Let's Play To Learn

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"Tell me and I forget. Teach me and I remember. Involve me and I learn"
-Benjamin Franklin

Acknowledgement & Gratitude: My deepest gratitude to the almighty God, parents, well-wishers, friends, colleagues, teachers and students who in various different ways have helped me embark this journey of teaching and learning specifically in the path of play/games. I continue to be a learner in this path and wish to share my experiences in my journey, various different experiments and what I learnt from them and also the work of several other educationists, practitioners, researchers in this field.

Context Setting: My first detailed research publication on Play/Game based learning occurred in 2018 when I submitted my work for the 9th National Teachers Science Congress, held at Ahmedabad in Dec 2018[P1]. Later, I had an opportunity to expand on that work when I presented a second paper in "Future of Learning Conference 2.0" held at IIM-Bangalore in January 2019[P2]. Ever since then, I have further experimented and expanded consultancies in this field and researched deeper into this topic and I am now collating all of them into this article. In one sense, each piece will build on top of the previous work, while retaining what still holds good and adding/replacing newer evidence.

Article specific thank you note: A very big thanks to HR Mohan (IEEE) for providing this opportunity to contribute to the newsletter. Sivapriya and Sankalpa, the students with whom I got to work in the last few months, also deserve their thanks to the extent they could contributing in editing and adding value to this newsletter.

Introduction

With the world grappling with an exponential rate of change, continuous learning is a must. Despite the wide availability of low cost, high quality learning, learners and trainers struggle. This could be due to reasons such as, purely theoretical knowledge being taught, the content not being customized for an individual learner's ability, the grading system and its detrimental impact on learning as well as the focus on one's intellectual development at the cost of their emotional maturity. These approaches are by and large unidirectional and does not involve peer to peer or student-teacher interactions. Learning happens successfully only when the learner gets engaged.

Play or game or activity based learning an alternative may be the solution to these issues. Play facilitates a *flow or happiness* state (Mihaly Csikszentmihalyi) that separates the joy of learning from the anxiety and boredom it may cause.

A game provides continuous motivation and enables fun during the learning process (overcoming difficulty/monotony). In a game/play, failure/loss is not seen as a taboo. Play encourages (Stanford Psychologist Carol Dweck) *growth mindset* thereby encouraging learner to repeat the learning (persistence). While playing a game, people are actively involved interact with each other, thereby encouraging collaboration and peer learning. Games addresses all types of learners in VARK (Visual, Auditory, Read-Write, and Kinesthetic) domain. It is possible to design games for varying abilities of learners with sufficient motivational elements to help them stay involved. Leading Psychologists and Educators (Peter Gray) have started increasingly started emphasizing the role of play in learning. The good news is any kind of content – concept, terminology, process flow, rules could be adapted into play/game form at fairly low costs.

When we look at different cultures and philosophies across the world, specifically the Western, Indian and Japanese settings, on what constitutes a system of effective learning, we find some broad commonalities and it is very interesting to note that play/game based learning enables the environment that is conducive for those learnings.

Play, much beyond learning effectively forms the essence of building life-skills in an individual. In today's world, much beyond the academic and aptitude skills, building entrepreneurial skills and life skills is of utmost importance. There is evidence to show that play forms the foundation of these skills too.

Given its multitude of benefits, it is worthwhile to frame policies or facilitate processes that encourage educators to incorporate these techniques. In a nutshell, let us all *Play to Learn.*

Effective Teaching-Learning-Processes through the Ages

In the ancient times, prior to the Industrial Revolution or maybe until paper based modes of documentation was invented, learning was enabled through practice and apprenticeship. This refers to learning of any kind. For example, if someone

wanted to pursue medicine back in the day they became an apprentice under a practicing doctor. They observed, assisted and learnt as they saw the doctor in action. The doctor would check the patient, prescribe medicines, perform some minor surgeries etc. All of these skills were learnt by observing, listening and asking questions. The doctor also would also take some time off and explain a little bit of theory about how things work. But it never started with just plain old theory and lectures!

Over a period of time, the juniors would also get to do some real work. Gradually with time, they would get to do more regular tasks and in longer periods of time until they master the art. The same story holds good for all professions - artists, engineers, accountants, lawyers, singers and every other profession as well.

It was always *Learning by Doing*. There was of course observing, peer and instructor interactions and maybe a little bit of theory.

Even today, skills like driving a car, riding a cycle, swimming, cooking are taught and learnt this way. However for larger professional fields like engineering, medicine, commerce, law etc., somehow we have moved away from this approach and instead ended up building curriculums, large institutions, and institutionalized the pedagogy to books, lectures and theory. At this stage, we're not sure when and how this exactly happened.

Indian civilization, which is one of the oldest in the world, is rich in its literature and examples. To quote one shloka here along with its meaning. [A1]

आचार्यात् पादमादत्ते पादं शिष्यः स्वमेधया ।
सब्रह्मचारिभ्यः पादं पादं कालक्रमेण च ॥

One fourth from the teacher, one fourth from own intelligence,
One fourth from classmates, and one fourth only with time.

From the western world, Charles Jennings proposed a 70/20/10 model [A2], where he talks about how 70% of learning happens on the job, 20% with peer/social interactions and 10% through classroom/theory.

Japanese Martial Arts - ShuHaRi [A3] system is one where for the student to learn martial arts, there is no need to learn theory. It just starts with imitation, blindly doing what master does, which then gradually moves into assimilation and innovation phase.

