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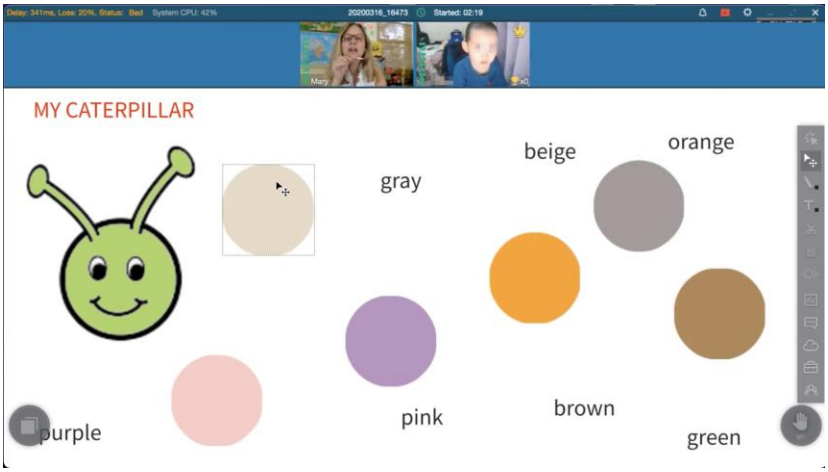
Creating Simple, No-Code Games to Facilitate Online Learning

by Connie Gelb

In December 2019, months before COVID-19 was declared a global pandemic, I noticed that my normally attentive multilingual learners (MLLs) in China were getting distracted. I began to see Chinese parents hovering in the background of our video classes wearing surgical masks. One 6-year-old spent most of our 25-minute class frantically coloring an enormous, spiked pathogen. "*Bìngdú* [virus]?", I asked. He nodded.

Games and Learning

After my third PreK student fled the computer screen in tears, I started creating simple "no-code" interactive games that allowed my students to manipulate digital images, illustrations, and/or text to achieve a goal. At first, I created digital versions of my own childhood games, such as jigsaw puzzles, matching, Snakes & Ladders, and tic-tac-toe. Later, I "gamified" aspects of each lesson's content. For example, one lesson featured caterpillars, so I created a Build-a-Caterpillar game using screenshots of the lesson illustrations. The strategy worked. My students and I played interactive games together—while achieving lesson objectives—and had a blast. Engagement increased, smiles returned, and their English language skills gradually improved.



Switching from a text-heavy lesson on colors to an interactive Build-a-Caterpillar game helped this young student reengage with the lesson content. Click here to watch a video of this lesson.

Digital interactive games designed to facilitate learning through play are a vital emerging educational tool, especially for very young learners. "Play is not only necessary for a joyful childhood; it is also how children learn" (Olien & Woodside, 2013). An effective interactive learning game should

- be a springboard to authentic play,
- foster a strong connection with the teacher, and
- reinforce lesson objectives.

Digital games should also incorporate four basic principles: “a goal, rules, a feedback system, and voluntary participation” (McGonigal, 2011).

Creating Your Own Interactive Games

Aspiring no-code digital game creators need basic design skills, familiarity with image editing, and ample time. I use a combination of Adobe Photoshop and PowerPoint to do the imaging and graphics work for my drag-and-drop games. I pilot new games with my students to check formatting and interest level. Following are the basic steps I follow to create games:

10 Steps to Create a No-Code Interactive Game

1. Research, brainstorm, and storyboard.
2. Align game/activity with lesson objectives.
3. Decide on game template (board game, jigsaw, matching, quiz show, sorting, timeline).
4. Select images and illustrations and save to desktop folder.
5. Prepare images and illustrations (crop, drop out background, etc.) and save to folder.
6. Write game directions, labels, and title and save to folder.
7. Upload text and media to your chosen platform.
8. Arrange elements (resize, layer, and lock background media).
9. Pilot the game—preferably with a student.
10. Save final game in the correct file format.

