"The Game Plan: Using Gamification Strategies to Engage Learners as Active Players."

Abstract

The modern learner is a different and unique individual. Impatient, fast-acting and competitive, learners today are hungry and passionate, but also demand a more interactive approach to education. A Talent LMS survey showed that over 80% of learners wished their learning journeys were more interactive. This session on Gamification focuses on the strategic use of game mechanics and features to enhance learning capabilities and retention rates of learners, with references to modern game and real-world examples.

Participants will pick up techniques and tips on evolving workplace learning practices and growing an ecosystem of self-directed learning. Additionally, this paper will explore the rise of the gig economy and new generation professionals, harnessing gamification as an effective tool to allow individuals to develop and build their skill sets and strengths. Pick up useful strategies on crafting a personal learning profile, and how we can evolve as learners though gamification!

Game on!

Paper

Introduction

The Training and Adult Education industry in Singapore has always been viewed with utmost importance by the Singaporean government, in light of the government's conviction that Singaporeans must "keep pace with the changing skill needs of the fast-evolving economy (Yang, 2016). With the formation of SkillsFuture in 2016, over 10,000 courses have been made available to local Singaporeans to encourage them to upgrade their skills and acquire new ones (Loh, 2016).

As the numbers of adult learners grow, ways to effectively engage them must evolve and develop concurrent with their skill and mindsets. A transition from passive learning to active learning is key in helping individuals develop into lifelong learners (Krohn, Halverson, & Monogue, 2017), and we start to usher in "The End of the Audience, and the Dawn of the Player." (Zichermann, 2014). This paper will aim to examine the recent trends in Adult Learning, and how the use of Gamification as an engagement strategy can change the way we develop our people.

Defining the Adult Learner

Adult learners are typically defined as a diverse group of learners who are at least 25 years old and above, typically holding full-time or part-time employment, and are driven towards personal, skill or social development (Defining Adult Learners, n.d.). Several key

characteristics of adult learners have been corroborated and agreed upon within field research (Kunhe; Knowles, 1980; Falasca, 2011, Bryson, 2013):

- Adult Learners are more autonomous, and want to take charge of their own learning process
- Adult Learners draw heavily from an increased personal and occupational experience in their learning process
- Adult Learners seek pragmatism and relevance in their pursuit of higher learning

It is also noted that while learners may apply for the same programme or course, or wish to attain the same skill set, their motivations and goals behind the attainment of the same skills could be drastically different based on their work experiences and functions (Vella, 2002).

Barriers to Adult Learning

Falasca (2011) notes that adults face a typically different set of barriers pertaining to learning and development, categorised into External (factors beyond their control, such as Responsibilities and Physical Aging) and Internal Barriers (factors within their control, such as Reluctance to Change and Negative Perceptions about being an adult student). Amidst the respective barriers, it is noted that learners of all ages can learn and succeed at learning if they are afforded the right "opportunity, assistance and support" (p.587). Bryson (2013) and Valentino (2014) posit also that core barriers to many adult learners today include the following:

- Fear of Change
- Preference of passive over active learning styles
- Social Anxieties & Fear of Inadequacies against younger students

Based on the above, creating the right tools and mechanisms for sustained engagement and delivering a personalised experience for adult learners can prove to be more challenging than that of youth or full-time students. With a myriad different motivations and different core objectives among the same group of adult learners studying the same course, planning for a one-size-fits-all course curriculum or learning style might prove to be a) alienating to some course participants, or b) too generic in nature. This paper will aim to create new engagement strategies for adult learners through breaking down the existing barriers listed, and by expounding on the natural characteristics of adult learners.

