ASCILITE
SHAPING THE FUTURE OF TERTIARY EDUCATION
Show Me The Learning
Adelaide, Nov 27-30, 2016

Harvesting the interface: Pokémon Go

Brent Gregory
UNE Business School
University of New England

Sue Gregory
School of Education
University of New England

Boahdan Gregory
UNE Business School
University of New England

What can we harvest from Pokémon Go? This is a conceptual paper about the use of Pokémon Go in Accounting and Education in higher education. The authors provide readers with an overview and context of Pokémon Go, then ways in which this disruptive technology can be used in educational settings. Outlined are ways in which the Pokémon Go app can be used as a tool to provide problem based learning, problem solving and a variety of other skills in the areas of accounting and education.

Keywords: Pokémon Go, social media, disruptive technologies, accounting, education

Introduction

Pokémon Go is a clever application (app) used on smart devices that incorporates principals from several successful apps in the one app. Apps incorporated are ones such as those where you have to throw a ball to catch an object, i.e., Angry Birds, those that measure your walking, i.e., FitBit, and those that test your navigation skills using GPS tracking, such as the geo-caching type app, Ingress (which Pokémon Go is based on), and includes augmented reality overlays. Pokémon Go brings the classic 20-year old game 'Pokémon' together with augmented reality (Reuters, 2016). It is a spinoff of the game Ingress, Pokémon Go's early version, which was launched in 2012 (Niantic Inc, 2016; Rosner, 2016), where individuals navigated around their cities/countries/world, to find landmarks using geo-caching principles.

On 6 July 2016 Pokémon Go was released to selected countries across the world – Australia, New Zealand, U.S.A., Germany, United Kingdom, Italy Spain and Portugal (DN Reviews, 2016). On 17 July, 26 more countries were added to the initial list. Japan, the founding country of the original Pokémon game, had to wait until 22 July to access the new craze in gaming, Pokémon Go. Canada gained access on 18 July. Pokémon Go has been so successful in its slow release that on 7 August 2016 it was ready to release to 15 more countries across Asia and Oceania (Alwani, 2016), including Brunei, Cambodia, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand, Vietnam, Taiwan, Papua New Guinea, Fiji, Solomon Islands, Federated States of Micronesia, and Palau.

The day that Pokémon Go was released, it was reported that the free game to download and use, with built in app purchases, had already generated $14.04 million (Fields, 2016). Just two days later, the market-value gains were estimated to be $7.5 billion (Reuters, 2016). Niantic Inc, the owners of Pokémon Go, is on track to make $740 million in revenue this year (Kar, 2016).

Background and context

Pokémon Go has several different, but compatable, objectives. One objective is to gain experience points in order to level up. But, the "ultimate goal of the game is to complete the entries in the Pokédex, a comprehensive Pokémon encyclopedia, by capturing and evolving to obtain the original 151 Pokémon" (Wikimedia Foundation, Inc, 2016, online). The app contains 148 Pokémon, however, in the original Pokémon card game, there are 720. For a full list of Pokémons, please see: http://www.pokemon.com/us/pokedex/. Users have to walk to landmarks to gain inventory items at PokéStops and catch Pokémons (Murphy, 2016). A PokéStop is a place, usually a significant landmark, that has a virtual stop to gather items to go in individual's inventories. These can be things such as Pokéballs (the ball used to capture a Pokémon) or potions, lures and revive items. The key way of gaining experience points is by capturing Pokémons. The manner of capturing is very similar to that employed by the Angry Birds app. You need to swipe a ball to hit the target (in this case, a Pokémon). You can also acquire Pokémon's by:

- Hatching an egg (this involves physically walking – 2 km, 5 km or 10 km, depending on the egg), which uses GPS tracking
- Evolving an existing Pokémon to a higher level

These alternatives generate high experience points. The object of the game is to gain experience points in order to go up levels. Accessing a PokéStop will also earn experience points. Fighting for a gym can provide experience points. A gym is a virtual space where individuals can place an image of their avatar along with one of their Pokémon when you have 'won' the gym (there are three groups to choose from: yellow, red, blue). See Figure 1, owner of a gym, with their Pokémon, Pinsir. Gyms and PokéStops are usually located at significant landmarks and therefore, some places do not have the PokéStops and Gyms to gain access to (Saxena, 2016), such as rural or isolated communities or even built-up areas in towns. Pokémons appear in nests (that is, at the same location) at regular intervals, i.e., hourly.

