The Research Files Episode 51: Game-based learning practices

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In this episode of The Research Files, [we're looking at a project](#) that was conducted in New Zealand, and it's all about game-based learning practices. My guest is Rachel Bolstad. She's a Senior Researcher at the New Zealand Council for Educational Research (NZCER) and began this research with the aim to investigate how games of all kinds might deepen and enrich student engagement with learning across the curriculum. Students as young as Grade 3 and as old as Year 13 were involved, along with their teachers, and the results really do point to the potential game-based learning could have. Let's get straight into it with a brief background into why this research was conducted.

Rachel Bolstad: So, the project, when we started out in 2015, it was very much an exploratory piece of work because I'd had a bit of a look around at this field of games and where do games fit into learning. So I was curious about what was already known, what New Zealand research had already been done in this area, and what I found was that it was quite hard to piece together much of a picture.

So I could find little pockets of work here and there, sometimes some university educators had researched and written papers about their own use of games or gamification in their courses, but I couldn't really find very much that talked about what was happening in schools. So that's what we set out to do.

And I'd looked around at what was happening internationally, and just thinking about the idea that was kind of around in the ether at the time that games, and digital games in particular, perhaps held some useful keys to what the future of learning may look like. So, we were really trying to understand, well what does practice look like in real classrooms with real teachers and students when they're bringing games into that setting? In our case we were very agnostic about what kind of games – so we didn't say we were just going to look at digital games, for example, we were interested in anything, whether it was board games, games that people created themselves in their own classrooms, or gamification.

Dominique Russell: And so you're using the term 'game-based learning' throughout the report. For those who might not really know, what does that mean to you?

RB: So we used game-based learning because that's what seemed to emerge as the most convenient umbrella term to describe a whole bunch of different practices involving games. So, essentially, it can include anything from learning that involves making games or playing games or designing games or critically analysing games. And game-based learning can involve digital games or non-digital games and it can also include gamification, which is, that refers to the idea not of necessarily using games per se but taking some of the concepts and ways that games work and applying them to a non-game situation.

So, game-based learning, it's not the only term that's used in that, sort of all-encompassing way. Some people prefer the terms like 'game-ful' or 'game-infused'. And I think it's important to understand that when we say game-based learning, we're not saying that the whole of the learning is entirely based in the game, but that learning can be enhanced through integration of some aspects of games. Some people use gamification in the same way, so there's a lot of debate around what gamification does or doesn't mean, so we're just trying to use one consistent term.

DR: Yeah, and so also understanding the relationships between how different kinds of game-based learning can fit in with teachers' curriculum and their pedagogical goals was an aspect in the project. So what did you find in relation to that?

RB: Yeah, so it's a really good question and it's a hard one to give a short answer to because what we saw was that teachers who really knew what they were doing with games can weave in almost any kind of curriculum or pedagogical goal into game-based learning. And likewise they can draw out almost any curriculum connection that might emerge through game-based learning. But there definitely were some general themes that I can speak about.

So, first I would say, pedagogically, that learner engagement was a really big primary goal for a lot of the teachers. And often that was why they might start using games or integrating some aspect of game into the classroom, because they knew that that was something their students really enjoyed.

And they also noticed that something in the classroom, something in the dynamics of the classroom, shifted into a different mode when games were part of that space. So they would often describe it using their hands, kind of waving their hands, and talking about the classroom was fizzing or it was buzzing, or it was humming. And one of the teachers in the study put it this way ... she said ... this was very early on in our project ... she said 'something happens when students start playing games and I want to understand what that is'.

So that was ... often the entry point for teachers was engagement, and following the interests of their learners. And then the next thing that I would say is really common across a lot of the contexts that we looking at, was about using games as a way of developing students' individual capabilities and their group capabilities, or what we would call key competencies in a curriculum context.

So often what we would see in schools was the use of games that are collaborative in nature, or social in nature. So from your traditional tabletop games through to really complex role-playing games. And the teachers that we worked with saw those kinds of games as opportunities for students to develop all sorts of capabilities including their ability to communicate effectively with one another, to resolve conflict and tension, to figure out rules or figure out or adapt rules of game play, collaboration, how to strategise, how to become better at games that really kind of stretch them in terms of their prior knowledge or skills, that kind of thing.

And some of the teachers that we worked with – it was very interesting because some of the teachers identified as gamers, and some said at the beginning at the project, 'I know almost nothing about games'. And the teachers who themselves were gamers, they sort of had this insider understanding of some of the games that they used. So they already knew how complex or challenging certain kinds of games could be, so they knew exactly where the stretch points for their students would be and so they could plan for those, or that's why they would introduce certain kinds of games.

So, for example, one of our case studies involved a Year 13 History class and in that class students were roleplaying this very complex peace building, negotiation game, which played out over six class periods. And in that case one of the two teachers there himself played a lot of these complex strategy games and they had really explicit goals about students experiencing first-hand this understanding of how complex real world conflicts can be and through that they were thinking about things like developing students' history empathy, so their ability to not just learn about historical conflicts as a series of events that happened, but to actually think about those from what that might have been like for people who were part of those pieces of history and making sense of choices and decisions that people make in situations of conflict.

