

Making Learning Engaging Through Interactive Games

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Interdisciplinary

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Lecture – 3

So, good afternoon and welcome to all of you from Hygia. Thank you Dr. Ankur, Dr. Preeti, Dr. Srivastav, Dr.

Mishra and Dr. Prajapati for joining this meeting to discuss about how to make classrooms engaging and interactive. Your college faculty, some of you have tried out this game and play-based methodology over the last couple of months and would like to hear from your experiences. But before we get started, I just wanted to know the background of how you have been finding classroom teaching evolve over the years and what specific challenges you have been noticing in the last couple of years.

Dr. Ankur, do you want to just get started with the context? So I think most of us till now, all of us have gone for the traditional classroom system only. And every system, it has its demerits also. So when we talk about the traditional classroom setup, It is very much instructor oriented. So the major limitation is that we are having a fixed rule and a fixed set up of students and they are simply watching the instructor.

And in most of the times the classroom is having the large number of students. It is not always possible for the instructor to to keep to to track all the students, students at one time. So when we talk about the newer systems, right now also we have talked about this active learning classrooms also. Now we have moved to this gamification era also. So whenever I say these phases, first initially means traditional system and then active learning classrooms.

And now with the advancement of technologies, we got so many things for us to make learning more interactive and engaging. So definitely, as we all are teachers and we know that in a single classroom setup, we are students with different learning abilities. So it is not possible for a teacher to simply use one methodology and cater all the students in a single group. So when we came across this gamification thing, so we tried to incorporate those things in our routine syllabi or curriculum also, but definitely we do have some

kind of limitations in that we need to complete our syllabus in the respected time period only. So definitely we use some of your tools in case of practical sessions.

where we spared time from that. Earlier we used to conduct those vivas and all. No doubt, the waiwas are still going on. But some of the part that we need, OK, the student should have the knowledge of these particular things every time. So we incorporated those kind of things.

And the students found it very interesting and very easy for them to learn those kind of concepts. Because it is not possible for teacher always every time they need to revise that particular thing, definitely. If i need to highlight key points here i mean the revision part or the recalling part it served very beautifully and the third part is that the teacher was bit relieved from the evaluation part also so these were the things or moreover the engaging lesson plans that align to the curriculum also and i think It also served the Bloom's taxonomy. I mean the different levels, say the lower order thinking to the higher order thinking also. So they helped our faculty to design different type of questionnaires, depending upon the nature of the, you can say the problem, which we used to deal.

And I think the formative assessment was one of the things in which the gamification worked. So, most of the implementation part, it was very much done with the help of my team. SP sir was there, Vivekananda sir, Preeti ma'am, Pragya, Noshad sir. So, I think they'll better give you the idea how they actually took all those things ahead.

Thank you. Thank you for this context setting and sharing your initial overall experiences and glad that you've adopted the methodology. And we will go around now to hear from the individual practitioners, your experiences, what you tried out and how you found it. So, should we start with SP Mishra sir? Sir, would you like to share some examples of what you have done and what you have seen in the classes so far? Sir, actually I have prepared games on two platforms. One is Wordwall and the second one is Kahoot. I find that Wordwall gives more options of gamification like it gives quizzes, anagrams, matching words, crosswords, speaking cards, open boxes and it is quite friendly for us to make a game and with the help of these two platforms I made some game I made some game under organic chemistry.

And in organic chemistry, students can easily adopt it to understand the functional group matching. They can easily remember the structure of some drugs. And it also helps to understand the different kind of structures, like isomeric compounds, alkanes, and normal butane, as well as So, I think it helps to recall then their chapters and their curriculum and it also some kind of it also very interesting. So, they can understand the things very easy with the fun.

Okay. So, it is quite good. So, it is easy to prepare games, it is fun and it is easy to administer is what you are saying. Definitely. Okay. So, these are very important ingredients because even if we have the platforms, the easiness of preparation and administration is very essential for a teacher.

Thank you. Thanks for your views. We will go to Vivekananda sir or we will probably go to Pragya ma'am. Pragya ma'am, what have you done in your classes? Which topics have you taught and what has been your experiences? Sir, I'm basically a HAP teacher, human anatomy and physiology. Apart from normal teaching, teaching from verbally, I opted this technique of gamification. From that perspective, if I talk about, suppose the system is cell, you have a cardiovascular system, so it helps in engaging and more learning skills.

It gives the deepened understanding to the students in case if we talk about the cardiovascular system, how the blood helps to communicate with the systems other than systems and how the oxygen distributed throughout the body. It explains the minimal ways of learning and it also builds interest in the students also. Apart from normal teaching, when students play the games, they also excite their different tools, gamification and the engagement also helps in motivating the students also. So apart from digital learning skills, it also increases their digital literacy skills also. So I have also seen that active participation of students is also increasing day by day, playing the games. Okay, that's very good to know.

So you notice an active participation is increasing, students are getting more engaged and the interest level in the subject is also growing. Are you able to see because of the usage of games? Yes, in the leaderboard of the games, we can see the scores also and we have taken the feedback from the students also. They are quite engaging and learning. They are learning the things from the gamification tools also. Okay, that's good to know.

