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Distributed Teaching and Learning in Pokémon Go

By

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ABSTRACT

This dissertation shares the results of a study of the community of the mobile augmented reality game *Pokémon Go.* It also serves to build on and expand the framework of Distributed Teaching and Learning (DTALS), which here is used as a framework through which to explore the game's community (Gee & Gee, 2016; Holmes, Tran, & Gee, 2017). DTALS serves to expand on other models which examine learning in out-of-school contexts, and in particular on the connections between classroom and out-of-school learning, which numerous scholars argue is of critical importance (Sefton-Green, 2004; Vadeboncoeur, Kady-Rachid, & Moghtader, 2014). This framework serves to build bridges as well as fill gaps in some key literature on learning in out-of-school contexts, including connected learning (Ito et al., 2009), participatory culture (Jenkins, Purushotma, Weigel, Clinton, & Robison, 2009), learning ecologies (Barron, 2006), and affinity spaces (Gee, 2004; Gee & Hayes, 2012). The model also focuses on teaching in addition to learning in and across informal contexts.

While DTALS can be used to examine any number of phenomena, this dissertation focuses on the community around *Pokémon Go.* The game, with its emphasis on geography and community, presents unique opportunities for research. This research draws on existing video game research which focuses on not only games but their communities, and in particular the learning and literacy activities which occur in these communities (Gee & Hayes, 2012; Hayes & Duncan, 2012; Squire, 2006; Steinkuehler, 2006).

The results here are presented as three separate manuscripts. Chapter Two takes a broad view of a local community of players, and discusses different player types and how

they teach and learn around the game. Chapter Three focuses on families who play the game together, and in particular three focal parents who share their perceptions of the game's merits, especially its potential to promote family bonding and learning. Chapter Four discusses teaching, in particular guides written about the game and the ways in which they are situated in particular Discourses (Gee, 2014). Finally, Chapter Five offers implications from these three chapters, including implications for designers and researchers as well as calls for future research.

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GLOSSARY OF POKÉMON GO TERMS

Term	Definition
Avatar	Although Pokémon is played by walking, not through controlling an avatar, each player does have an avatar to represent him or herself on the screen while walking around. This avatar can be customized, and a player's name and avatar will be displayed alongside a Pokémon in a gym.
Berries	Special items that with varying effects that can be used while catching a Pokémon. They can be used before throwing a **Pokéball**, for example, to make a Pokémon easier to catch.
Candy	Each Pokémon has a specific "candy," which is used for powering it up and evolving it. This candy can be obtained by catching Pokémon of this species or hatching it from an **egg,** or from a Pokémon **transfer.** It must be used along with Stardust in order to power up a Pokémon.
CP	The one statistic that is visible to players in the game, this number is a rough indication of how powerful a Pokémon is. This number can be increased used **candy** and **stardust.**
Eggs	Pokémon hatch out of eggs. Players can obtain Pokémon eggs from **Pokéstops** and place them in incubators. Each egg requires that players walk a certain distance- 10km, 5km, or 2km. Once this distance has been walked, the egg hatches and the player gets a Pokémon. Sometimes Pokémon which hatch from eggs are difficult (or impossible) to obtain otherwise.
Eevee	A popular fox-like Pokémon. Eevee is notable because it can **evolve** into a number of different Pokémon, unlike most Pokémon which can only evolve into one or two possible Pokémon. Like **Pikachu**, Eevee is fairly well known even among non-fans of the series.
Evolve	Many Pokémon can evolve into other types of Pokémon. When Pokémon evolve, they transform and turn into new types of Pokémon which are stronger than the previous version. Most Pokémon that evolve can only evolve into one other type of Pokémon (which may in turn evolve into something else). However, some Pokémon can evolve into two or more types of Pokémon.