However, the reality is that we are surrounded by an unhelpful form of pedagogy be it book based, theories, lectures or instructional learning. How do we deal with this reality and learn better at it for the sake of both teachers and learners?

Even if for a moment, let us assume that the lecture/instruction based pedagogy is the only one available. There are several aspects that determine the success of instructional/lecture/power point based teaching/training. Two of the most important ones are

a) Characteristics of the instructor/teacher/trainer - Their energy levels/positivity/ability to engage the different participants by actively listening, being patient and empathetic to different levels of learners' interest/difficulty levels in grasping topics and last but not the least, making the class fun, light-hearted. Hardly about 10% of the instructors possess these most of these traits. This might look surprising but if we look and reflect on the teachers whom we recollect from school/college days, it would match this number.

b) Method of delivery (Case in point PowerPoint) - A common problem with humans is that we often want to transmit all the information we know to others and think that we have enabled learning. Far from the truth. Even experts fall into this trap. And so, most power points are full of text, information and often run into too many slides. It is far from effective. There is only some information that the learner can grasp and digest in a given duration. PPTs therefore are just aids/tools for highlighting some key words/phrases. A good power point would actually have a lot of relevant visuals (pictures/cartoons/caricatures. Whatever form...) that supplement text. Once again, we have just about 5-10% power points that get well prepared.

So, considering (a) and (b), the instructional learning is by and large rendered ineffective. Note: This is not a criticism against instructors. Instructors could well be very knowledgeable in the field...but it is one thing to KNOW and it is a very different thing to TEACH/TRANSMIT knowledge.

The good news is that slowly at-least some educationists have started realizing the flaws of this system and have come up with alternative frameworks.

Alternatives to Instructional/Lecture Based Pedagogy

The best form of teaching-learning process continues to be apprenticeship/experiential learning. There is nothing more superior to that. However that is a very expensive proposition today and would need lots of investments and trained practitioners. What could be the next best? It is simulations. Simulations either through basic software or through advanced AR/VR could provide the learner the experiential learning to some reasonable extent. But then again, we land up with the practical constraint of costs.

We find quite a few positive alternatives to supplement the existing pedagogy of lecture or instructional learning. Story-telling, audio-visuals and role-plays are forms that are effective and engage the learner. Play/Game based learning is also a form that is certainly worth looking into and in this article, we will see why this could be a more universal approach than the others in terms of cost-effectiveness and ease of implementation.

Before getting started with this, it is worthwhile reflecting on the article "How to Learn Anything - Sonmez 10 step system" by Charles Chu (A15) where a very refreshing perspective on learning process captured in this article, and the importance of PLAY in it.

The author summarizes towards the end as follows

It looks something like this: play → study → teach → play → study → play → study → teach … and so on. //

The other big lesson? Learning is about play.

Why Play/Game Based Learning?

There are many reasons why play/game-based learning is impactful over instructional learning. We will try and see a few key reasons.

a) Fail-Safe Learning -> Persistence -> Growth Mindset

One of the biggest challenges in a classroom is for the trainer/teacher/instructor to make the learners participate - Share their comments, ask questions. No matter how friendly and non-judgmental the instructor is, there is always this inhibition amongst the participants and there will always be a set of learners who do not participate. The underlying reason is simple but extremely important to understand. "What if I ask a silly question, what if I make an incorrect comment, what would others think of me?" We do not want to look bad for whatever reason in front of a crowd and hence prefer to keep silent. Going beyond classroom participation, the assessments also deeply drive the feeling that some people are good based on the marks/grades they score and others are not as good. But how does one get over this?

Here is where game/play based learning comes in very handy. A game, by its very nature has players leading/lagging at different stages, based on points scored or progress achieved. A wrong answer or a move is not seen as a failure and seen more in the fun spirit and the player is curious to understand why they went wrong.

Rich Delgado (2015) in this article talks about how organizations are using gamification as a technique to help their workers overcome the fear of failing [A4] He specifically quotes the words of the gamification thought leader Gabe Zicherman in this extract below.

Kevin Shane (2012) in another article [A5] talks about how games in education help children learn by failing. The snippet below is an extract from that article that talks about how games provide a fail-safe environment to learn through mistakes.

Two related aspects of creating a fail-safe learning environment are that it encourages learner to persist and cultivates growth mindset. Incentivizes Persistence: During the process of learning, specifically while encountering newer subject/topics/concepts that are perceived monotonous or difficult by the learner, it is important to persist - i.e. read and try learning the same topic repeatedly to get better clarity. But given that the subject/topic is already perceived as difficult, it is all the more difficult to make the learner persist without motivations/rewards. Here is where game or gamification concepts help. For instance, a game can be designed by encouraging the player to take multiple clue cards to attempt the answer to the same question. Encourages Growth Mindset: The famous Stanford psychologist Carol Dweck came up with the famous Growth Mindset, [A16] that is very key and fundamental to learning. It is making the learners believe that they can improve, no matter where there are. It focuses on measuring the effort, not the result. Often the school system measures the result (or even if they try not to, various different factors like exams, grades/marks, self-imposed peer pressure among students, parents and the entire ecosystem gives a lot of focus on results, not just absolute performance but relative

performance. The end result is that learning suffers. We need to realize and remind ourselves constantly that learning is the end goal. Exams and other measurement mechanisms are just one measure of the learning. Carol, in her work (which she has captured in the book "Mindset") focuses on effort. Now, in order to put in efforts, especially for learners who find the topics difficult, it needs motivation beyond the normal and in continuous doses. Here is where games provide a big positive environment. They provide a fail-safe environment, motivate the learners with points and encourage to continue the learning journey.