Gamification: An Introduction to Game-based Theory and Thinking

The term "Gamification" was first coined in 2002, by Nick Pelling (Yip, 2015). Contrary to popular belief, gamification does not simply refer to the process of creating a game. The principles of gamification adhere to the process of extracting game mechanics, theories and principles, and applying them into non-game settings, such as workflow processes and

human engagement. Why games? Yu-Kai Cho, founder of the Octalysis framework on Gamification, defines the process of gamification as being "Human-focused Design"; gamification takes into account what users want, feel, and experience as they perform tasks or make decisions, and constantly adjust or tweaks processes to achieve an optimal user experience. This is contrasted with a "Function-focused Design", that focuses on optimising efficiency within a system. (Chou, 2014). Essentially, gamification is the study and practice of maximising human motivations through enhancing engagement experiences within a system or a process.
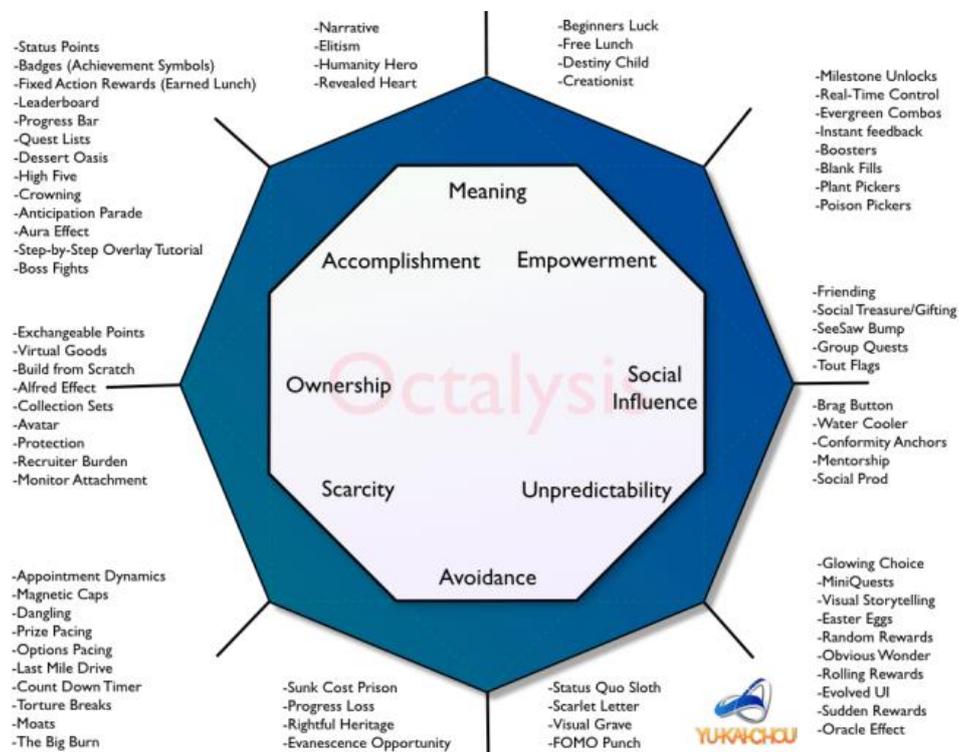

Figure 1: The Octalysis Framework (Chou, 2014)

The Octalysis Framework in Figure 1 is a demonstration of how gamification is used to attain several core psychological drives: Empowering Individuals, Creating Meaning and Purpose, a sense of Ownership and Accomplishment are just some examples of what gamification strategies can be employed to achieve in learners.

The primary purpose of a game is to entertain the player through sustained and increased engagement strategies. Games often require players to perform repetitive tasks, challenge their personal competency levels, and venture out of their comfort zone to learn new skills and discover new concepts. These are traits highly prized in learners; how do we elicit the same responses from adult students in their learning capabilities?

