



CASE STUDIES

Game Based Learning

People typically associate games with play or fun and learning with hard work or boredom. But serious learners actually associate learning with both fun and hard work. With the digital revolution that took off in the 1990s, we are witness to a huge cultural change with the increasing use of technology in the development and use of games.

Games and Serious Games

The Merriam-Webster's Online Dictionary, defines "Game" as "*an activity engaged in for diversion or amusement*". David Michael, in his book¹ states in summary that "...games are a voluntary activity, obviously separate from real life, creating an imaginary world that may or may not have any relation to real life and that absorbs the player's full attention. Games are played out within a specific time and place, are played according to established rules, and create social groups out of their players".

If we accept this as a working definition of a game and combine it with the "diversion or amusement" dictionary connotation, is **serious game** an oxymoron? Not quite.

Casually played games are typically presented as entertainment. Serious games on the other hand are those that follow the definition presented by David Michael, but carry a well-thought out objective that is typically structured around some learning. Such games may have a fun element or even entertain, but learning is the underpinning element.

Games can be good for learning

Excelling at any game calls for learning the rules, identifying strategies and tactics to win and then executing to perfection. Be it a simple board game, a digital one or an outdoor sport. Further, the idea of psychological risk/reward systems that underlies many games can easily be related to learning. In any game players undertake a risk activity knowing well that they will land a reward, if they win. Another wonderful aspect of any game is that it teaches the players how to learn from their losses and failures far better than when they win.

While we may be able to retain the learners' attention in a classroom for a bare 15 – 20 minutes, we may find it easy to engage them for hours together by presenting the same learning using a serious online game. In the present times with technology invading every sphere of life including games, people around the world believe increasingly find games to be engaging and believe that they can be effective in promoting learning.

Example # 1: The RPG Group e-Induction

RPG Enterprises (www.rpggroup.com), established in 1979, is one of India's fastest growing business groups with a turnover touching \$3 billion. The group has more than 20 companies managing diverse business interests in the areas of:

- Technology (IT, Life Sciences, Engineering)
- Power Transmission
- Power Utility
- Manufacturing (Tires, Tea and Rubber Plantations, Carbon Black)
- Retail
- Entertainment

The Need

The people at the Organizational Development (OD) and Learning Department of the Group, realised that when new entrants joined a particular group company, they received a detailed induction into that company. Little however, was ever told about the entire group. Moreover, the induction process

was not any different from any large organization with interests in a diverse range of businesses. The inductees had to wait for their induction until a sizable number of people could be gathered, which often meant a long wait of two to three months after joining the organization. Waiting for the induction to take place, the inductee must have been, on his own, searching, experimenting, and finding out how the company worked and where does he or she fit in. And the induction process was delivered monotonously, including the following:

- Welcome everyone to the company
- Explain how wonderful the company is
- What a fabulous decision the inductee has taken to join the company
- The department heads of the company tell everyone what they do
- And what they expect the inductees to do in return
- Finally, anyone still awake and listening was allowed to leave

As a result, an inductee's interest and motivation gradually tapered off as the induction progressed. Also, a section on induction into the group was designed as part of every company's induction process. But the consistency and rigor with which this was done was something that the department was unable to monitor or guarantee. Such induction is probably disconnected with reality on the ground and, therefore, does not get the intended results.

The department thus needed a change in the induction process.

The Challenge

In this situation, the department faced the challenge of making the induction process formal. But, at the same time, interesting and fun for the new hires. The department wanted to create in them a sense of being part of a large \$3 billion diversified business group. Also, the department wanted to foster the sense of being part of a larger family of professionals, being part of a larger purpose. Most importantly, the department wanted to use this induction as a platform for them to realize that there were several lateral and vertical job opportunities across various industry domains within our group. That, if they wanted, they could change jobs without ever leaving the RPG Group.

The Solution

As a result, the department struck upon the idea of an e-Induction, which would enable us to deliver a consistent message to all inductees.

One key issue for the department was that their e-Induction program should not be boring. It should engage the inductee and enable him or her to stay "connected" to the program throughout its duration. It is this that caused the department to examine the idea of a **game-based e-Induction process** to enable the learning.

The Game

Most of the inductees into the Group would have grown up in a technologically sophisticated environment of home computers, the World Wide Web, movies, mobile phones and gaming. C&K recommended to the department that these aspects of technologies and computer games the modern learner has been exposed to, should be exploited. In other words, a game-based, e-Induction must be considered to enable inductees learn about the RPG Group through discovery. This would keep the inductees engaged, enable learning, and set up RPG as a forward-thinking business group. An experience like this would be quite unique to the inductee.