	Additionally, some Pokémon require special items to evolve, which are referred to as evolution items.
Gyms	Real-world locations where players can battle for territory. If the gym is controlled by another **team,** players must battle all of the Pokémon in a gym. If they can defeat all of the Pokémon, they "take down" the gym and can place their own Pokémon in it. This also claims the gym for his/her team. If a player can keep a Pokémon in a gym for 24 hours, he or she receives a bonus (coins). These coins can be used to purchase in-game items.
IVs	Short for Individual Values. These statistics determine how strong a Pokémon will be in battle. Players can use online calculators to determine these IVs, or use the "appraise" feature in-game to receive a qualitative summary of these values.
Lure	An item which can be placed on a **Pokéstop** to attract more Pokémon. A lure benefits everyone, not just the player who placed it.
Nest	A location where a particular Pokémon is abundant. When trying to catch Pokémon, players will often see which locations are nests for specific Pokémon. These nests change every 28 days, so players must keep up-to-date with information on where nests are in the area.
Pikachu	One of the most popular Pokémon, Pikachu is a yellow mouse with electricity-based powers. Pikachu is often used to represent the Pokémon games, and has appeared in other games as well as on merchandise and various cross promotions.
Pokéball	A device used for capturing and keeping Pokémon. Pokémon are caught by flicking Pokéballs at them on the screen. It might take several successful throws before a Pokémon is captured, as they can escape from the Pokéballs even if a player aims correctly. Pokémon can also run away as players try to catch them, meaning that players lose the opportunity to catch that particular Pokémon.
Pokéstops	Places of interest such and landmarks, art, or buildings. Players can activate these stops when close by. Activating a Poke Stop gives players items, including **Pokéballs, Eggs**, **Berries,** and items needed for battle.
Stardust	A precious resource in the game, stardust can be used in conjunction with candy to power up Pokémon and increase their

	CP. Stardust, unlike **candy,** it not specific to species of Pokémon. Therefore, a player's pool of Stardust is for every Pokémon, and players must be strategic about where to use it. It can be obtained through catching and hatching Pokémon.
Team	Players choose one of three teams to join early on in the game. Players cannot change this team later. The three teams are Valor (also known as Red), Mystic (also known as Blue), and Instinct (also known as Yellow). Each team represents a different ethos or approach to Pokémon. However, many players choose based on what their friends or family have chosen, as being on the same team as another player means that the two players can battle in **gyms** together.
Transfer	If a player does not need a particular Pokémon, it can be "transferred." In the game, there is a professor who studies Pokémon that wants to collect as many as possible. This professor will provide a player with one candy of that Pokémon's type for each Pokémon transferred.

CHAPTER 1

INTRODUCTION

As people, especially young people, are increasingly connected to digital technologies, these must be considered essential sites for learning and literacy. Whether it is through writing online (Black, 2008; Magnifico, 2012; Thorne & Black, 2007), playing video games (Gee, 2007; Gee & Hayes, 2010), or a plethora of other digitally-mediated practices (Ito et al., 2009; Jenkins, 2006), technologies play a key role in today's learning, especially learning which is driven by personal interest, such a hobbies or fandom of various media such as books, movies, and video games. Learning through these technologies (and researching this learning) is a complicated phenomenon. Learning that is mediated through technology is often dispersed, individualized, and involves various sources and types of information that learners must navigate. However, understanding such informal learning contexts and practices is important, because it is key to furthering our understandings of learning and education (Lave & Wenger, 1991). These informal learning and literacy practices intersect with and, I argue, complement traditional classroom learning. Equally important to learning in digital contexts is teaching. The traditional model of "teaching"- defined as a sole professional instructing a group- is challenged in this context as in digital environments "teachers" are not necessarily professionals in the way the word generally connotes, but rather everyday people (and most often, also learners themselves).

Much of the research on teaching and learning that occur outside of school is framed. There are a number of (sometimes-overlapping) frameworks which relate to interest-based, sometimes technologically mediated learning, especially among youth.

These include participatory culture (Jenkins, 2006; Jenkins, Purushotma, Weigel, Clinton, & Robison, 2009), which relates to media and interest in pop culture items and the benefits of participating in the related fan cultures; the model of connected learning (Ito et al., 2009), which explores how youth learn through passionate engagement across various contexts, such as in-school and out-of-school, and learning ecologies (Barron, 2006), in which people, especially adolescents, learn across a set of relationships, tools, and resources. Affinity spaces (Gee, 2004) are another model of an informal learning space, formed around a common passion or interest. They have been framed by scholars (Curwood, Magnifico, & Lammers, 2013; Gee & Hayes, 2010; Hayes & Duncan, 2012; Martin, 2012) as places of deep learning, especially the spaces around video games. All of these models posit that technologically-mediated learning can occur around interests that youth may have. Here I seek to draw upon and build connections between these frameworks, while also seeking to fill in gaps in this literature using the framework of *distributed teaching and learning systems* (DTALS). This framework seeks to explore how learners navigate across sites and resources (Gee & Gee, 2016; Holmes, 2015; Holmes et al., 2017) and differs from the aforementioned models in a number of key ways.