Gamification and its relationship with learning

Because games build such a natural and strong relationship with people, it's easy to see how game elements and techniques have transited into being a tool for education and learning. Digital and mobile apps such as Duolingo, Khan Academy and Udemy all employ gamification techniques in new and refreshing ways to encourage and drive learning new skills (Chou, 2014). Duolingo, for example, offers a step-by-step process for users to learn new languages, and allows the user to complete quests, clear levels, and challenge friends to master new languages. It is this sense of in-game accomplishment, community and ownership over one's own language acquisition that has led Duolingo to gain over 120 million downloads, with 25 million monthly users and 19 languages learnt the world over. (Pajak, 2016; Smith, 2018)
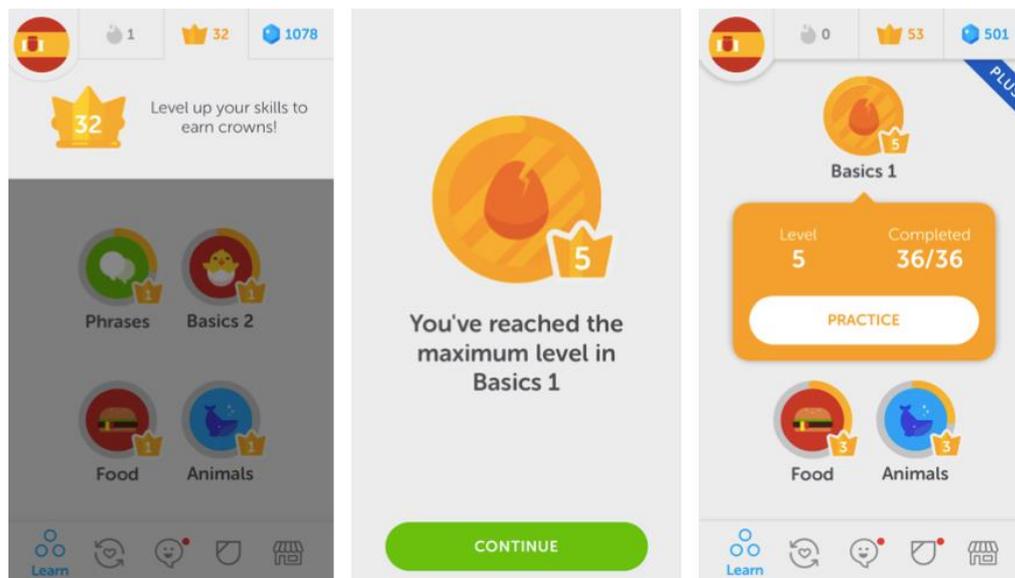

Figure 2: Duolingo Gamification Features – Levelling up and Completion trackers

Gamification in the Classroom

Gamified concepts of information and human interaction has a natural affinity with education and learning bodies, especially among younger audiences, such as youths and undergraduate students. By adding in game-elements such as competitive points systems, ranks and tiers, as well as 'mission objectives', educators were able to create new motivations and drives in their students, and enable them to perform above their previous capabilities. In the case of MathLand, a game-like environment and approach to the classroom resulted in a highly participative student base, and significant increases in punctuality and subject interest (Palmer-Scott, 2017). In Singapore, an undergraduate

module converted into the science-fiction themed "JFDI Academy" saw a steep rise in student motivation, and a more fluid follow-up in reinforcing lecture points (Leong, Koh, & Razeen, 2011).

Gamified learning strategies, however, must be tactfully and carefully implemented regarding adult learners. In a study conducted by Buckley, Doyle and Doyle (2017), results showed that while a gamified approach was novel and interesting to adult learners, they also reported feeling frustrated at the rigidity of inflexible learning schedules, a repugnance towards in-game competition, and that elements in the game were not direct enough to meet their needs. How then do we find a middle ground?

Proposed Gamification Elements

We start by recognising the key characteristics of adult learners. Key concerns of Time, Schedule, and Capacity are prevalent, as well as an increased scepticism in new methodologies or technology in the learning process. However, it is also noted that adult learners value Relevancy, Autonomy and Efficiency as core components of a good learning experience. It is extremely difficult for individual gamification components to succeed on their own; in most successful gamification case studies, the experience is built by curating together a list of supporting gamified learning mechanics into a cohesive whole (McGonigal, 2011). With this, the following Game Elements are presented, as new ways to increase and enhancement among adult learners.

1. **Narrative-Building Through Tribalised Learning Communities**

A common feature of many games is to design a narrative among groups or communities that a player aligns themselves to. In World of Warcraft, a Massive Multiplayer Online Role-Playing Game, for example, players choose their Faction (Horde or Alliance), and then choose their Race, and then their Character Class, even before they start playing the game. This indicates 3 or 4 different layers of ethos that a player subscribes to before they even commence with gameplay. Because of this function, the gameplay and storyline is tailored to suit the characters that they decide to play, and influence the communities that they associate themselves with within the game.