An excellent commencement at California State University by Randall Fujimoto (2012) on how games/gamified environments help us handle the most difficult challenges of humans – That of encouraging them to fail, fail, fail (try, try, try again) to learn but in a fun way and that of persisting with efforts continuously. [A6]

b) Immersive Learning -> Fun -> Happiness -> Flow State:

All of us have experienced moments where we get lost completely in some activity. We are so immersed in the joy of it that time seems to come to a standstill or rather, we lose track of time. For some, it could be singing, for others it could be reading books, running, painting or any other thing. This phenomenon is called being in a state of Flow.

But what percent of our Teaching-Learning process can we correlate with the Flow state? Learning, by and large continues to be burdensome or a drudgery (for most people), with the exception of a fraction of people. How would it be if we could make Learning Immersive, into a Flow State?

We always remember those teachers or learning experiences that have fun associated with it. But is there a science and logic behind it? It is and there are a lot of articles talk about how the brain responds positively to fun. Let us understand them from some articles and research work done. In the dissertation titled "A Model of Flow and Play in Game-based Learning: The Impact of Game Characteristics, Player Traits, and Player States" [A7] by Davin Pavlas in 2010, the relationship between flow state, serious games and learning was examined. The following table and figures are from that dissertation.

First let us study what Csikszentmihalyi listed as flow factor and what the outcomes were.

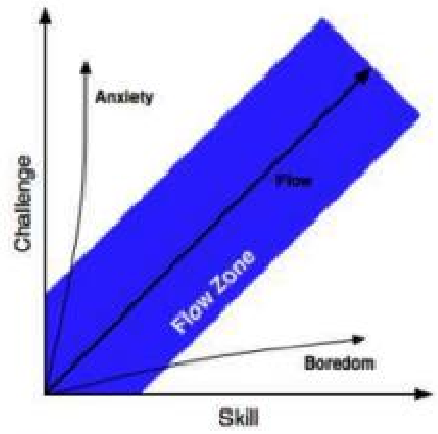
Table 1: Flow factors, adapted from Csikszentmihalyi, 1990 and Nakamura & Csikszentmihalyi, 2002

Flow Requirements & Outcomes	
A task to accomplish	Intense engagement
Ability to concentrate on a task	Intrinsic motivation
A sense of control over actions	Receptiveness to information
Deep but effortless involvement	Merging of action and awareness
Clear task goals	Loss of concern for the self
Immediate feedback	Altered sense of time
Matched challenge and skill	

If we reflect on any good game, they have all of these and hence flow is inherently built into a game. A special point to elaborate is about the feedback aspect in the learning context. Feedback, both positive and improvement oriented is an essential component of learning. In the traditional classroom style teaching and assessment methodology, there is a fairly large gap between the time a concept is taught in class and the time that the learner is assessed on it. (Be it in the form of classroom tests, exams etc.). One of the biggest advantages of a game-based learning methodology, is that games by design incentivize correct actions and incorrect actions immediately in the form of points/rewards or progress and so as a part of the learning process, instantaneous feedback is received by the learner.

The figure that follows describes what all factors contribute to the flow state both from the player traits as well as features of the game. A well-designed game can result in a flow state, which causes immersion in the learning process and enjoyment, resulting in learning.

The Figure enclosures
(Fig_Flow_Skill_Challenge_Relationship, Fig_Flow_4_channel_model, Fig_Flow_Player_In_Game_States_Behaviours from this paper illustrate and help us understand the underlying dynamics better.



: Skill-challenge relationship (adapted from Chen, 2007)

Fig_Flow_Skill_Challenge_Relationship

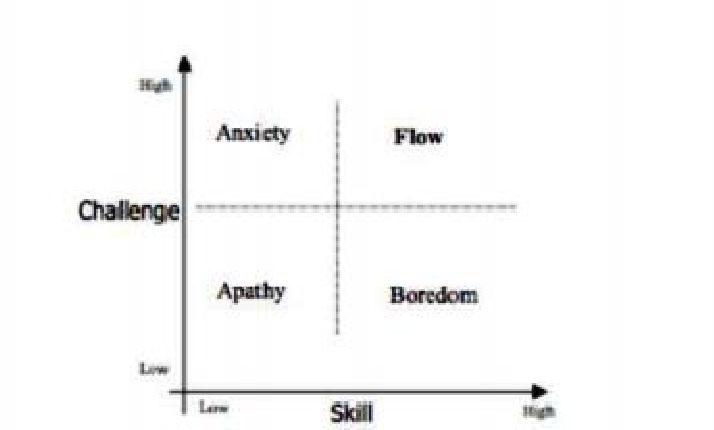
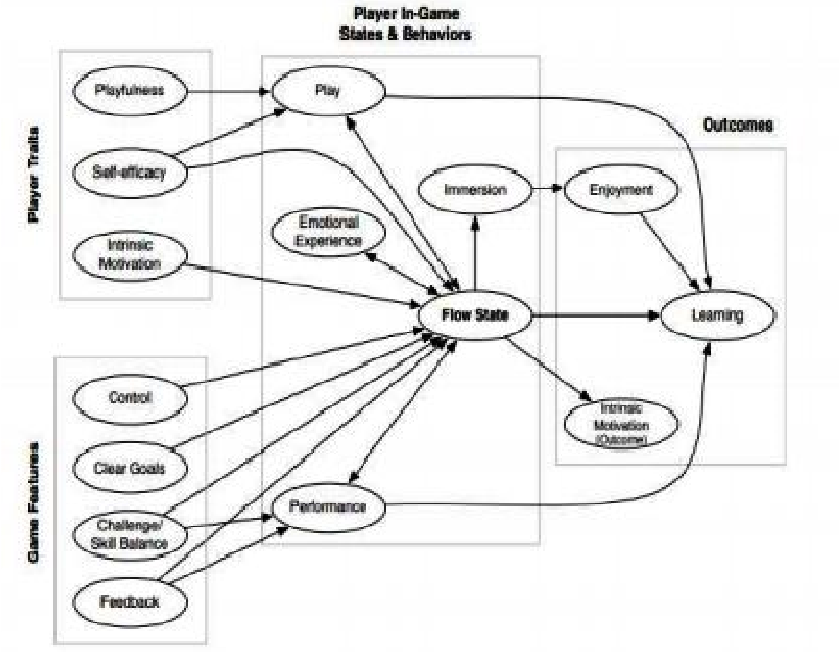