One, this framework places equal attention on teaching and learning. Other models of informal learning tend to downplay or outright ignore the role of teaching in informal learning contexts. In the DTALS framework, where there is learning there must also be teaching; and this applies whether someone is writing an online tutorial for strangers or family members are supporting and brokering an adolescent's learning. Two, the DTALS model focuses not only on learners and the individual sites

and resources which they use, but on the connections *between* different sites and resources. While numerous scholars (Bay, 2007; Martin, 2012) have outlined affinity spaces and fan communities as distributed phenomena which are not bound to single sites or places, the extent to which teaching and learning occurs in a distributed manner across sites was not a primary topic of inquiry for these researchers. In the DTALS framework, learners will interact in varying ways with the available resources, even for the same topic, due to a variety of factors including individual interests and background knowledge and experiences. The ways in which these resources interplay with each other are of key significance here. Three, informal learning does not exist separately from school; rather, the ways in which learners interact with a DTALS can have a profound impact on school- and vice versa. If a learner accesses one particular site in a DTALS, the ways in which he or she understands, experiences, and learns from any other another site will be affected. Here, I seek to explore these three key differences between DTALS and other frameworks by exploring the DTALS of a particular video game- the popular augmented reality game *Pokémon Go.*

Informal Learning and Video Games

While a DTALS can center around any affinity or complex problem, my interest here is primarily in video games. Many scholars have discussed the deep and socially-situated learning that occurs in and around video games (Gee, 2007; Gee & Hayes, 2010, Hayes & Duncan, 2010). What are players of a game such as *Pokémon Go* teaching and learning? It is easy to look at the game as an outsider and see a time-wasting activity, as players walk through the world staring at virtual creatures on their phones. However, this kind of thinking falls under what Gee (2007) calls “the problem of content.” Most video

games seem on the surface to be devoid of any real educational value, as they are not teaching content areas like science, reading, or math. However, Gee outlines how video games do actually promote learning and engage players in situated problem solving, as they are deep problem spaces which provide learners with opportunities to experiment and discover.

Likewise, in the communities around games, it may seem like players are not teaching or learning anything valuable. While the ways in which games teach players how to play is itself an interesting design question, the ways in which players teach and learn from *each other* is of key importance to DTALS. The learning in which I am primarily interested here is socially situated, and I explore a notion of learning which is situated and social (Lave and Wegner, 1991). That is, "learning" is not merely a cognitive process in the head but is instead situated within particular social contexts and settings, in this case around a favorite video game. Gee (2007) refers to everything around the game, including its social spaces and communities, as the *big G game/Game*, as opposed to the piece of software known as the *game.* The Game refers to everything that happens around that software, including discussions, cosplay, conventions, strategy sharing, academic research, and the many other activities that center around particular video games. Hence I am exploring not just the game of *Pokémon Go* but the Game and the community of fans around the game.

Hence, the person-to-person teaching and learning in a DTALS is of particular interest. While affinity spaces have been framed as places for participants to demonstrate expertise (Black & Steinkuehler, 2009), this practice generally not been framed explicitly as teaching. One defining feature of the DTALS framework is that that it does frame this

and related practices as teaching. Holmes (2015) outlined how teaching has been ignored in the literature around digital media and learning, as well as in the literature around informal learning more generally. Teaching just "happens," even when, for example, video game fans share help, guides, and strategies. Hence, part of the mission of DTALS research is to examine this role of teaching more closely. This is especially relevant in the context of videogames. Long gone are the days of manuals that came with games which explained them; now players can only learn from the games themselves (and many games are great teachers, as Gee (2007) posits, or from other players. Many modern games are very complex and require players to seek information from other players, online and offline. This information comes in the form of videos, tutorials, discussion boards, and even the communities that exist entirely around finding the optimal way to play games (Paul, 2011).