The most effective digital learning games emerge from the lesson content. Click here to watch a video of this lesson.

Choosing a Platform

Online teachers can develop simple no-code games from scratch using platforms like ClassIn, Google Slides, or PowerPoint. Creating from scratch gives you flexibility to align your games with a particular lesson's learning objectives or a specific student's needs. Teachers with limited time or interest for building original games can use some of the following web-based programs to turn their lesson content (text and images) into engaging interactive games:

- Book Widgets
- BoomLearning
- BrainPop
- Easel by TpT
- games4esl
- Kahoot!
- Nearpod
- Pear Deck
- Quia
- Quizlet
- Wordwall

Many programs have "freemium" and premium versions, with the former providing free but limited resources and the latter providing enhanced resources for a paid subscription.

I use ClassIn for my games. Designing interactive learning games on ClassIn is easy. In addition to being a robust LMS and conferencing platform, ClassIn enables teachers to create digital learning games and activities that can be saved to personal folders for easy access. Gaming tools, such as dice, timers, and trophies are included as well. One drawback, however, is that ClassIn saves games in a propriety file format which (as of 2022) can't be opened in other applications or platforms, such as Adobe Photoshop or Google Classroom. A workaround is to save game elements (images, text, graphics) in file folders that can be exported to other applications and platforms.

Finding Graphics and Templates

PowerPoint includes free fonts, backgrounds, and animated game templates, such as Bingo, game show, hidden picture, and matching. Teachers who use the ClassIn platform have access to a free library of illustrations. In addition, free high-quality, royalty-free graphics, illustrations, and images can be downloaded from the following sites:

- Canva
- Freepik
- Pexels
- Pixabay
- Unsplash

Tips for Effective Gameplay

Sharing Games With Students

Busy teachers can use Zoom or other conferencing platforms to share their screens, enabling them to incorporate a variety of learning games in class. Google Jamboard allows teachers with large groups of students to have up to 50 different breakout rooms in which to collaborate on learning games. (I recently assisted at a Zoom workshop for multilingual teachers in which 50 breakout rooms were used for the 200 attendees. In the breakout rooms, the attendees all played the same two games using Google Jamboard. In one game, they had to sort phonetic sounds into voiced and unvoiced sounds. In another game, they had to sort U.S. states into four categories depending on how many syllables they had. The Google Jamboard games fostered collaboration and injected a playful energy into the online workshop.) Many teachers are using private Facebook groups and other social media to share homemade learning games and get game-creation tips.

Preparing to Play

Before gameplay begins, teachers can ask students to read the game directions out loud if they can. Instantly assessing students' listening, speaking, and reading skills is especially critical in a 25-minute online class in which you may be meeting the student for the first time. Modeling game procedure before and during play for students who can't read is key. With digital jigsaw puzzles, for instance, preteaching directional concepts and vocabulary such as *corner*, *left*, *on the bottom*, *on top*, *straight line*, and *right* is also important.

During Gameplay

Exaggerating facial expressions and gestures can help foster a playful online classroom.

During gameplay, feedback should be differentiated depending on the student's age and ability. The use of exaggerated body language is very helpful for young online learners. For example, playing digital tic-tac-toe with primary students, I give a double thumbs up after the student moves. When I say, "Your turn," I raise my arms and point to the student (gesturing with an open hand is preferable with Chinese learners). After their move, I say, "My turn," and point to myself enthusiastically. After a student wins, I clap excitedly, say, "Good job!", and give them a digital trophy, a tool that is built into ClassIn.

Conclusion

Teaching during the COVID-19 pandemic taught me the power of play to facilitate engagement and online learning. By creating simple interactive games, I was able to tailor playful learning activities to lesson objectives while boosting my students' interest and motivation. Creating your own interactive learning games can be an easy and inexpensive way to foster a playful online classroom during a global health crisis and beyond.

References

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Resources and Further Reading

- Commonsense.org
- www.edutopia.org
- www.kqed.org/education
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