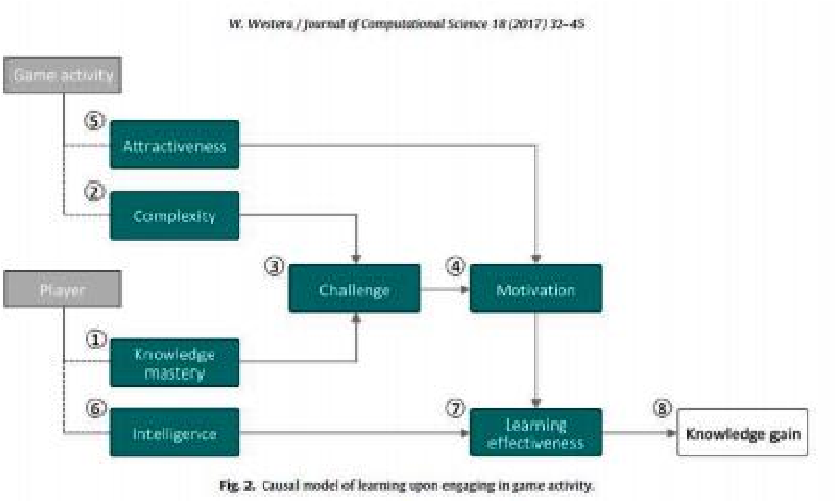
Figure 2: Four channel model of flow (reproduced from Guo, 2005)

Fig_Flow_4_channel_model



Fig_Flow_Player_In_Game_States_Behaviours

Both the figures above are extracted from the same article that analyses flow and explains how the player traits and game features work together resulting in end user learning. Another research in this space can be studied from the journal titled "How people learn while playing serious games: A computational modelling approach" Wim Westera [2016] plots out the following diagram (Fig_Flow_Causal_Model_Of_Learning_Upon_Engaging_In_Game) that correlates how knowledge is gained in the context of game play. It correlates various different factors at work resulting in knowledge gain.



Fig_Flow_Causal_Model_Of_Learning_Upon_Engaging_In_Game

c) Learner centricity:

In a typical instructional learning setup in educational institutions and also that continues in the corporate world, there is a one-size-fits-all approach. Content is the same for all and the instructor does not have the mandate or the time to understand that each learner has a different inclination, level and learning capacity when it comes to the prior awareness of the topic being discussed. Depending on all of these the learning happens to varying degrees. When we use games as a mechanism to deliver learning, it is possible to design multiple levels of play for the same concept – so for instance if there are Level 1 learners, they take a certain version of the game, Level 2 and Level 3 and so on. Once the learners master a certain level, they can then take up the next level of game and learn more advanced concepts. In this article (A8) the author talks about how the 4 different learning styles – Visual, Auditory, Read Write and Kinesthetic are well addressed by using games and game mechanics. Here is a snippet of the conclusion from that article. *//Without Games, school for children (and teachers) would be boring and ineffective in terms of long term learning. …..Making learning fun with educational games and activities will help keep everyone involved, engaged and entertained while developing essential skills not taught on a paper or in a book//*

d) Social Emotional Skills & Peer Learning

A large part of today's teaching/training involves imparting the domain/subject knowledge and often ignores the social emotional skills. Learners need to actively participate and interact with each other and not just with the instructor. Instructional learning setups typically are between the teacher and one student. Games by nature facilitate interaction between participants and that too in small groups. During the play, there is a healthy interaction between the participants in discussing concepts and processes that are being explained as a part of the flow. Knowledge is not one-way flow. It flows between the learners, from the teacher to the student and student also back to the teacher. The best role that a teacher can play today is that of a facilitator, enabling knowledge flows of different kinds. In all the approaches that have been followed, there is always a blended mix of learners across different levels of expertise/departments/classes and background. So, the knowledge flow and information exchange were very rich in nature. (A9) In their paper, "Promoting Social and Emotional Learning with Games: Its fun and we learn things" [2009] Sue Roffey and Robyn Hromek tabulate the following set of traits as related to Social Emotional Learning (SEL)