One example of a game which requires players to seek outside information is the aforementioned Pokémon Go, the most recent release in the long-running *Pokémon* series. The series started twenty-one years ago at the time of this writing, and includes a series of role-playing games (referred to throughout this dissertation as the "main series"), spin-off games, an anime TV series, movies, and comic books, among many other *Pokémo*n related media artifacts and experiences. The first game came out in 1996, meaning that fandom of the series has spanned generations as the children who were fans of the first games are now adults, many of whom have children of their own. As a result of its ubiquity, *Pokémon* has been the focus of not only popular writing and speculation but also of academic scholarship (Bainbridge, 2013; Ito, 2008; Knobel, Marsh, & Millard, 2005; Tobin, Buckingham, Sefton-Green, Allison, & Iwabuchi, 2004). *Pokémon*

Go continues the popularity of the franchise, attracting both long-time fans and players unfamiliar with the game alike.

Pokémon Go

Pokémon Go is an augmented reality (AR) game, which superimposes game elements over real life environments. It is also a geolocation based game, using global positioning system (GPS) to track where players are located. It was developed by Niantic, a subsidiary of Google, as a follow-up to the mobile game *Ingress.* While all terms used from here on are explained at their introduction, a glossary of terms which may be helpful for understanding the game can be found in the Appendix.

In both *Ingress* and *Pokémon Go,* the world itself becomes the map on which players are positioned, and players themselves (rather than only a virtual avatar) are "in" the game. This has interesting implications for player interaction. As opposed to an online game like *World of Warcraf*t, in which physical location is irrelevant to the game and who players can interact with, *Pokémon Go p*lay is contingent upon real world location. As such, players prize local knowledge and location-based information. This gameplay element stands in contrast to one aspect of affinity spaces, which is that location is no barrier to participation. Additionally, while age, race, gender, and so on are not explicitly part of the experience of the game, P*okémon Go* is an embodied experience and so these real-life attributes are more relevant than in other video games. While the players do have avatars that represent them in the game, this does not conceal their identities as it would in other online games.

Pokémon Go does not have set goals per se; rather, there are a number of activities that a player can enjoy in the game. For example, players can spend their time

trying to catch as many different types of Pokémon as possible in order to complete their Pokédex- an index of all Pokémon that is filled in as players collect Pokémon. Players may also be interested in leveling up their characters in order to obtain the strongest Pokémon team. Or, players might not be particularly interested in the game itself and prefer socializing around the game. In any case, players will need to learn how to play the game, and doing so necessitates interacting with the player community in various ways.

Emergent Teaching. One of the most important features of *Pokémon Go* in terms of studying DTALS is the lack of *designed teaching.* When a player opens the game, there is little explanation of what the player is supposed to be doing. It may even appear on the surface to be an exceedingly simple game, as there does not seem to be much more to it than walking around and trying to catch virtual creatures, which itself is a fairly simple procress. However, when a player becomes more immersed in the game, it soon becomes evident that there are many game elements and systems to keep track of. Game elements like battles (in "Gyms," which are mapped on to particular real world locations), strategic decisions about what creatures to power up, and figuring out where specific Pokémon are located are all central to gameplay. In order to understand all of the various systems and mechanics in the game, it is necessary to turn to other players for help. The various player-made teaching resources are what Holmes (2016) called *emergent* teaching- that is, teaching which exists outside of the realm of the game itself, and which is not set up by the makers of the game (in contrast to resources like "official forums" that some game developers provide, for example).

This help for the game can be found both online and in face-to-face settings. While the designers of *Ingress* encouraged the use of Google Groups to communicate and

plan meetups (Chess, 2014), there are no official forums or sites for *Pokémon Go*. Even so, there are many different places to interact around the game, including websites and social media-based groups (for example, Facebook groups). In these spaces, there is teaching and learning around the game, including players sharing resources and asking questions. Additionally, tools such as wikis and fan-created maps promote collaboration and collective intelligence (Shirky, 2009).

