Research Paper **6**

Gamification – The new tool in Learning & Development

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Introduction

Gamification is the use of game thinking and game mechanics in a non-game context to engage users and solve problems. The use of gamification in applications and processes in order to improve return on investment, data quality, timeline and learning is phenomenal.

The term "gamification" first appeared in 2008 originating in the digital media industry and did not gain widespread recognition until approximately 2010 (Deterding, et. al. 2011, Groh, 2012). While the term is relatively new, there seems to be general agreement about the basic tenants of gamification. Gamification has been defined as the "process of using game thinking and mechanics to engage audiences and solve problems" (Zichermann, 2010) as "using game techniques to make activities more engaging and fun"(Kim, 2011) and as "using game-based mechanics, aesthetics and game thinking to engage people, motivate action, promote learning, and solve problems" (Kapp, 2012) as well as "the use of game design elements in non-game contexts" (Deterding et al, 2011, p.1).

Gamification is used widely in Learning and Development. Well-designed educational games make learning fun, challenging and rewarding. Learners don't realize they are learning when they are engaged in a game. They are focussed on achieving goals, competing with others and having fun that they become immersed and master in the subject without realising it.

Benefits of Gamification

Gamification is the need of the hour today. The learning and engagement levels through gamification are extremely high. It is replacing the old approaches of Learning. Through it, business can move away from extrinsic motivators, such as monetary rewards, towards intrinsic motivators (Zichermann & Cunningham, 2011).

Gamification has been part of Deloitte's top 10 Tech Trends for 2012 and 2013. The description highlights its importance for business. They mentioned "Gamification can instill challenge, pay-off and new perspective into day-to-day tasks, tapping into the same human instincts that have led to centuries passionate competition and engagement – our innate desire to learn, to improve ourselves, to overcome obstacles and to win" (Deloittee, 2013)

Gamification though is a recent approach but it is proving to be efficient in learning and help organisation achieve its objectives to a considerable level. Technology at workplace has proved to be rewarding and fun.

Literature Review

Gamification is in its growth stage, some researchers feel that it is adding advantage to the business of the organisation, while some feel that it has nothing to offer apart from the fun element. They even question the ROI of gamification.

Level	Description	Example
Game interface design patterns	Common, successful interaction design components and design solutions for a known problem in a context, including prototypical implementations	Badge, leader board, level
Game design patterns and mechanics	Commonly reoccurring parts of the design of a game that concern gameplay	Time constraint, limited resources, turns
Game design principles and heuristics	Evaluative guidelines to approach a design problem or analyse a given design solution	Enduring play, clear goals, variety of game styles
Game models	Conceptual models of the components of game or game experience	MDA; challenge, fantasy, curiosity, game design atoms
Game design methods	Game design – specific practices and processes	Play testing, play centric design values conscious game design

Source: (Deterding et al., 2011)

Table 1: Game Design elements

According to the Deterding et al. gamification is as "the use of game design elements in non-game contexts" (Deterding, Dixon, Khaled, & Nacke, 2011). They found a series of common design elements in games that are shown in Table 1: Game Design Elements.They highlighted the main difference between serious games; video games designed for a purpose other than entertainment, and gamified systems, systems that use game design elements for a purpose, without the creation of fully-fledged games.

Another piece of work by Werbach & Hunter (2012) describes gamification as "the use of game elements and game-design techniques in non-game contexts of game elements and game-design techniques in non-game contexts. They discussed the different categories of game elements: dynamics, mechanics and components as described in figure 1. They too believe that gamification focuses on the non-game contexts.
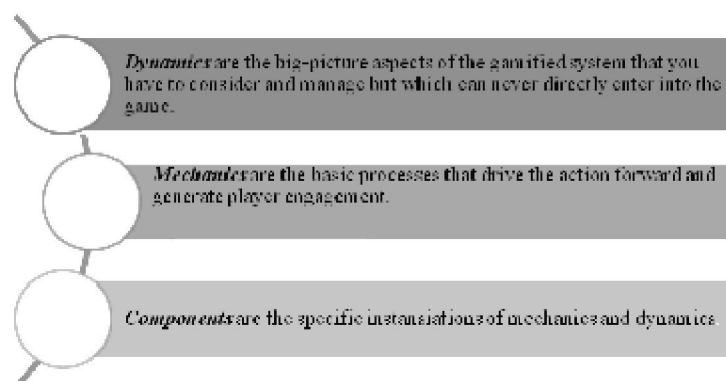