Figure 3: In the game World of Warcraft, players make multiple layers of choice and tribe-alignment during character creation.

Let's apply this to adult learning journeys. As discussed by Lee (Lee, 2015), "No matter how good a lesson is from a content aspect, students will resist absorbing the material unless it engages them by connecting with their prior experiences and future goals" (p.2). Placing an emphasis on the organic emergence of micro-communities and participant tribes allows for participants to align their objectives with like-minded fellow participants with similar mindsets and a common ethos that binds them. This, in turn, provides a great encouragement for members within each group to pool and share resources and information, as well as builds a self-sustaining community of practice (Traum, 2018; Šimko, 2014). This provides Ownership, Meaning and Empowerment, several Core Drives within Chou's Octalysis Framework.

Example of Micro-Communities at Play

Let's use the example of a course on Financial Investment. Within the course, two key groups are likely to emerge:

1) Learners who are more Passive and Risk Adverse. These could be "Farmers": individuals with families to support, or more financial commitments, and are simply looking for useful tips to grow their money safely and comfortably.

2) Learners who are more Aggressive and Risk Taking. These could be "Hunters": individuals with little to no financial baggage, and are looking to maximise their returns, with potentially more high-risk manoeuvres.

Each learner group will take control of their own 'destiny' and can decide how best to use the course information to apply it in their own way. Both the "Farmer" group and the "Hunter" group will process the course information differently and share different tips and strategies with fellow group members. Through this, learners have the autonomy to decide how best to apply the information attained, based on their respective functions and personalities. Additionally, with the formation of micro-communities, learners allay fears of isolation and adopt a 'group mentality' to overcome a resistance to change and social anxieties, and better process learning objectives and outcomes.

2. Levelling Up: Tiered Growth and Progress

Levelling up is a commonly used mechanic within many games to create sustained engagement within players. The use of different ranks, achievements and a structured hierarchy allows players to visualise their player growth within the game, and triggers a sense of Ownership and Empowerment within the game. In-game levelling up typically includes the following results:

1. A rise in player "rank"
2. An increase in in-game currency as reward
3. 'Unlocking' of new content or benefits

Figure 4: A level-up in the game "Hay Day" rewards the player with new bonus structures and animals to produce, and additional currency to spend

Levelling up can be used with adult learning in a variety of different ways. By creating a well-structured levelling up system, learners are constantly driven to achieve the next level by mastering course content. Typically, level progression is easy at the beginning; completing one or two basic tasks allows the participant to progress to the next level. This allows participants to acclimatise to the notion of personal growth, and levelling gets progressively harder as the content grows more complex.

A good level-up system allows learners to take charge of their own learning progress and provide them an autonomy of growth and personal progress (Kapp, 2013; Glover, 2013). Levelling-up can be tied in with Micro-communities; rewarding learners with accelerated level-ups for collaboration and information sharing among groups will help them strengthen their learning journey, and ease into breaking the mould of passive learning and transiting to a more active style of learning and growth.

4. Crafting Skill Trees: Clarity in Skill Visioning

In games with protracted character and storyline development, players often craft their characters around Skill Trees. A skill tree tracks the development and growth of a particular attribute or a skill set of a player; for example, if a player puts in more time and effort into upgrading his character's Agility, his Agility Tree grows, and the player is able to unlock new skills or benefits corresponding to his efforts. Skill points are usually hard to come by; a player will not be able to complete all available skill trees, and is thus forced to choose and prioritise the skills he values most to build the character that he wants to develop into. Over the span of many games, a plethora of different types of skill trees have been developed to guide players to build their characters with strategy and thought (Vas, 2013).

Figure 5: A typical Skill Tree from the game Hawken. Players must choose which Tree (Offense, Defense or Movement) to add points to

Skill trees are an effective display of the respective learning outcomes of a course or platform. Skill trees perform one of two key functions: Serving as a tool for self-assessment and progress tracking, and providing a guideline for individuals to understand how to grow next (Casali, 2017).

