

REPORT

The Flawed Game as a Better Teacher: Serious Games, Disaster Risk, and Critical Play

Emmanuel Eze 

1. Introduction

Picture this scene: A geography teacher discovers a slick, free, browser-based simulation, say *Stop Disasters*, the United Nations disaster-risk-reduction game, in which players defend a coastal town from a tsunami or a hillside from wildfire. The lesson writes itself: pupils play, they engage, they learn that preparedness matters. The staffroom conversation that follows, if it happens at all, turns on a single question. *Is the game good enough? Is it realistic? Does it hold their attention?* If the answer is yes, we adopt it; if no, we look for a better one.

That conversation rests on an assumption worth challenging. It treats a serious game as a delivery device whose value tracks its quality, and it casts the teacher as a consumer whose job is to select well and press play. This paper intends to argue the opposite. A serious game earns its place in a geography classroom not when it is realistic, but when it is read critically, and frequently it is the game's very distortions that open the most valuable geographical learning. The teacher's task is therefore to interrogate, and not just to adopt.

2. What Trainee Teachers Noticed Playing *Stop Disasters*

Working with fourteen geography teacher trainees who played *Stop Disasters* and then reflected on it as future teachers, EZE and MEHREN (2026) found that they rarely fell for the game. They enjoyed it, and several saw genuine promise in it, but their sharpest thinking surfaced at the points where the game broke. One trainee noticed that the mechanics let you protect a population simply by building hotels and demolishing homes, observing drily that people are safe in a hotel but do not actually live there. Another student, already a teacher,

complained that the simulation completely disregards sustainability and the cultural or sentimental factors that shape real city planning. A third wanted it to show the social consequences of moving residents and destroying their homes, because as it stands the solutions are simple and register no negative effects.

Instrumentally, those are reasons to reject the game, but when read pedagogically, they are the lesson. Each trainee had, without prompting, recovered the central insight of contemporary disaster studies: that hazards

are not disasters. As the most reflective participant put it, *disasters are not simply natural; they become catastrophic when people and communities are exposed and vulnerable*. Rather than obscuring this

idea, the game's silence on housing, politics, and inequality is precisely what brings it into view. A more realistic game might well have buried the point under detail but the simplified one threw it into relief.

3. Why Simplification Is an Opportunity, Not a Defect

Every model leaves things out, and that is what makes it a model. Geographers know this better than most, since the discipline lives by maps, and a map that omitted nothing would be useless. A simulation is a kind of dynamic map, and its omissions are arguments about what matters. When *Stop Disasters* reduces resilience to budget allocation and structural defenses, it tends to make a claim: that disaster risk is essentially a technical problem. That claim is wrong, or at least radically incomplete, and its wrongness is teachable. In this case, teachers can ask pupils what the game assumes, whose interests it ignores, and what a flooded community would say about being relocated, and by this the learners would have moved from playing a game to critiquing a worldview.

One trainee saw this with unusual clarity. Asked how the game could be improved for the classroom, they did not ask for better graphics or more realism but proposed pairing it with additional reflection questions that evaluate the game on a meta-level. That is the whole argument in a sentence. In this case, the improvement the teacher trainee wanted was not to the software but to the teaching around it, turning the game into an object of analysis rather than a source of answers. SELWYN (2016) has long insisted that educational technologies are never neutral, as they carry assumptions and consequences. Thus, a serious game is simply a particularly vivid case, and an unusually willing one, because it states its assumptions in the form of rules that pupils can see and contest.

4. From Consumer to Critic: A Different Teaching Move

Reframing a game as an object of critique changes what skilled teaching looks like. The instinct to ask *Which game I should use?* gives way to a more demanding question: *What inquiry should I build around it?* In practice, the move runs through four steps. Pupils play the simulation as learners. They then project, imagining how its decisions map onto real places and people. They interrogate, asking what the model includes, excludes and assumes.

And they reposition, forming a considered judgment about what the tool is good for and where it misleads (Fig. 1). This sequence will be more fully developed elsewhere as a model of reflexive digital pedagogy, but here the point is presented in a simpler form. The learning lives in the third and fourth steps, and those steps do not happen on their own, because a teacher designs for them.

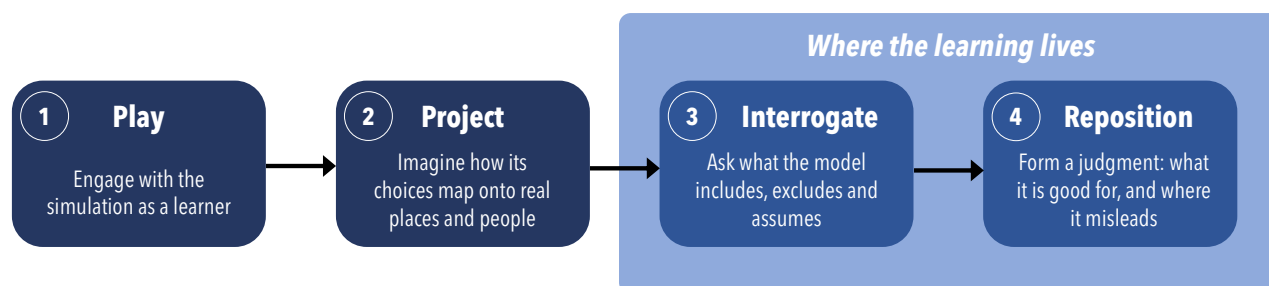


Fig. 1. Four moves of critical play (source: author)

Thus, based on the moves in Fig. 1, pupils engage with a serious game as learners (step 1) and project its decisions onto real places and people (step 2); the substantive learning occurs as they interrogate what the model includes, excludes, and assumes (step 3) and reposition themselves toward the tool's proper use (step 4). The sequence depends on deliberate teacher framing and reflexive prompts rather than on the game itself.