Design of the Game

The group e-Induction aimed to:

1. Inform inductees about the history of the group and how it evolved.
2. Educate inductees about the group's different business sectors, companies and their businesses.

3. Make the inductees understand and connect with the group's vision and values.
4. Help the inductees understand (and buy) the role the group would play in their careers.

Games were designed to achieve objectives 1 and 2.

For the first objective, a simple animated **program of a highway with a user-controlled car** was designed.

The car takes the inductee through the evolution of the group on a highway with a few milestones. Every milestone represented a landmark development in group's evolution. At the end of its journey, the car enters a stadium with a crescendo of the entire group companies showing up under the group. Later, a video of the chairman of the group addresses and welcomes the newly joined member. To bring in a sense of reality, car models changed over the years, speeds increased, and the scenarios passing by changed to modern ones.



Here are some screenshots of the milestones in the groups more than 100 years of history.

For the second objective, an **investigative game** was designed.

As a new entrant to the group, you are informed of a theft of a dossier containing critical information about the group. The culprit plans to visit other group companies and update the dossier with some more information. You, along with an investigator from an agency, are required to nab the culprit.

The first clue about the whereabouts of the culprit indicates that he is targeting one of the group companies that feature an animal in its logo. From here starts the pursuit of discovery in which, to begin with, the inductee finds out which company's logo has an animal in it. Once the inductee visits the company, s/he is presented with another clue as to the whereabouts of the culprit and so on. Clues have been linked to logos, taglines, performance figures, locations, and so on. The inductee discovers and learns about the group companies, as the clues are unraveled. By the end of the game, the inductee has "visited" and learned something about all the group companies.



Here are some screenshots of the investigative game.

The results

e-Induction provided a welcome change from the traditional, formal, inductor-driven process to an inductee-driven, fun-based process. The inductee, to be successful in the game, had to 'visit' every company of the group and discover something critical about it. This automatically created a sense of being part of the group as well as being part of a larger family of professionals. Overall, the game became the 'pulling power', which 'attracted' inductees to an otherwise insipid process.

e-Induction also resulted in significant time and cost savings since it is eliminating something that, till now, was instructor led. But more than time or cost savings, the benefit to the user was an immaculate and consistent delivery of all the information. There will be no dilution of content or delivery, and the experience will be engaging and enriching for the user.

The game has received rave reviews from all test subjects.

"I have never had such a complete induction before."

"I never knew we did so many things, that we were so large. I was glad I joined, now I know I made a great decision."

Example # 2: Educating retail investors about investment options and asset management

The Training Problem

A world renowned asset management company wanted a highly interactive course to educate investors on investment options and show why professional asset management services can yield better consistent results.

The Question

How do we make the learner to go through all the financial options that are available to them and how to allow them to choose from these?

The Requirement

- Over a million target audience spread across India.
- Consistency required to address a target that was not homogeneous
- Need to engage with high levels of interactivity

Target Audience

- Urban / Rural; Educated / Not-so educated
- Already Investing in MF / No experience

The Solution

The game had to be authentic so that users recognize and draw parallels with their real life situations. As a game it had to be fun, engaging, and competitive, have features to track, and measure. The modules were designed by combining game and simulations to bring in consistency and authenticity while motivating the learner by interactively simulating real time experiences by letting them compete and keep track of their scores. A full year's stock market data of select scrips and news items spanning many industries for a year formed the basis of simulation. Players got to play the stock market systematically in a competitive format against others and the computer.

Here are some of the screen shots of the game which take the learner through the investment options as they play and learn by doing.



The end result of combining a simulation along with a game environment for this project was that it is considered immersive by the players, required them to make frequent, important decisions, had clear goals, and was adaptable for each player individually. As Stocks or Mutual funds game is a multi-player game it involved social networking in a challenging environment.

In both the game based learning environments, the player had to recall prior learning, decide what new information was needed, and had to apply it to the new situations. Secondly problem solving skills and techniques were involved in both the games for the player had to apply them in order to succeed. The players were able to make the connection with the unique situation and transfer the existing learning.

Conclusion

Serious Games are in an early stage of evolution. Although most games may educate, their primary goal or design feature has never been that till now. Moving forward, educators will be able to further exploit the potential of game based learning when they are able to understand and harness the technology combined with consumer behaviour and learning theory. While doing this, educators may do well to adapt from the many time-tested games that most of us are familiar with and design learning processes that allow learners to be able to relate to these easily and reach out to the learning outcomes with more interest.