Thanks for sharing your experiences. We'll ask Dr. Preeti. Dr. Preeti, what are the areas that you have been teaching and what has been your experiences? Sir, my experience with the children was that our gamification learning was very supportive in our class.

Actually, the engagement of the children through us has increased. They have an enhanced learning experience. And the best benefit I have got from this is that we get the feedback of the children immediately. That how our child is capturing something and how quickly he is absorbing that thing. And first of all, sir, this was a good thing for us.

First of all, sir, this was our fear that the time for our children's course coverage is

getting very fast. Like I teach microbiology, in microbiology, The topic of their children is staining. So, in staining, what kind of dyes are used? In particular, which dye is used in staining? In this, almost the children are confused. So, what happens with this? If we give them questions through gamification, in which the children easily understand that which dye is to be used in this. And sir, the second thing is that the child's personalized learning improves.

And there is improved retention, enhanced motivation. All these things that I saw, I saw more benefit in it. And plus, sir, there were some challenges in making gamification. For example, many people do not know about gamification. So, lack of understanding of the gamification process.

And second, sir, our failure to integrate gamification with the curriculum. They didn't know anything about gamification. Later they came to know about it and gradually took it in. So, all these things were from my side, sir.

Okay, thank you. Thank you very much. So, you have seen an increased involvement of the students. You found microbiology, dyeing processes, classification of dyes easy to explain and student engagement also was significant.

Yes, sir. Okay. Thank you. Thank you, ma'am. We'll go on to Vivekanand, sir. Sir, what has been your subject and what has been your experience? Sir, I teach here biopharmaceutical and pharmacokinetics to third-year student, B. from third-year student. Sir, I'm using this gamification learning in a particular subject like absorption, distribution, metabolism and excretion topics and have created games on the Wordwall, which provide the very good result to the students for engaging them to the related to the subject and also it provide the active participation from the student and the students get immediate feedback from their gamification that's why they are they are much interested to play games related to their subjects .

Okay, that's a very important point. Yeah, go ahead. Okay, so they also improve their critical thinking skill. And also they learn and cultivate a love of learning to increase the long term engagement of the students. Overall gamification learning has the potential to make learning more enjoyable, interactive and effective, like Wordwall Game and Kahoot, Quizizz, lots of game I have used in the preparation of my subjects.

Okay. So, you mentioned about one important point which is instant feedback, immediate feedback to what the students do. So, that is definitely cited as one of the biggest advantages of gamification. People quickly know where they went wrong. Sorry to interrupt you sir. They also encourage by seeing their results immediately and they

actively participate after seeing the result.

And the competition is in between students, how much you get and how much I get. That's the environment created in the classroom. Okay, nice. So the competitive spirit, a very healthy competition is created and also immediate feedback is obtained by the students. So these are definitely positive aspects of gamification.

Now, thanks to each of you for actively adopting it and also sharing the benefits. Now, I just wanted to extend on what you said recently about competition. Usually, how is this competition that you see, and any of you can answer, usually competition sometimes can be healthy, sometimes can be unhealthy or demotivating. Sometimes what I've heard is, students usually, when their performance goes low in a subject, let us say they get low marks in a particular subject, they tend to get demotivated.

Some students get demotivated. But in a game context, they don't feel they have lost or anything they want to try again. Are you able to see the same experience? Because that is one of the reasons why a game provides what is called a fail-safe environment. See, ideally if you lose in a competition or if you don't score good marks in an exam, it could be a demotivator. But in a gamification environment, it seems to be actually motivating students to perform better.

Just wanted to hear your views on that. Sir, it provides the motivation because if a student fails first time, they do not get the appropriate answer of the questions. But again, they are motivated and they learn from this and try it again and get the better marks by learning the things. Right. So in that sense, games provide what is called a fail-safe environment.

It is OK to fail. It's OK to not perform well in a game. Whereas in a regular exam or assessment, that more becomes like a frozen thing. I mean, your mark is determined for the semester. It will affect your grade and things like that. So games, in that sense, provide more opportunities for a learner to improvise themselves.

Is that a fair statement? What is your opinion? The other faculty would like to hear your views. We heard Dr. Vivekanand talk about this. What do you think, Pragya ma'am, Mishra sir? Sir, after completion of every unit, we used to make the games in the Wordwall also and in Kahoot also. We have seen that many students who are scoring less marks in the next upcoming games, they used to score good marks also.

We have analysed that. You have done that and you have seen that improvement happening.

Yeah. Okay. Improvement is happening, sir. Okay. Very good to know that. Okay. So, great. So, we discussed about immediacy of feedback, more engaged students, active learning and improved digital skilling of both the teachers as well as the students. So, these are all some things that you are able to actively see using these simple tools.