- recognizing and labelling personal feelings, strengths, and values
- knowing how to regulate and express feelings effectively and safely
- having a prosocial orientation to others, which is not bound by prejudgment
- being able to read and take account of the emotional content of situations
- being responsible to oneself and others and making ethical decisions
- being able to set goals in both the short and longer term
- problem-solving skills, especially in the domains of personal coping and interpersonal relationships
- focusing on the positive
- respect for others, including valuing diversity
- treating others with care and compassion
- good communication skills
- knowing how to establish, develop, and maintain healthy relationships that promote connection between individuals and groups
- being able to negotiate fairly
- having skills to deescalate confrontation and manage conflict well
- being prepared to admit mistakes and seek help when needed and
- having personal and professional integrity demonstrated by consistently using relational values and standards to determine conduct

They further make an observation saying that teaching these skills are complex and the choice of pedagogy is extremely important. These skills help in developing values and building everyday behaviors. It is not just individual well-being but also of healthy relationships with others and caring communities. If we look at it beyond technical, domain and other aptitude skills, there is a huge need to develop these traits as we teach the regular skills. Play/Games are one excellent way to do them

Experimental findings about the benefits of Play

Ever since 2011, I have been exploring, experimenting Play/Game based pedagogy for learners in various different subjects and topics across ages, demographics, economic background and curricula for active learner engagement. In this period of about close to 8 years, I have found that a lot of adults in corporate training and children in educational settings, have found play based methodologies to be highly effective in overcoming most challenges. Games enabled interactions thus enabling peer learning and social-emotional skills. Games could be designed at multiple levels catering to most learner types. From his experience with both adult and student learners, play has been able to positively impact learning 90% of the time by inculcating interest and creating curiosity in diverse topics. Here are some sample illustrations and case-studies. Not all of them might have quantitative and detailed metrics. But providing to the extent they are available.

Challenges	Intervention	Impact & Feedback	
Fortune 500 Insurance Company IT Offshore unit: - Newcomers and the existing workforce feeling unmotivated and stressed, leading to attrition in their overall performance - Clients were unhappy with the knowledge levels of the associates - Client BAs were also retiring and there were no plans to hire replacements, instead they were looking to outsource it to vendor IT companies.	A series of insurance related board and card games along with visual artefacts were created for the benefit inducting newly joining employees to teach them concepts, terminologies and process flows relevant to the domain.	"*Very impressed with the visualization of complex topics and made simple. Thrilled with the level of creativity, ownership and teamwork*", a SVP Commercial Business Line client commented on the entire experience.	

The internal cost control change management for a **Large IT Organization's Business unit** with over a thousand senior managers - New managers found it difficult to understand cost control - Formal training sessions organized were not effective and poorly attended - Most people did not understand the intent, did not understand terminologies, concepts, processes.	- Business terminologies issue was tackled by adapting popular games - Problems in understanding concepts and process flows were modelled in the form of a variety of games - The front line delivery leads were reached out to directly and various different concepts related to cost control were explained using games using facilitated sessions, visual models and board games designed to explain revenue forecasting cycle process - Empathy debates were conducted for delivery leads and finance leads to understand the point of view from one another	Refer Fig.1 & Fig. 2	
Internal People Career Management Communication Team in the period of Jun 2012 to Oct 2015		Very positive employee engagement and learning in all cases reported. In the retail accounts, appreciations received from external client senior management. Impacted approximately 2000+ employees	
FundsIndia Personal Finance Awareness Session during March 2018 Personal Financial education sessions are boring. Power points and spreadsheets can only do so much.	We built a game "MyLastPayCheck" where players can invest in six different investments with their last Pay Check and get actual returns with weekly cards making them go through different scenarios in life in the form of a Board/Card Game	The session was received with great appreciation since users could experience the risk-return correlation, types of financial instruments in a fun-filled way Refer Fig. 3	

Play/Game Based Subject Learning Facilitation for Middle Schoolers in the domain of Social Sciences/Sciences/Math during Apr 2018-Sep 2018 School subject learning becomes boring/difficult for most children from class 5. How do we keep the children engaged so that they enjoy the process?	After intense research, identified about 20 of the board/card games readily available in the market and conducted workshops. Facilitation: · 4-6 students form one team and choose one game to play · Facilitator briefs rules and play starts for approx. 45-60 min · Multiple parallel groups of play happen simultaneously · Groups record learnings/feedback post each game. Refer Fig 4	Refer Fig. 5	