This paper does not promise a novel pedagogy, but applies SCHON's (1983) reflective practitioner and BROOKFIELD's (1995) critically reflective teacher to a game and screen. Also, the paper does not demand expensive kit or specialist training; it asks for good questions and the confidence to let pupils conclude that a resource is flawed. What it does require is abandoning the idea that a digital tool must be excellent before it can be useful. The op-

posite is nearer the truth, as a frictionless, hyper-realistic game would invite passive consumption, while a visibly imperfect one invites argument, and argument is where geographical thinking grows.

In practice this can be light-touch. After a class has played a tsunami, flood, or wildfire scenario within *Stop Disasters*, three questions reframe the whole activity: (1) Whose town is this, and who decides what gets protected? (2) What can the game not let you do, and what does that omission tell you about real planning? (3) If a resident of this town reviewed your strategy, what would they say

you missed? Each of these questions needs an imperfect game, not a polished one. Practically, within *Stop Disasters*, the hotels that shelter people who never lived there, the homes demolished without consequence, the absent politics of who occupies the floodplain and why, all become the curriculum. A short-structured discussion, or a paragraph of written reflection, converts twenty minutes of play into a study of vulnerability, trade-offs, and power for disaster education. Thus, the model would have done its job precisely by being wrong in instructive ways.

5. But Will Pupils Just Learn the Wrong Thing?

The obvious objection is that a flawed simulation will simply teach flawed geography, that pupils will absorb the technical, depoliticized view of disaster the *Stop Disasters* game encodes. While such a worry is real, it is exactly why the teacher matters. Left unframed, a game does teach its built-in assumptions, and the trainees feared as much, with several of them warning that pupils treat it as just a game and take little away from the class. But that danger is an argument for critical framing, not against using the tool. For example, a worksheet, a

textbook diagram, and a documentary all carry assumptions too, but instead of refusing them, we teach pupils to read and use them correctly. Hence, geographical content knowledge is precisely what lets a teacher spot where a model misleads and turn that into a question (MISHRA & KOEHLER, 2006; MORAWSKI & WOLFF-SEIDEL, 2023). Thus, the risk of mislearning is not removed by finding a better game but by teaching pupils to doubt the one in front of them.

6. What This Asks of Us

There is a cost to this stance, and it is worth naming. Teaching against a tool takes more lesson time than teaching with one, and time is the scarcest classroom resource, a point the trainees raised repeatedly. Critical play also unsettles the tidy narrative that technology, properly chosen, makes teaching easier. It does not. It makes teaching more interesting and more honest, which is not the same thing. Research on pre-service teachers' adoption of digital games finds that what predicts thoughtful use is not enthusiasm for the technology but the beliefs and reasoning teachers bring to it (HU & SPERLING, 2022). We should be cultivating that reasoning, in ourselves and in our pupils, rather than outsourcing judgement to the quality of the software.

The wider stakes reach beyond any single game. Geography increasingly asks young people to navigate uncertainty, including climate change,

hazard, migration, and the contested management of risk, and to weigh competing claims about how the world works. A pupil who can play a disaster simulation (e.g., *Stop Disasters*) and then explain what it conveniently leaves out has practiced exactly that disposition, having learned to treat a representation as a position rather than a fact. Therefore, if teachers use serious games merely to deliver content, they waste opportunities to teach pupils to read the model critically, which is at the core of geography teaching.

So, for teachers, the next time a polished simulation arrives promising to make a hard topic easy, resist the urge to ask *whether it is good enough*. Ask instead *what it gets wrong*, and *how you might teach that*. By answering these questions, a flawed game, handled well, could be a better teacher.

References

BROOKFIELD, S. D. (1995). *Becoming a Critically Reflective Teacher*. Jossey-Bass.

EZE, E., & MEHREN, R. (2026). [Stop Disasters Game as a Tool for Teaching Resilience Within Geography Education in Uncertain Times](#). *European Journal of Geography*, 17(2), 221–240.

HU, H., & SPERLING, R. A. (2022). [Pre-Service Teachers' Perceptions of Adopting Digital Games in Education: A Mixed Methods Investigation](#). *Teaching and Teacher Education*, 120, Article 103876.

MISHRA, P., & KOEHLER, M. J. (2006). [Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge](#). *Teachers College Record: The Voice of Scholarship in Education*, 108(6), 1017-1054.

MORAWSKI, M., & WOLFF-SEIDEL, S. (2023). [Gaming & Geography \(Education\): A Model of Reflexive Analysis of Space & Action in Video Games](#). *European Journal of Geography*, 14(3), 1-19.

SCHON, D. A. (1983). *The Reflective Practitioner: How Professionals Think in Action*. Basic Books.

SELWYN, N. (2016). *Is Technology Good for Education?* Polity Press.

Author

✉ **Dr. Emmanuel Eze**

Universität Münster
Heisenbergstraße 2
48149 Münster
Deutschland
emmanuel.eze@uni-muenster.de