What other dimensions, from a preparation perspective, I would like to ask you all, is it more time taking? Is the time invested worth it from the engagement aspect? What would you say to a person who's planning to adopt this gamification methodology? What is the advice you would like to give or suggest to a new person who wants to adopt this? What should they watch out for? It takes hardly one or two hours making the games. It depends upon the type of game we are making. But definitely if it comes from the context of students, if it's worthwhile, we are more keen to make the games because it helps in better understanding to the students also and active engaging also does happen. So I think the game-based tools are quite interactive and engaging.

So we are more keen to observe that. Okay. So, it is not too much time consuming. There is only an initial investment of time, but you feel that it is worth that investment for a teacher because it helps in getting the engagement done. Yes, sir. Okay. So, students, when it comes in the context of this, that students are getting benefited, then definitely it is worthwhile for us.

Okay. Great. Good to hear that. What are the other dimensions one has to encounter or probably one has to factor in when they get started off on this journey? Would you have any other suggestions to a new teacher who is probably looking at adopting these methodologies? Do you have any suggestions or advice for them? I have one point to say here. So when we talk about this whole journey, I mean the traditional classroom system and the active learning atmosphere to this technology or the gamification, I think in the earlier times, we were very much about that what to learn. And now the time has come, we need to know how to learn. So it is very much in line with the national education policy also because it very much emphasizes on the practical learning. Means it is not about the theoretical or the curriculum or the syllabus work only but it is it's our responsibility to make our students learn means how you need to learn the concept and what are the various means where they can implement or apply their general concepts.

So it is about how to learn. And moreover, when we are simultaneously keeping our students engaged, it actually makes a difference to the learning also. So no doubt all the processes or all the tools what we have used, they were actually the time saving, I mean the energy saving for the teachers also because they don't have to evaluate the long tests and moreover the quick feedback was also there. And moreover I think for a teacher it is

very important what type of questions we are framing. What order of questions we are framing, I mean, when I talk about the order of questions, I mean the level of, you can say toughness or whether it is a easy question or whether it is a tough question. So I think if students are learning parallely, teachers are also learning.

Means they need to think over and over again what type of questions I need to put in a particular type of game or particular type of tool. So I think we both are learning and definitely it is worthwhile to recommend such type of techniques to the other fraternity, teaching fraternity also, so that students and teachers both are benefited from all these concepts. So I found it very interesting actually.

Okay, so thank you. You brought about two, three important aspects. Number one is the national education policy. Just to, for the benefit of the audience, so they have recommended this experiential and active learning to move away from the traditional old methodology, so it's in direct alignment. And in fact, they have recommended gamification as one of the pedagogies to be adopted. And so that's perfectly in alignment. And the other point that you mentioned about teachers and students also keep learning as a part of the game design itself.

That's a very nice thing because it's not to design a game also involves active thinking, what kind of questions to frame, how to design the game, what kind of visuals, what kind of framing of questions, what kind of multiple choice, whatever be that, right? I mean, it's a new experience for the teacher. And as a part of it, the teacher also learns. So thanks for highlighting that nuance of it. So that is very important for the educator.

So that's it clearly goes to show that it's something worth adopting. So I think. The one point that I think I'm not sure Mr. Mishra touched upon earlier or so the many of these tools that we spoke about are what do you say aligned with the formative assessment. Many of the tools are because we these are very simple to design quickly can be administered they are more suited for automated administration and correction for formative assessment.

This is another point which I noted in the National Education Policy. They are again trying to recommend teachers to go more with formative rather than always with summative, long answers, assessment only at the end kind of a thing. Because earlier, the assessment methodology used to be, I mean, in the age-old days, it used to be like a long mid-semester and a long end-semester with all of them being long answer evaluation. What needs to happen and this is also in alignment with the periodic feedback and instant feedback thing is do more of formative assessments and more often so that the time at which the students get assessed and the time at which they get feedback is closer to the

time at which they learn the concept. So it just occurred to me and I thought I'll share that with you.

Okay, so thanks all of you for your inputs. Any other dimensions that a teacher needs to watch out for or teacher I would say not an individual teacher or an institution needs to watch out for because the one good thing is that you adopted it at an institution level by attending a faculty development workshop and actively encouraging and embracing this methodology. What other aspects would you recommend for a new institution that would like to get into this? So I think with the advancement of the technology, I think the human behavior, it plays a very important role. So actually everything, it actually started with the human behavior only. So we need to know at this very particular moment, how technology is changing human behavior. So it's time to incorporate different type of technological efforts in our day-to-day learning or day-to-day teaching also.

So it is worthwhile to add different tools or different mechanisms in our routine teaching also. Means definitely it will save our time and definitely it will add different dimension to learning also for students or whosoever is the audience for that absorption of knowledge. Sure okay just to be keeping in pace with the changing trends technological trends and so it's very essential it is inevitable is what you are saying. It's important and inevitable that we embrace the change that is happening in the world.

Thank you all thank you Dr. Ankur, Dr. Mishra, Dr. Srivastava, Dr. Singh and Dr. Prajapati for actively embracing and practicing this game-based teaching and learning in Hygia and also sharing the benefits that you have seen in the last couple of months. Thanks for taking the time to do both the practicing part and also I'm sure your experiential share will come in very handy for all those who want to adopt this methodology. Thank you very much.