

Making Learning Engaging Through Interactive Games

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Interdisciplinary

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Week – 03

Lecture – 7

So, today we will see some of the digital games that have been created across different subjects and using different mechanics, how they are applied across different subjects. So, that will give an illustration that it is possible to apply these very simple game mechanics to a variety of fields. To get started here is an example of a game created for basic civil engineering. One of the basic concepts is about construction building and what are the steps involved in it. I am sure this game mechanism of sequencing is needed in several other subjects and topics too, but here is an illustration in this context. So, I click on this and enter my name and then just get started.

So, what are the steps for construction activity? Click on start. So, need to read the different steps involved and try and order them accordingly. So, let us try to take a shot at it. First, you need to survey the land and mark, maybe then have the foundation, possibly the column, I am just guessing here.

Possibly the beam, the walls, the roof, slab and finishing. I am not sure if I am right but let us take a shot at it. Let us see how it goes. Okay, I went wrong in three of the steps. Now let us see the answers.

And let's see the sequence of wall, roof and slab. So first is slabs. Yeah, it's understandable now as it shows the correct answer. Then wall and roof. And then it's the finishing.

So this simple game, even if you make errors, if you keep playing twice or thrice or give it as an assignment to the students or it can be a self-learning, tries to reinforce the sequencing operation. So, this is an example of the sequencing mechanic and now let us see another context, matching. Now, matching again there are several games available. We are going to just see one variant of it, there is this popular go fishing, matching flip the cards and see whether it matches, match the following several examples. But here is an example where an aeroplane is flying and it hits the clouds and the subject is AI ML.

Again, not deep AI ML, essentially real life use cases of AI ML. For a novice learner or for a general enthusiast who is not really into the field, but help understand the applications of AI ML. So, we have this aeroplane flying and the theme is robotic surgery as can be seen at the bottom. Robotic surgery is not, you just keep navigating up and down so that you don't hit the wrong cloud. It's for high precision surgery.

So yes, we need to avoid the wrong clouds. Next is book an Uber. That was for navigation. Spam filter is for emails.

Let's see. It's not for managing customer complaints. It's not for fingerprint recognition. It's for spam mails, yes. And keep flying, avoiding the wrong clouds. Locker access restriction, bank locker access restriction.

It's not this. Need to navigate path. Now as i hit the wrong clouds the lives in the top so we've got the fingerprint recognition. AI chatbot, let's see where it's used for, not for this, manage customer complaint seems to be right. Yes! As you can see on the top right you have number of lives and the number of correct answers.

Okay just so that i don't miss the recommend movie it's netflix clearly. We missed the one netflix and here we watch out for the next. You need to be very focused on the game so that you don't hit the wrong clouds. Yeah here we managed to hit it. So we got we managed to get all six but after making a few errors now you can show the answers and it also not just shows the right answer but also the incorrect attempts were made earlier.

So, although some of them were accidental, it still helps to know. So, we go back here. So, that was an example. And here again, we have plenty of examples that can be used across subject context. So, the next game mechanism is mountain climb.

If we get all the answers right, we end up climbing to the mountain top. So, let us try. I am not good at this, but let me give it a try. So, the first answer is right and the climber gets to climb the first set of steps. Okay the next one is 69.

No, the answer is wrong. So the player gets to stay put in the same place . What's the balanced equation for calculating the theoretical air for propane well let's click this and see. Yeah, the climber gets to move up. I am just taking a guess.

No, the answer is incorrect. And let us see the last one. Yes, the answer is right and you got to move up, up to the third point so three answers right and we got to move up.

The last one. No. Answer is wrong. We stay put and here is our performance three out of

six and time taken is recorded. We can view the answers and review them where we went wrong. And of course, we can start the game again. So, it is a small fun game, can be used in any context.

The next one is very popular, it is a label diagram. It has tremendous potential to be used across different subjects. Here, it has been used in the context of Krebs cycle diagram in biotechnology. Almost all of these are student developed games for the different fields. Once they learned the tools so just to show the breadth of applications.

We need to mark the respective places in the diagram. Well, i'm clueless so i'm just going to i'm just going to mark blindly and this is just to illustrate the tool. I hope I get at least a few right or let us see how it goes. Nope, I got all wrong.

I got all of them wrong. Sorry, I had no clue of this subject, but again, it has been developed by a student of that field. Let us see the show answers and it allows you to see the correct answers and again flip between the correct answers and my answers. So, this again plenty of applications you can use for geography, marking the maps, biology, chemistry, physics, wherever there is a diagram involved and you want to know the component and parts, it has applicability. Next is a variant, this is again a quiz, but variant, it is a game show quiz, some kind of like the who wants to be a millionaire, not exactly the same form, but very, very closely related to that, a modified quiz I would say. It is been designed for metallurgy, the context of polymers, let us take a look at it.

Okay, what resin identification code does this image indicate? No idea. I'll again give it a try. Oh, happened to be right. So that's PVC. What material are the cans in the image made of? Maybe polystyrene? Yeah, happened to be right.

Which was the highest application of plastics globally? I'm guessing it's packaging. Yeah. Not bad. It's a brand made in India maybe.

Okay. This one I'm sure I have no clue. Let me try.

Triclinic. Okay. Monoclinic is right. Okay. What's the crystal glass for a polypropylene syndio? No idea.

I'll just take a wild guess and... Nope. Show answers. Again, my answers and the right answers are shown. Very simple quiz. This has been played in the simple mode of a regular quiz. We will see the variant related to the game show mode soon.

You just need to flip it to the game show quiz and here you start. The same exact set of

questions but it's shown differently. First one I remember it's PVC. Let's take help for the questions I don't know. You have a time bonus here depending on the time taken to answer the questions.

So this was polystyrene. Again there's going to be a bigger time bonus because i got it quickly. Yeah it's a repeat of the same question so you get to do it faster although the game mode is different which of the following has the highest application packaging You have an attractive background sound. It's the same quiz modified in the game show, making the visual as well as the background music more attractive. And including the time bonus component. So here you have a bonus round where you need to be careful.

Let's see whether we can get the 200 bonus. Is this the one probably? Oops, I missed it. Let's click.

Yeah, I happen to get it. Nice. Nice. Okay, I hope the question is easy here. Ah, I remember the answer. Yes, it's India. I think for the next set of questions i might have to take help let's see which is where these mechanics apply and so shall we go for 50 50 i think monoclinic is right. Yeah, is a crystal glass for polypropylene? Maybe I do not remember what I answered, what was the correct answer last time? Is it triclinic? No.

Okay. Okay there is another bonus round let's watch out for the plus 200 or lifeline. I'll go for the lifeline this time. Oops it's moving too fast i don't think ah managed to get it. Good Because the answers for the remaining questions, I have no idea.

I'll have to go for the 50-50 again. I mean, even then I'm not sure whether I'll be right because I'm out of touch with the formulas. It's been long. Repeat unit for poly.

No idea. I'm going to give it a wild guess. Somehow managed it with a 50-50 otherwise there is no other clue with which I would have gotten this close no idea absolutely both of these lifelines are not going to be helpful at all give it a try Nope. Okay, so that was just to illustrate the game show quiz and the lifeline options to make the learning very interesting here. I wish we had more clues of the 50-50 kinds or but anyway this definitely creates that interest in the subject. So again it shows what questions and what answers were answered and you can be back and you can play any number of times, of course. So, these are some games that have been created by faculty and students for the respective subjects and these can be extended across the board for other areas too.

Just thought I will give a small glimpse, having learnt the digital tools, these are some of its applications for classroom revision.