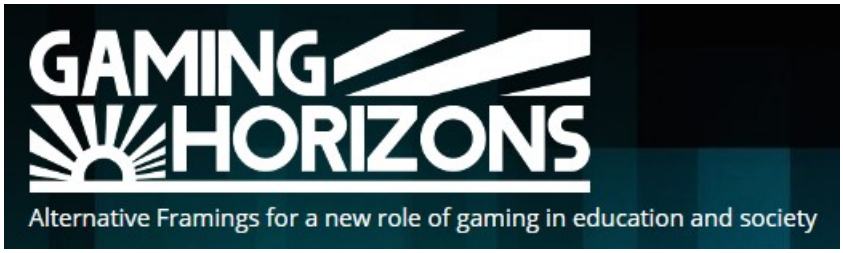


Games and formal education: a difficult marriage

"[The limitations on games in formal education?] Undoubtedly, timetabling is one. And it's an issue that's been debated for years, because it creates many problems. […] Our timetable, our morning, is divided into slots separated by the ring of the bell bringing the lesson to a close. Generally, the use of technology clashes with this idea of whatever's happening, the lesson is over now". *– Quote from an interview with an interview with an educator.* ***EI01***

Keywords: competition, Formal education, Game-based learning, learning design, Many diverse games, serious games

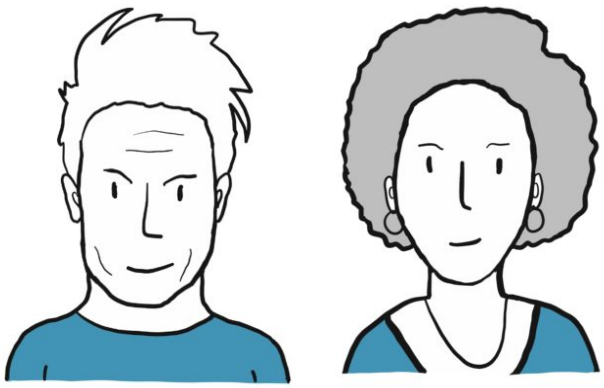
Who will find this scenario particularly interesting? Educators, Policy makers, Researchers, Teacher trainers

Description

Integrating games in formal education is not easy. Firstly, not all teachers are familiar with games or game-based learning and not all students see this 'marriage' favourably, especially when asked to play serious games, which often do not have the engaging power of entertainment games. Secondly, gaming is by definition a free exploratory activity, while formal education has its rules, its constraints, and sometimes the use of games isn't compatible with these restrictions. More in general, playing at school is almost an oxymoron: the nature of play is such that it cannot be done 'under teacher supervision', that is, with a teacher who chooses where, when, and what to play. How can these tensions be tackled? Can such a marriage actually work? And if so, should games be adapted to the existing school system, or should school change to better embrace the flexibility required by gaming and by other types of technology supported activities?

It is probably no coincidence that nine out of our twelve educator-interviewees were players themselves or had been in the past. Nor is it surprising that their teaching with games largely appeared to be informed and fuelled by their experience as players. There is a wide variety of ways the potential of games can be harnessed for educational purposes: from the most obvious – though not risk free – use of serious games developed expressly to achieve specific learning objectives, to the use of popular entertainment or artistic games to stimulate reflection and discussion on ethical or philosophical questions (e.g. That Dragon, Cancer; Fragments of Him; Dear Esther). Our research also suggests that the time is not yet ripe for the creation of a school context which is fully supportive of teachers' efforts to adopt game based learning approaches. School managers, teachers and parents are generically in favour of game based learning due to its recent popularity. However, there is also an underlying scepticism, especially among parents and teachers, that play can support learning as well as, and often better, than other teaching practices.

Meet Jan, a middle school maths teacher and Irina, who teaches geography and history in upper secondary school



