can be found [here](#).

To spark some ideas, team members can use the [ideation cards that go along with the framework](#).

## Our custom game design plan

In order to help you plan your game and think about all its aspects, we created a game design plan: questions to ask yourself while conceiving a game.

### Learning objectives

- What are the learning objectives of the game?
- Level (A1-B2)?
- The skills (listening, speaking, writing, reading)

### The target audience

- Students' age, characteristics, gender, competitiveness, and previous gaming experience.
- The game's target age level.
- Special needs. Would students with disabilities be left out?
- Gender and racial diversity. In its choice of characters, language, or situations, does the game offend or slight any particular group of students?
- Number of players. How many students can play at one time? Will too many be left sitting on their hands?
- The role of the teacher. Passive observer or active participant?

## Conception

### The game theme

- What idea/theme the game expresses?
- Describe the main character/entity
- What's the story's pitch?

### Micro-Gameplay

- What's the game's core puzzle/pattern?

What are:

- The objective?
- Constraints and obstacles (challenge)?
- Actions the player will have to perform (most of the playing time)

Formalize the game's main puzzle/pattern in a chart: a loop of actions and states.

Provide a paper prototype of image showing the game's mechanics

- What are the 3Cs? Character, controls, camera?
- How does the core gameplay involve the learning content?
- How does the micro-gameplay supports the game's theme or expressed ideas?
- Describe 3 game bricks around the core gameplay that modify it, create variations around it, and generate game situations and/or difficulty (examples: enemy behaviors, decor variations, timers, and score thresholds...).

### Macro-design

- How are the difficulty and the player going to progress throughout the game? Are they linked to the diegesis? (geography, obstacles, abilities...)
  - Does the player need real-world knowledge/learned content to progress through the game?
- What are the feedbacks the player will receive to understand what they do right/wrong?

- What is the story's plot, and how is it going to unravel?
  - Who is the protagonist, and what's the initial situation?
    - What's the main character's goal? Why?
  - What's the disrupt element in the fiction world, or the character's want?
  - What's the adventure/unfamiliar situation the character enters in?
  - What are the obstacles the character is going to face to adapt to this new situation?
  - Describe what and how the protagonists find the thing they want or something that helps them in their adventure.
  - Describe the price the protagonist has to pay, and how it changes them?
  - Describe how the protagonist goes back to their initial situation, what obstacles test them?
  - Describe how the character has changed now they have returned to their original situation? What is the final trial? Why can the protagonist overcome it now?
- Which emotions/ups-and-down moments is the player going to traverse? What will generate mystery, surprise, and novelty?
  - How are they translated into game situations/levels (pressure, difficulty, game situations/bricks)?
- What are the macro game loops? How are they nested?
  - The objective of the game?
  - What are the levels and their objectives?
  - What are the situations within the levels?
  - How do levels match the plot's moments?

## **Aesthetics of the game**

- What is the ambiance of the game?
- Provide a mood board ( inspiration images to give a feeling of the game aesthetics).

## Pedagogical sequence

- How should the teacher use the game in the classroom?
  - Hosting advice
  - Session debrief and complementary exercises or levels (report/essay on their game session, discoveries inside the game, levels to do at home)
  - Collaborative activities ( maybe the game features a collaborative aspect: writing a wiki about the game, sharing tactics or discoveries (boss patterns/weaknesses) between students...)
  - Game debrief and complementary exercises (report/essay on their game session, discoveries inside the game)
    - Real-world knowledge (cultural elements) that gives keys to understanding your game: context, meaning, story, characters.
    - Opening activity that uses those elements
  - Advice, tips, help for players with difficulties
- Does the game provides a journal/summary that will be updated with player progression? Can it be used as a way to expand/review what was learned during the game?
- Does the game provide a scoring system to track the player's progression?

## Conclusion

We presented here the “Art of serious game design” framework as well as a game design plan. Answering the questions they ask will force you to think about your game's components and hopefully help you conceive a well-designed game.

## Resources and references:

- Digital Education Strategies, The Chang School of Continuing Education, Ryerson University. (n.d.). The Art of Serious Game Design. [pressbooks.library.ryerson.ca](https://pressbooks.library.ryerson.ca/guide/open/download?type=pdf)  
<https://pressbooks.library.ryerson.ca/guide/open/download?type=pdf>

- Design, Play and Experience  
(DPE) Framework, developed by Winn (2009)



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