Figure 1: Owner of a Pokémon gym

Discussion

Disruptive technology

According to Rouse (2014, online), a "disruptive technology is one that displaces an established technology and shakes up the industry or a ground-breaking product that creates a completely new industry". Manykia, Chui, Bughin, Dobbs, Bisson and Marrs (2013, online) believe that disruptive technologies are "advances that will transform life, business and the global economy. Pokémon Go is a great example of disruptive technology. It is disrupting the way people think and do things and is providing alternate means to engage with the community, become physically active and learn.

From a business perspective, Pokémon Go is an obvious example of digital disruption and an example that many higher education students can relate to. It is a real world game, in that it is set in the traditional physical space with actual physical landmarks. However, it is set in a different dimension. This new dimension only became accessible through the Pokémon Go app. It brings together features of other successful applications.

This new dimension opens up considerable space for business activities. The Pokémon Go dimension is an ideal dimension for connecting with a substantial number of people. One source of revenue is advertising and other sources include placing items in the Pokémon Go dimension that will lure people to the physical space. The game has an item called a lure and this acts to lure Pokémon to a PokéStop, so that they can be captured. This is a great metaphor for what it can also do to people.

Pokémon Go as a serious game

Pokémon Go could also be considered a serious game in that its primary purpose may not be purely entertainment but could also be used in the higher education sector in accounting and education as a tool for learning. Serious games incorporate strategy and decision making elements and Pokémon Go provides an arena to hone in on these skills. Serious games enable the educator to incorporate and integrate gameplay into every day classroom activities to enhance student's learning (Ketamo, Kiili, Arnab, & Dunwell, 2013) as outlined more fully in the following two sections.

Accounting concepts and how they can relate to Pokémon Go

Many of the elements of the game display key accounting concepts while it is also potentially a window into future directions of accounting such areas as reporting. Following are some key accounting concepts.

The Accounting Cycle and Reporting – accounting is built around the accounting cycle. In summary, transactions are recorded in a journal, posted to a ledger, summarised in the trial balance and finally reported in the financial statements. In Pokémon Go, one class of transactions is recorded in a journal. While these journal entries are then posted to a ledger equivalent, this ledger equivalent is not visible. There is not an obvious trial balance. Reporting is an area that may be a window into the future of accounting reporting, well at least in part. A strength of the reporting is that it is more user friendly. Take the reporting of Pokémon's captured. This is more visual and can be easily rearranged (for example, by name, combat power, recently captured, favourites, health points or number). There is also the capacity to easily drill down for more specific information. There are also elements where a physical sensation is used as part of the reporting mechanism. When a Pokémon is sufficiently near to be captured, your phone will vibrate.

Triple Bottom Line Reporting – following the belief that you get what you measure, there has been a push in accounting to measure things other than profit. This is referred to as triple bottom line reporting – financial, social and environmental. However, a skill that is not generally strong is how to value each of these bottom lines. Pokémon Go has two main bottom lines – experience points and number of different Pokémon. This is a potential vehicle for players to develop decision-making skills related to achieving different values.

Decision making skills – Pokémon Go provides a number of opportunities to develop skills that are commonly used for business decisions. There are numerous decisions to be made around maximizing experience points which require similar skills to making decisions related to maximizing profit.

Educational affordances of Pokémon Go

This section provides ideas for pre-service teachers for when they are in the classroom and engaging their students on how to use Pokémon Go in an educational setting. If pre-services teachers are able to demonstrate their knowledge of latest technologies or innovative hypes, they will be able to engage their students in their learning. As Williamson (2016) succinctly puts it, there are five things that education technology could learn from Pokémon Go. These are:

Using the augmented reality features to incorporate real world features with the game features to make it "more exciting". Williamson provides an example of cooking a fish, through the use of the Pokémon, Magikarp, augmented onto a frying pan. An example of augmented reality is provided in Figure 3 (a and b).

The game provides levels and increased difficulty. Therefore, when a user begins Pokémon Go, they aren't challenged too greatly. As they increase in levels, Pokémon are more difficult to catch and gyms are more difficult to take over.

New features of the game are released as a user levels up. Therefore, the user can hone in on their skills before being challenged further.