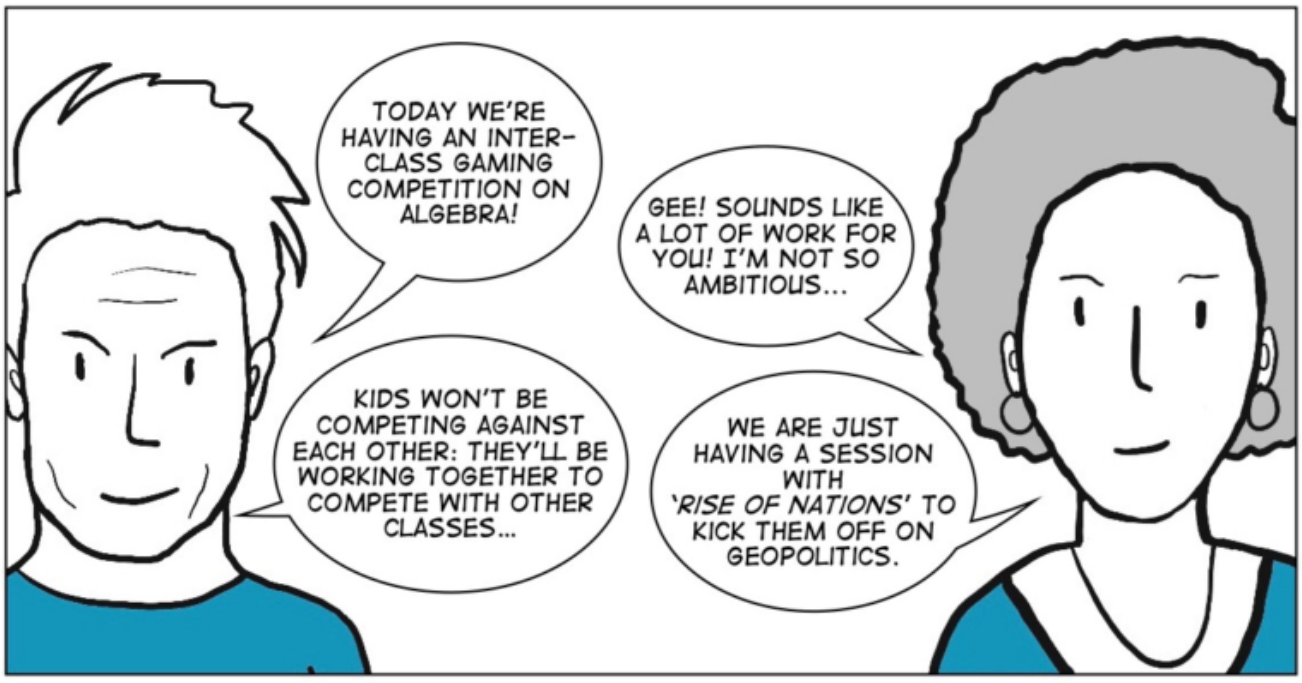
Jan teaches maths in the third year of a lower secondary school. His pupils will face the national exam this year, so he feels very committed to making sure they will be able to pass their first important summative test. The class consists of 25 children, most of whom are around 13 years old, with big differences as to commitment and learning outcomes. Jan believes the better performing students could be of much help to the others, but this is not happening spontaneously because several students are new to the class and the atmosphere is not collaborative enough.

For this reason, he has designed a gamified path connecting the main topics of the math curriculum, and for most of these topics he has found or invented a game

supporting its learning. Recently,

> Recently, the headmaster has been encouraging Jan get the other teachers involved and scale it up to school level. Recently, the headmaster has been encouraging Jan to get the other teachers involved and scale it up to school level. A discussion among them has convinced them that gamification intended as 'pointification' (adding points and badges for motivational purposes but without deeper integration with the content) is not what they want. They are afraid that too much competition can create more problems than advantages. Anxiety is not the kind of feeling they want to prevail inside their classes. Jan's colleagues enriched the path with new activities and games, and their creative input has proved very useful. This is turning out to be quite a lot of workload, but it also has some big advantages. Firstly, the switch they made to inter-class competition makes the atmosphere inside each class more cohesive, as it leads classmates to support one another. Secondly, the typical scepticism of parents now clashes with a whole team of teachers very much convinced of the approach, which helps a lot.

Jan's wife, Irina, is a teacher too. She works in an upper secondary school, where she teaches history and geography. They often discuss the ways games can be harnessed for learning. Irina has only recently begun introducing games in her classes, but her school principal is sceptical and has been less supportive than Jan's was, making it much more challenging to get the resources and institutional backing she needs. She therefore has to count on her own resources and time only. Luckily, as a gamer, she knows a lot of games. She's found one, called Rise of Nations, that's ideal for introducing her students to complex geopolitical topics. She's confident that playing the game will help give them a firmer grasp of geopolitics than they would otherwise get through the rote learning of notions.



The demands of the school timetable mean that she can only manage a single one-hour game session per week in class. So Irina has encouraged the students to carry on playing outside school hours and then discuss their thoughts and impressions about the game content in class.

In a nutshell

Teacher education and professional development in support of game based education should be promoted and should focus on specific game based learning design principles, including criteria for game choice as one of the decisions teachers take while designing for learning. Although most of the responsibility for pedagogical design will be on teachers' shoulders, they should not be left unsupported. To deal with the limitations imposed by formal education contexts, teachers need active support from all stakeholders: school leaders, their fellow teachers, researchers, students and parents.

Investments in teachers' professional development and in research in learning design principles for game based learning are needed. As recent learning design research has pointed out, participatory approaches to learning design are to be privileged, centred as they are on communities of practice. These allow teachers to access and share success stories and failures, with the aim of overcoming problems and devising innovative solutions, and increasing awareness of both the potential and the pitfalls of using games for learning.

Resources

- Squire, K (2011). *Video Games and Learning: Teaching and Participatory Culture in the Digital Age. Technology, Education–Connections (the TEC Series)*. New York, NY: Teachers College Press.
- Blogpost by Sharan Shodhan: Educational Games—Balance between Learning and Engagement
- Kebritchi, M., Hirumi, A., & Bai, H. (2010). The effects of modern mathematics computer games on mathematics achievement and class motivation. *Computers & education*, *55*(2), 427-443.
- Serious Games As A Playground For Learning Math
- DimentionU games: a set of mathematics games
- Rise of Nations

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Partners