Good skill trees also function as a guide of the knowledge journey that a participant must take in order to attain mastery over a particular course component. Skill Trees help learners compartmentalize course content into different genres and guides them in strategizing how they wish to develop their skill sets.
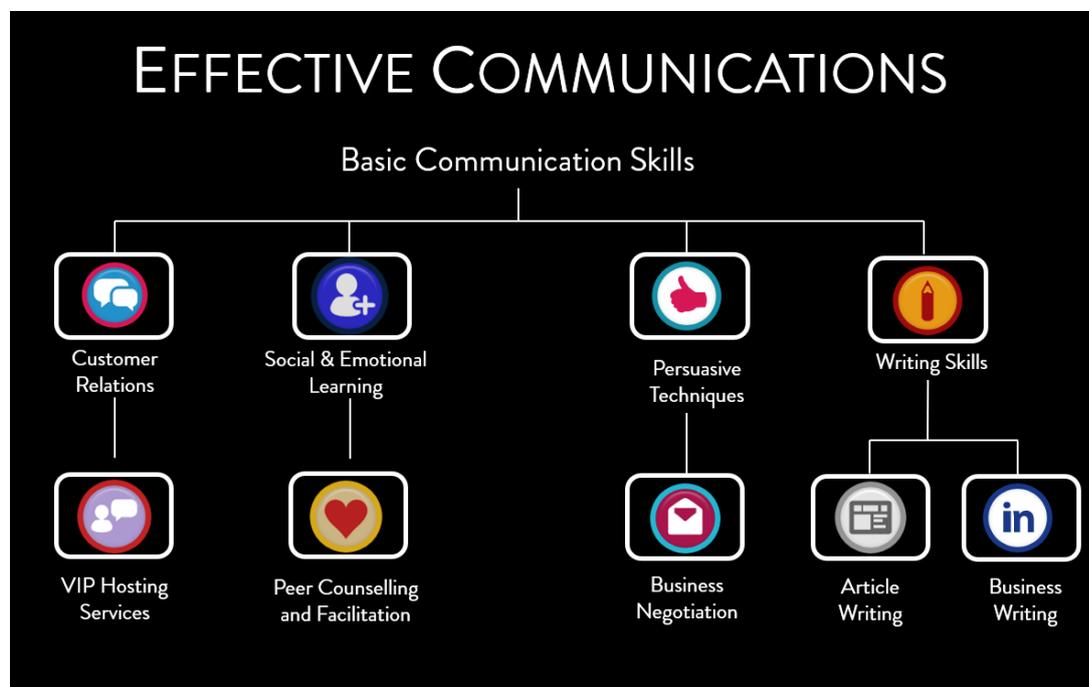

Figure 6: A Skill Tree demonstrates the expansion and growth of skill components.

Skill Trees can ideally be used in helping an employee visualise their Training Needs Analysis within an organization or company. A 'Communications' skill tree, as shown in Figure 6, displays a list of skills that an employee might wish to gain, and will help the learner identify the relevant route to achieve their training objectives. This provides a better platform for employees to strategize their personal development within the organization, and better plan for their learning and development needs. Through this, a much closer correlation can be sought between an employee's skill sets and their strategic development within the organization (Hiermann, 2003). This ultimately leads to a stronger and more efficient staff training roadmap, that allows staff members the flexibility and strategy of designing their own growth within a company.

Conclusion

Organizations and companies are increasingly recognising the need to motivate their staff to adopt a more learner-centric mentality; many Fortune 500 companies are now exploring ways to deploy gamification strategies as a way to engage their staff (Meister, 2015). Gamification recognizes that people perform best in human-focused systems that focus on recognising their fears, their needs, and their objectives. As people start getting more engaged in their learning processes, they become more driven and self-motivated to perform at their optimum levels.

Adult learners face an ever-increasing pressure to constantly upgrade their skills and acquire new ones; the threat of redundancy in this fast-moving economy is always looming. Learners can no longer afford to be passive audiences; as Zichermann mentions, "The Dawn of the Player" is now. As with any great game, players must learn to take control of their own characters, and explore the boundaries in which they can develop themselves and the communities that they forge along the way.

It is the only way they can become game-changers.

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