Fig 1 - Corporate_Cost_Control_Client_Feedback

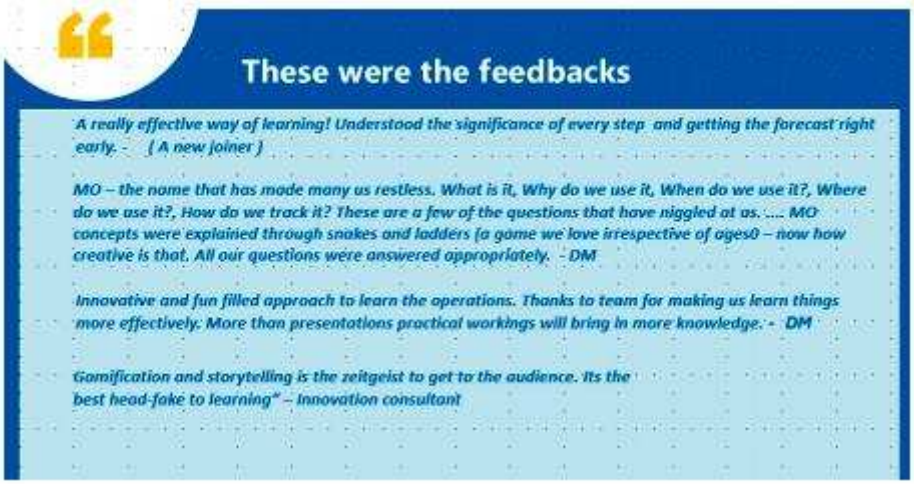


Fig 2 -Corporate_Cost_Control_Employee_Feedback

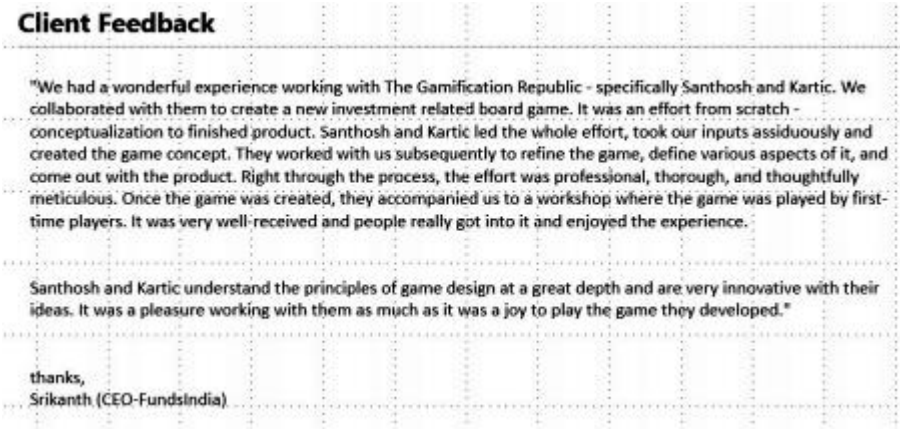


Fig 3 -Corporate_Insurance_Client_Feedback

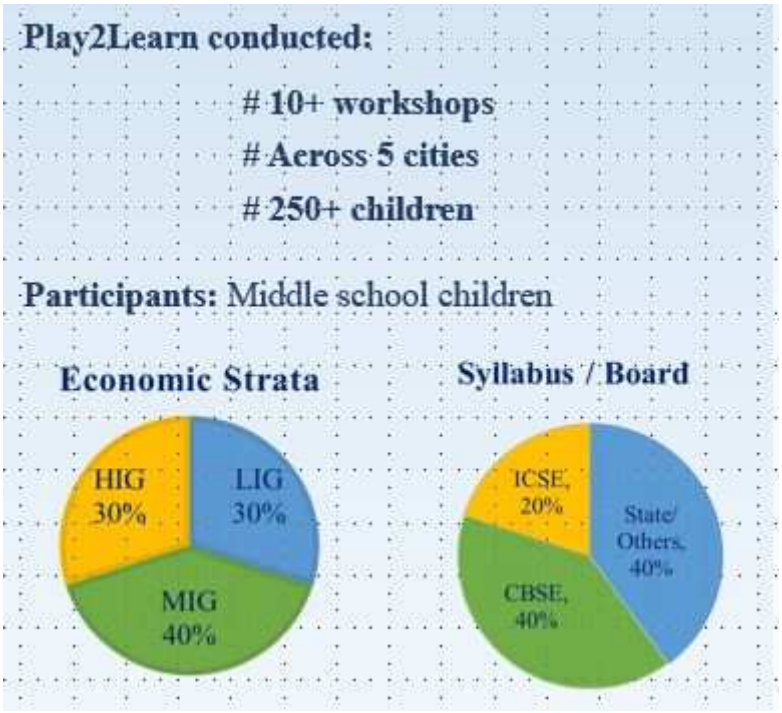


Fig 4 -Play2Learn_Workshop_Children_Infographic_Economic_Strata_BoardSyllabus

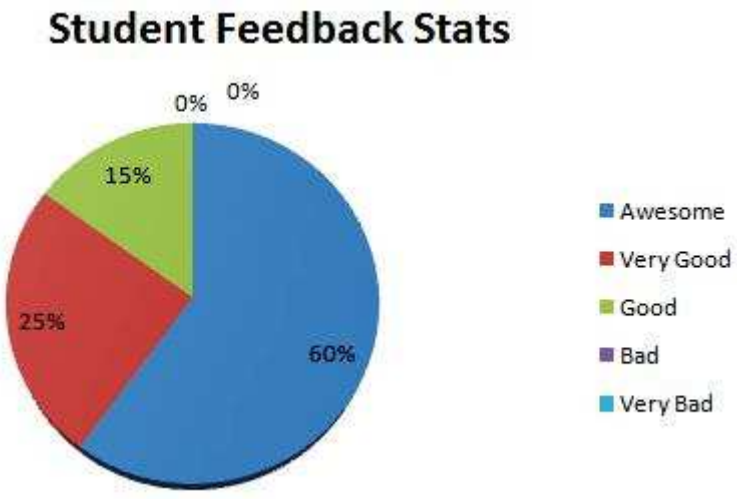


Fig 5 -Play2Learn_Workshop_Children_Feedback_Quantitative

Some more invaluable feedback from young minds:

"It is a beautiful way to learn and wish it could be applied in schools so that students understand. It is amazing, the way you learn it" -Varsha (Class 6, PS) "It was nice, interesting interacting with others on board games…. Not only did we play games, we also got a chance to create games…"
-Abhinav (Class 9, DAV Boys Gopalapuram) "Loved the workshop. This shows we can learn by playing. Liked all the subjects that I thought were boring" -Ananya (Class 6, Boaz Public) "Workshop was very interesting. Made us like the subjects we did not like by playing games" -Sanjana (Class 7, Vidya Mandir) "Outstanding. Wish it continued for 10 more hours" -Merlin Vennila (Class 8, St. Michaels Academy) Parents were also equally excited! "My daughter liked entire ambience and it got her thinking on how to extend memory, clue-do, monopoly, spot-it games on to a Math-Science Framework" - Chatura (mother of Riya, class 6)

Figures 6,7,8,9 and 10 provide examples of games created for various different corporate initiatives in the field of insurance, cost-control and personal finance awareness domains.

Fig 6 Corporate_Cost_Control_Revenue_Forecast_Games

Fig 7 -Corporate_Insurance_Board_Game

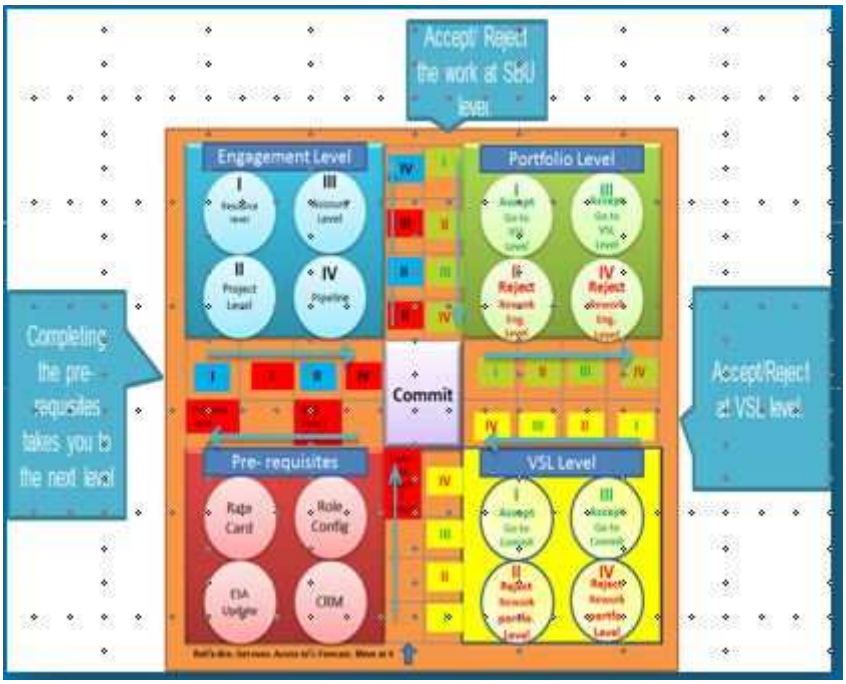


Fig 8 Corporate_Cost_Control_Revenue_Forecast_Game2.jpg

Fig 9 - Corporate_Cost_Control_Games.jpg

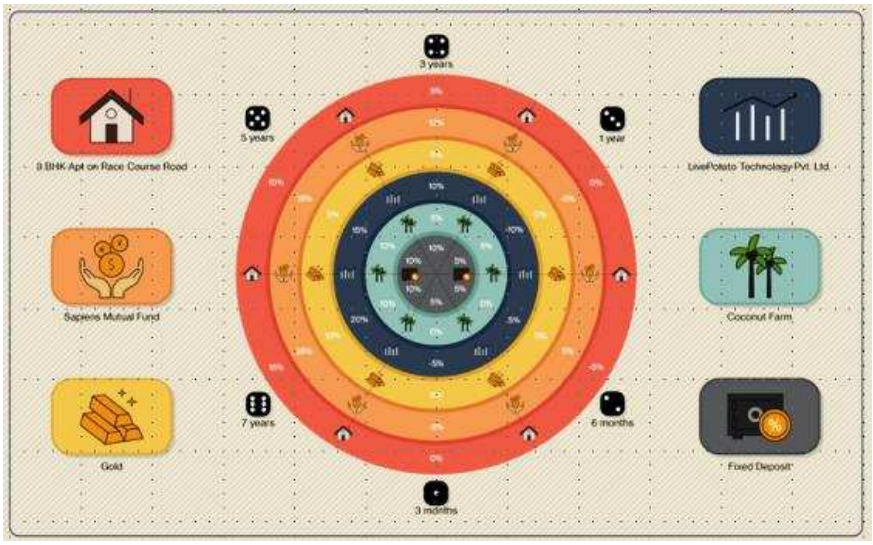


Fig 10 -FundsIndia_Personal_Finance_Awareness_Board_Game

These are just some samples. Play/Game based learning has been experimented in undergraduate programs, both in engineering as well as in marketing and has shown very positive results. Here are links that have supporting material. (A10, A11, A12, A13, A14)

Conclusion

With my personal experiences across varied different audiences over multiple years, both in the corporate and educational institutions associated with strong research work available, I feel that games/play in education as a pedagogy will be extremely beneficial to all kinds of learners. It is extremely important that educators of all kinds use this in their mix of teaching pedagogies and curriculum development that would result in increased learner engagement across segments.