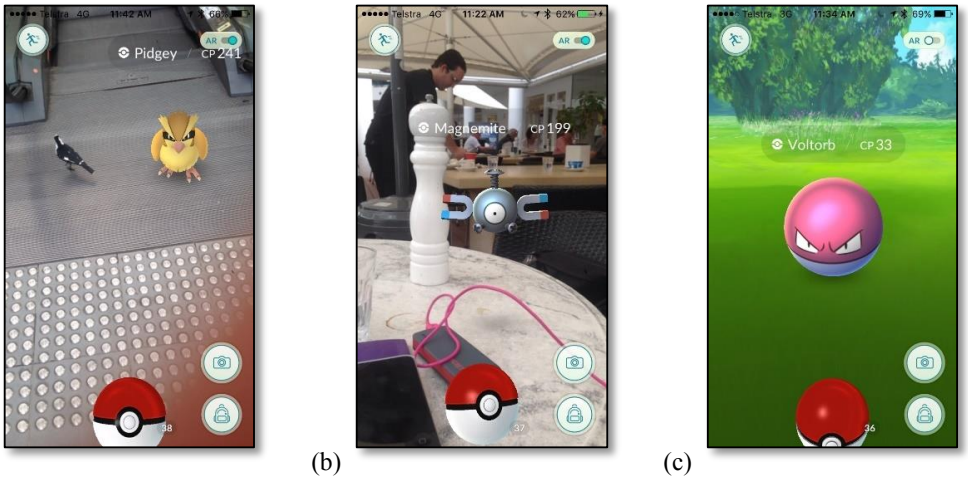
There is a growth mindset encouraging users to practice to increase their skill levels.

The app encourages real life communities. For example, people congregate to catch Pokémon, gain gyms and access PokéStops to fill their inventory items. See Figure 2 for an example of an estimated 3,000 users gathered at Southbank on Saturday 23 July 2016 in order to increase their skill levels and play the game. "South Bank has really blossomed as the best place to get stuck into Pokémon Go and the people playing it, because it has a quite rare PokéStop placement of three PokéStop intersecting near the ferry terminals" (Chester, 2016, online).

Figure 2: South Bank, Brisbane, Pokémon Go users (23 July 2016)

Other educational uses of Pokémon Go are acquiring map-reading skills. This would be a great exercise for students to go in the playground, be physically active, with a task at hand to find a Pokémon. Of course, Pokémon would need to be available in the first place and they 'nest' in certain locations. If the school is located in an area where there are Pokémon and PokéStops, fun homework for the students would be to go on a Pokémon treasure hunt. This could also assist the students to gain basic orienteering and geo-caching skills. These are map-reading skills enabling the user to be able to locate their location on the map and also find other items on a map.

Augmented reality can be used with Pokémon Go. It has the ability to overlay the real world with a Pokémon. See, for example, Figure 3 (a, b, c), attempting to catch a Pidgey, Magnemite and a Voltorb. Augmented reality can provide immersive experiences for students. It can also be distracting whilst trying to catch the Pokémon.



(a) (b) (c)

Figure 3: Using augmented reality to catch a Pokémon (a and b) and traditional screen (c)

Exercise is required to hatch an egg. This gets a Pokémon player active. Individuals need to walk a specified distance to hatch and egg. These are in various sizes from 2km, to 5 km to 10 km. Once an egg is hatched, the user is rewarded with a new Pokémon, many times one they haven't caught before, providing many more experience points.

There are various skills involved when playing Pokémon Go. It can provide students with problem solving skills. They may be challenged to decide whether or not to catch certain Pokémons. Their inventory items or even Pokémons may be full requiring the student to decide what things they will keep and what they delete, or, in relation to Pokémons, transfer. This can also require basic mathematic skills such as addition. The student may have to calculate how may Pokémons they keep and which ones, depending on what the Pokémon is worth. Therefore, they are also using decision-making skills. To catch a Pokémon requires hand eye coordination. As a user's skill levels go up, these skills become more essential and technique could be significant when catching a Pokémon.

There are a variety of different ways the Pokémon Go app could be used in an educational setting. If pre-service teachers use the tools that the students are engaging with in educational contexts, they will find the students more receptive to undertaking certain tasks. If they don't wish to use Pokémon Go with their students, they may consider looking at Ingress.