So I thought that was a really good example of a way in which teachers were able to bring together their understanding of what's possible within a particular kind of game and merging that really nicely with quite a complex, high level curriculum goal in a specific context, so in this case, a social science context.

DR: Yeah, exactly. I noticed as well that some of the teachers seemed to have discovered that game-based learning would be beneficial if it was integrated into the classroom more in the long term. What are some of the benefits to more long term integration?

RB: I think, and I think this is probably what some of the teachers we worked with discovered as well, particularly those that were coming at it from I guess more of a novice level so these are the teachers who knew that their students were really into games, they thought this is going to be something they'll really engage with, we'll be able to build an inquiry around it for a term. But actually once they got started, they could see that there was so much more possibility lying within the game space, or in particular the game design space, that they simply couldn't really contain it just within the amount of time they'd initially allocated.

So I think it's about shifting from thinking about games as a topic or games as a maybe solution to a particular learning goal and instead shifting into this different space where you actually start to see them as a way of thinking or a way of doing things, and start to see that within this game space and game-based learning space there's this whole set of tools and ideas and strategies that you can draw on in so many different ways to enhance teaching and learning, and I think that's what happens for teachers. Once they started ... I don't want to say it's like joining a cult, but for some of us, and some of the teachers we've worked with, it is a little bit like that ... you think it's one thing and then you start to engage with it and actually you start to see there's so much more you can do and also you want to be able to bring your colleagues along with you.

DR: You also spoke to secondary students as well – not just teachers – so I'm interested in perhaps some of their opinions and reflections about the role of games in their lives and in this education setting.

RB: Well unfortunately some of the secondary students that we talked to did express a sense that, not only was their interest in games perhaps kind of looked down on by some of the adults around them, but sometimes they felt like they themselves were looked down on or dismissed because they were, sort of considered to be not successful students, or students that were mucking around or wasting time or focusing their attention on the wrong things. So that was very interesting.

We did find that students – not just secondary, but students of all ages, so we talked to students as young as Year 3 and 4, primary students, right up to Year 13 – and they could talk at length, and very passionately about games and why they loved them and what kinds of games they enjoyed and what they thought that they learned through the games that they played. And one question that was of particular interest to lots of teachers was they would look at students playing games and they'd say, like, 'why is it that these children will spend hours and hours and hours trying to overcome a particular challenge or complete a quest in a game, but we don't see that same persistence and motivation in another setting, in a learning setting?' So that was one of the things we talked to students about.

Actually the students were able to really clearly articulate, for them, what the differences were and why it was that games kind of, even if they were struggling or failing in a particular aspect, still gave them that kind of pull to continue. And they often felt like school didn't give them the same degree of sort of instantaneous feedback on how well they were doing, or the sense of gratification that they would get within games that would keep them going.

But I guess, like everyone else, students are diverse in their interests and some like certain kinds of games and others like different kinds of games and some didn't really particularly like games at all. They had different interests and passions.

DR: Yeah definitely. And just finally then, there were some strategies as well that were listed about how to become a game confident teacher. Could you go over what those are?

RB: Yeah. These are just some of the things that we noticed seemed to help build students', sorry, build teachers' confidence and capability to explore games or to keep adding to their game-based learning repertoire. So one of those things was simply doing some reading or listening to podcasts or finding content on YouTube to expose them to more ideas about game-based learning.

So that's one of the strategies. And, again one of the things teachers would tell us is that once you start thinking about games and you're attentive to game-based learning content, they find they can find stuff everywhere, so there was plenty to read.

The next strategy was actually playing games and particularly for teachers that didn't think of themselves as being game players, or didn't think they were really interested in games, other teachers who sort of found themselves in that position thought 'well, actually maybe I don't really know as much about the kinds of games that are out there than what I just know from my own personal experience'.

So finding opportunities to get together with friends or with other teachers to share ideas about games that have been useful in the classroom or even just learn some of the newer games that are out there, including tabletop games. There are some really amazing, awesome, beautiful tabletop games that definitely weren't around in my childhood, and I think there's a lot happening in that kind of game space. That if you're not actively part of that community, you actually might be missing out on some really amazing resources.

And also the idea of having a go at trying to design games. I think that's a really challenging and useful way to get a … sort of diving in the deep end I would say. And realising that the process of game design itself is a hugely rich, learning opportunity, because it's very hard to design a game, design a good game.

Another thing that teachers often did, and this is particularly in the primary classes that we worked with, was that teachers would actually find out what students already know about games, or even take advice from students on games they could try or a teacher might sort of put out an idea of something that they were going to focus on in their learning and then ask students to suggest games that they knew that they thought lined up with that learning goal.

And I think that's a really important message too is that through game-based learning, students' knowledge

becomes a really useful resource in the classroom. And particularly game knowledge, which isn't always considered to be, let's say, valuable knowledge, or worthwhile learning knowledge, actually with an experienced teacher who knows how to make those connections, drawing out that existing knowledge resource that students have got and then finding ways to build on that opens up again, opens up so many new pathways.

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