Figure 1: The game element hierarchy

They created three classification of gamification namely Internal Gamification, External Gamification and Behaviour change modification. Internal Gamification aims at using gamification to improve business processes and reduce costs, External Gamification aims at using gamificaton to improve customer relations and increase revenues and Behaviour change modification aims at using gamification for motivating people and engaging them to learn more.

Zichermann's explained gamification as "the process of game-thinking and game mechanics to engage users and solve problems" (Zichermann & Cunningham, 2011, p. xiv). In 2013, he broadened the definition further, describing gamification as "the process of engaging audiences by leveraging the best of loyalty programs, game design and behavioural economics" (Zichermann & Linder, 2013, Introduction). His contribution includes serious games which are not included in the earlier research. He however misses on the engagement and motivation aspect which is an important element in gamification.

Elements of Gamification

Experts	Elements
Zichermann & Cunningham, (2011)	Five different points system- Experience points, redeemable points, skill points, karma points, Reputation points, Badges and Leaderboards
Werbach & Hunter (2012)	Points, Badges and Leaderboards
Common Ones	• Level (status) – user's status and mastery of a system • Level (progress) – user's indication of apposition in a system • Challenges and Quests- problem solving • Competition • Cooperation • Narrative: increasing user engagement

Motivation and Gamification

Motivation plays a key role in gamification. Till the time a learner is motivated the gamification process shall not yield any results. It is extremely important that the learner's engagement level is high in order to have proper learning. Motivation and engagement are key drivers of learning through gamification.

Flow Theory proposed by Mihaly Csikszentmihalyi describes the experiences of intrinsically motivated people who engaged in an activity for its own sake. According to the theory, flow is a mental state in which someone is fully immersed and focused on what they are doing. It is the state between boredom and frustration where someone finds the task challenging but also believes they have the skills and knowledge to accomplish it.

It focuses on the intrinsic motivation and also provides the ideal conditions for learning. If a task is too easy, then the user will be bored and not occupied by it. If a task is too difficult, then the user will become anxious and demotivated. Therefore, game designers, educators, and any other person designing a system to motivate its users must consider the user's skill and challenge level, and slowly increase the challenge level as the user gains experience in order to keep the user motivated.
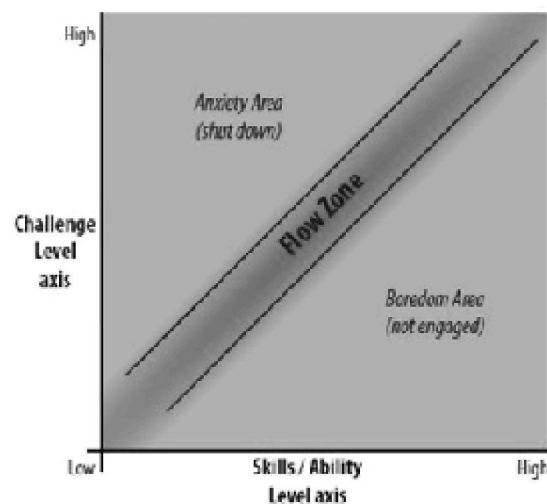
Source: (Csikszentmihalyi, 2000; Zichermann & Linder, 2013)

Most gamification systems still depend on extrinsic motivation. There is a focus on giving rewards in order to keep user motivated. Werbach & Hunter also followed the behaviourist approach in order to reinforce certain behaviours. They are motivated only for the reward they get and an internal motivation to learn lacks completely.