Conclusions

Provided was a brief overview of how Pokémon Go is used and ways in which it could be used in accounting and education. Many skills can be honed in by using Pokémon Go. Don't just play Pokémon Go, understand what it heralds for the future and what it brings from the past.

References

Alwani, R. (2016, August 7). *Pokemon Go Out in 15 Countries Across Asia and Oceania; India Release Date Soon?* Retrieved from http://gadgets.ndtv.com/apps/news/pokemon-go-out-in-15-countries-across-asia-and-oceania-india-release-date-soon-870037

Chester, R. (2016, July 30). *Pokemon Go, Brisbane: App taking over Queensland capital*. Retrieved from http://www.couriermail.com.au/news/queensland/pokemon-go-what-is-it-all-about/news-story/a9e88c8b4f57336371c99d9d3fe4c5d9

DN Reviews. (17 July). *Pokemon GO – Now Available In 26 New Countries!* Retrieved from https://dnreviews.net/2016/07/17/pgo-newco/

Fields, S. (2016, July 6). *Pokemon GO Has Made Over $14 Million Already [GameRant]*. Retrieved from http://gamerant.com/pokemon-go-14-million-profit /

Kar, I. (2016, July 25). *Pokemon Go creator Niantic is now worth over $3 billion.* Retrieved from http://qz.com/741117/the-company-that-created-pokemon-go-is-now-worth-over-3-billion/

Ketamo, H., Kiili, K., Arnab, S., & Dunwell, I. (2013). Integrating games into the classroom: Towards new teachership. In S. de Freitas, M. Ott, Popescu, Maria Magdalena, & I. Stanescu (Eds.), *New Pedagogical Approaches in Game Enhanced Learning: Curriculum Integration* (pp. 115–135). Hershey, PA: IGI Global. Retrieved from https://core.ac.uk/download/pdf/30618156.pdf

Manykia, J., Chui, M., Bughin, J., Dobbs, R., Bisson, P., & Marrs, P. (2013). *Disruptive technologies: Advances that will transform life, business, and the global economy.* Retrieved from http://www.mckinsey.com/business-functions/business-technology/our-insights/disruptive-technologies

Murphy, J. (2016, July 17). *The real lesson of Pokemon Go.* Retrieved from http://www.news.com.au/technology/home-entertainment/gaming/the-real-lesson-of-pokemon-go/news-story/076a82908c64b959ba58c768e2f81157

Niantic Inc. (2016). *Ingress.* Retrieved from https://www.ingress.com/

Reuters. (2016, July 11). *Pokemon Go Has Added $7.5 Billion to Nintendo's Market Value.* Retrieved from http://fortune.com/2016/07/11/pokemon-go-nintendo-market-value/

Rosner, H. (2016, July 15). *Wish Pokémon Go were better? Welcome to Ingress.* Retrieved from http://www.polygon.com/2016/7/15/12188262/pokemon-go-ingress-niantic-nintendo

Rouse, M. (2014, July). *What is disruptive technology? - Definition from WhatIs.com.* Retrieved from http://whatis.techtarget.com/definition/disruptive-technology

Saxena, J. (2016, July 13). *Pokémon Go is harder for people in rural communities.* Retrieved from http://www.dailydot.com/parsec/pokemon-go-rural-divide/

Wikimedia Foundation, Inc. (2016, July). *Pokémon Go - Wikipedia, the free encyclopaedia.* Retrieved from https://en.wikipedia.org/wiki/Pok%C3%A9mon_Go

Williamson, D. (2016, July 15). *Five Things Education Technology Could Learn from Pokémon Go.* Retrieved from https://medium.com/@new_edu/five-things-education-technology-could-learn-from-pok%C3%A9mon-go-819f4752b53f#.7ms3zubr3

Please cite as: Gregory, B., Gregory, S. & Gregory, B (2016). Harvesting the interface: Pokémon Go. In S. Barker, S. Dawson, A. Pardo, & C. Colvin (Eds.), *Show Me The Learning. Proceedings ASCILITE 2016 Adelaide* (pp. 240-244). https://doi.org/10.14742/apubs.2016.860

Note: All published papers are refereed, having undergone a double-blind peer-review process.

The author(s) assign a Creative Commons by attribution licence enabling others to distribute, remix, tweak, and build upon their work, even commercially, as long as credit is given to the author(s) for the original creation.