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https://www.semanticscholar.org/paper/A-Model-Of-Flow-And-Play-In-Game-based-Learning-The-Pavlas/6bc0a56211edf3c9ef9b36b951281e8861bfd117

A8 - Educational Games for Learning Styles
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A9 - Robyn Hromek and Sue Roffey (2009) Promoting Social and Emotional Learning With Games:
"It's Fun and We Learn Things", Simulation and Gaming
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A10 - https://www.linkedin.com/posts/karticv_majaaa-playtest-play2learn-activity-6570661904665149440-hA0t (MOP Vaishnav college - Marketing Game)

A11 - https://www.linkedin.com/posts/karticv_independenceeve-disrupttraditionallearning-activity-6568486699943460864-zILS (Chennai Business School - Marketing Game)

A12 - https://www.linkedin.com/pulse/what-we-could-play-games-learn-undergrad-classes-iit-vaidyanathan (IIT Madras - Engineering Classes)

A13 - Teaching Marketing through games - Workshop done at RGMCET Nandyal
https://www.linkedin.com/pulse/teaching-marketing-through-games-activities-an-kartic-vaidyanathan/

A14 – Effecting change management through games – Facilitated workshop in a corporate setting
https://www.linkedin.com/pulse/effectiveing-change-communication-using-games-kartic-vaidyanathan/

A15 - How to Learn Anything - Sonmez 10 step system - Charles Chu
https://medium.com/the-polymath-project/how-to-learn-anything-the-sonmez-10-step-system-30f343cf1112

A16 – MindSet Online – Carol Dweck
https://mindsetonline.com/

About the author

Kartic Vaidyanathan is a play/game-based learning advocate. As a part of his Play2Learn initiative, he works with corporates and educational institutions and helps them transform learning through games. Through his work, many teams have created and experienced the power of simplified, fun-filled, collaborative and engaging learning. Prior to this, he has worked for over two decades in corporates (IT Majors – Cognizant/Infosys). He is a B.Tech (IIT Madras) and Exec MBA (IIM-Bangalore) and has a certification in Gamification (University of Pennsylvania – Coursera)

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About Play2Learn: https://www.linkedin.com/pulse/what-services-do-we-offer-part-play2learn-mini-wip-vaidyanathan/

Related Readings

Gamification: Gamification is the application of game-design elements and game principles in non-game contexts. It can also be defined as a set of activities and processes to solve problems by using or applying the characteristics of game elements. Gamification commonly employs game design elements to improve user engagement, organizational productivity, flow, learning, crowdsourcing, employee recruitment and evaluation, ease of use, usefulness of systems, physical exercise, traffic violations, voter apathy, and more. A collection of research on gamification shows that a majority of studies on gamification find it has positive effects on individuals.[4] However, individual and contextual differences exist. https://en.wikipedia.org/wiki/Gamification

The Appeal of Gamification in UX Design: Gamification, as a 21st-century UX phenomenon, is a powerful tool for designers to drive user engagement for several reasons. Firstly, you use it to inject fun elements into applications and systems that might otherwise lack immediacy or relevance for users, and incentivize them to achieve goals. Users enjoy challenges, whether challenging themselves (e.g., using step-tracking devices) or trying to win awards (e.g., virtual "trophies" for completing work-based e-learning). Secondly, the dynamics designers incorporate in successful gamification serve as effective intrinsic motivation, themselves – meaning users engage with the system because they want to. For instance, Foursquare/Swarm promotes users to "Mayors" of establishments after so many visits, enabling them to vie for top place while enjoying meals, shopping, movies, etc. Inspiring users by introducing gamification into an existing system demands designers to apply gameplay and the structure of rules and goals to "serious" tasks exactly as users would want to see. You can gamify systems in many ways, from countdowns to encouragement for completing x percent of a task, with the ultimate goal of making everyday tasks less mundane while sparking users to become actively interested in attaining goals. People enjoy interactivity and satisfying their curiosity, and designers can employ a suitable social element to increase their engagement. https://www.interaction-design.org/literature/topics/gamification

Gamification In Education: Today's learners are digital natives and have new profile. They grew up with digital technologies and have different learning styles, new attitude to the learning process and higher requirements for teaching and learning. Teachers are facing new challenges and have to solve important issues related to the adaptation of the learning process towards students' needs, preferences and requirements. Teachers have to use different teaching methods and approaches that allow students to be active participants with strong motivation and engagement to their own learning. Modern pedagogical paradigms and trends in education, reinforced by the use of ICT, create prerequisites for use of new approaches and techniques in order to implement active learning. Gamification in training is one of these trends. The aim of the current work is to study and present the nature and benefits of gamification and to provide some ideas how to implement it in education. Full paper at http://bit.ly/2lZGJUe

Gamification and the Future of Education: It is a forward-looking report that explores how the mechanics and dynamics commonly found in games can be applied in the educational context to improve educational outcomes.At the core of this report is an important policy puzzle: what role does gamification, as a pedagogical innovation, play in the future of education? In the attempt to solve this puzzle, this report addresses four fundamental questions: How has gamification evolved? How has gamification been applied? What are its advantages and drawbacks? And what strategies and policies are necessary for gamification to be incorporated successfully in education? Full Report at http://bit.ly/2kYpClj