The Self-Determination (SDT) developed by Deci and Ryan in 1985 believe that humans are pro-active and have a strong internal desire for growth and the external environment should also support them. SDT suggests that human needs fall into three categories. First is competence, sometimes known as mastery, is the ability for individuals to accomplish external feats. Second is relatedness is the universal desire for interactions and social connectedness. Third is autonomy is the freedom over your own choices and values (Werbach & Hunter, 2012). Flow Theory has some aspects of SDT. Autonomy and competence being the most applicable ones.

Gamification and Industries

Many industries are using Gamification to achieve business objectives. It is used in the major areas of organisation like:

1. Business applications, processes, and systems: It is used for Master Data management, Sustainability, Financials and CRM
2. Education & training: To keep employees competitive and enhance the skills, gamification is used for training sessions. Examples of it are SAP ERP Sim, IBM Innov, Siemens PlantVille
3. Human Resource Management: aim to onboard new hires faster and engage employees more with games and gamified tasks and processes
4. Workshop, team building and conference games
5. Marketing & branding
6. Innovation games

Companies are using gamification for multiple purposes. Some of the companies using gamification are mentioned below:

1. Aetna: adopted Mindbloom's Life Game platform to help customers and employees adopt healthy life habits. It helped users better manage specific physical conditions and monitor areas correlated to health outcomes (souce: Deloitte Review)

2. Autodesk: raised trial usage by 40% and conversion rates by 15% (source: Huffington Post)

3. Badgeville: customers experienced 20% to more than 200% increases in user behavior, with some customers seeing as high as 500% lift in key objectives (source: Tech Republic)

4. CISCO: used gaming strategies to enhance its virtual global sales meeting and call center company and reduced call time by 15% and improved sales between 8% and 12% (source: Deloitte Review)

5. Deloitte: training programs using Gamification took 50% less time to complete and kept more student involved than ever before (source: Huffington Post)

6. Devhub: a place for Web developers, added gaming feedback and watched in awe as the percentage of users who finished their sites shot up from 10% to 80% (source: Forbes)

7. EMC2 increased the amount of feedback it received by 41% (source: Society for Human Resource Management)

8. Engineyard: increased the response rate for its customer service representatives by 40 percent after posting response-time leaders for employees to see (source: Society for Human Resource Management)

9. Extro Bank: raised their customer acquisition by 700% (source: Huffington Post)

10. Joiz: a Swiss television network, increased sharing by 100% and social referral traffic by 54% with social infrastructure and gamification technology (source: Gigya)

11. Lawley Insurance: ran a 2-week contest to clean up its sales pipeline and, during that time, generated the same number of activities as had been created in the prior 7.5 months (source: Level Eleven)

12. Marketo: layered Badgeville games on their community and 67% more engagement, 51% more active members and 10% more engagements per member (source: Badgeville)

13. Nextjump: used gamification to get 67% of their employees into the gym (source: Huffington Post).

14. NIKE: used gamified feedback to drive over 5,000,000 to beat their personal fitness goals every day of the year (source: Huffington Post)

15. Popchips: Popchips are using games as a way to personalize mobile advertising and overcome user resistance to ads on their smartphones and tablet computers (Source: USA Today)

16. Recycle Bank and Opowerl increased recycling by 20% and reduced carbon emissions, helping to save the planet with gamified designs.

17. Spotify and Living Social replaced annual reviews with a mobile, gamified solution — over 90% of employees participated voluntarily (source: Huffington Post)

18. USA Network: saw a 130% jump in page views and a 40% increase in return visitswith the Club Psych game (Source: Entrepreneur)

19. Verizon: users spend over 30% more time on-site with social login games versus a regular site login, The site experienced more than 15% more page views (Source: Entrepreneur)

Conclusion

There a many such examples of companies where gamification has and will have a significant impact on better engaging employees and achieving business results. Based on the literature review and corporate examples it can be concluded that gamification system that is well designed and constructed is likely to achieve positive results. According to the 2013 study by Kelle, Klemke and Specht (2013), a combination effect between different game mechanics is vital for positive results, but it is important to understand which game mechanics go well together, and which ones counteract each other.

Gamification is being used for different business processes, different types of organisations like hospitals, governments, NGOs, established corporations and small start-ups to engage employees and solve a variety of problems the world is facing.

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