There is one key difference between the fandom of *Pokémon Go* and that of most game fandoms. Because *Pokémon Go* groups are often region dependent, local knowledge and affiliation with local players is key to the online discussion around the game. *Pokémon Go* groups are often used to arrange real-life meetups at locations which are densely populated with Pokémon. This interaction between the real and virtual—and its central importance to gameplay—makes *Pokémon Go* very different than games that are based upon online play only. While a number of scholars have explored teaching and learning in games such as *World of Warcraft* (Chen, 2012; Martin & Steinkuehler, 2010; Rama, Black, van Es, & Warschauer, 2012) the physical and local nature of *Pokémon Go* entails different kinds of teaching and learning.

Real-life MMO. Much research has been conducted around learning not just in the spaces around games, but in the interactions that occur within games themselves. Specifically, MMO (massively multiplayer online) games such as *World of Warcraft* have been researched extensively and framed as places of deep, socially-situated learning. This is because MMO games require players to interact with each other; not only to socialize, but to work together to solve complex problems and seek information from other players (Steinkuehler, 2008).

Pokémon Go is also an MMO, as all players are in the same persistent game world and can interact through battling at specific real-world locations. Perhaps more important than this in-game interaction, however, is the interaction that occurs between players in real life. Just as a player in *World of Warcraft* might ask another where an item is located or how to complete a quest, *Pokémon Go* players who encounter each other in the world will often ask each other questions, offer information to one another, or call out the locations of rare Pokémon when they are found (Lee, Windleharth, Yip, & Schmalz, 2017). There is no scarcity with Pokémon; that is, if there is a Pokémon such as a Pikachu is in an area, all players can catch that Pikachu. This leads to an overall sense of cooperation rather than competition between most players, with the only truly competitive element being battling at gyms.

Multiplayer games have also been conceptualized as a "third space" in which players can interact, socialize, and learn (Martin & Steinkuehler, 2010). *Pokémon Go* takes this third space into the real world, and turns real-life locations into these third spaces. I propose that socializing is an important motivating factor for both playing the game and seeking information. Bartle's (1996) classic framework for categorizing player motivations includes a motivation that is primarily social; that is, players that play a game to meet and chat with other players. The social network of Pokémon Go contributes to rich opportunities for teaching and learning, and the social aspect of the game and questions of identity are key. As in Bartle's framework, there exist many different motivations for playing, which I identify and discuss in Chapter 2 but which remain important in all chapters of this dissertation.

AR vs. Location-Based

To examine *Pokémon Go,* it is necessary to separate out two novel aspects of its design- the use of the camera (AR) versus the use of the of geolocation. At first, many players were excited about the superimposition of game elements onto the world, so that Pokémon appear in everyday environments. In spite of this initial excitement, Joseph (2016) argued that it is not the camera and the augmented reality portion of the game that makes it compelling so much as the geolocation-based play. Indeed, this location-based nature of the game affects many aspects of the game's DTALS, including the tendency for players to interact with local players, and many of the benefits of the game that players perceived throughout the study revolved around the walking element of the game (including getting out of the house, exercising, meeting people, and spending time outside with family). Because of this, I focus primarily on the location-based nature of the game rather than the augmented reality. For one, I echo Joseph's argument (2016) that this is the more compelling design feature, especially once the novelty of using the camera wears off. But more importantly for the purpose of this dissertation, much of the information-seeking around the game revolves around this location-based design, as players seek out specific Pokémon (tied to particular locations) and locations to play which have plenty of PokéStops (where players can receive items). Additionally, this importance of location to the game, along with the desire to play with other people, leads to the localized nature of player groups online. Finally, many players turn the augmented reality portion of the game off in order to save their phone's battery, so not all players are using it. While augmented reality itself may have great potential for game design, in this case I view the feature as more of an aesthetic element.

Location-based activities. Location based games and activities are not new. In fact, many consider geocaching to be the first example of location-based gaming (Neustaedter, Tang, & Judge, 2013); With geocaching, people leave "caches" at certain real-life locations and post the GPS coordinates of the cache. Then, another player locates the cache and leaves something else there. This practice predates mobile phones; it became popular when GPS units were readily available.

Geocaching lacks many game-like elements: there is no way to "win" at it, there is also no way to lose, and there are no real mechanics other than going to locations and finding or leaving caches. However, many of the elements of teaching, learning, and problem solving that we see in the *Pokémon Go* community today were present in the geocaching community. The discussion around it and the posting of coordinates meant that local groups formed online. There were also face-to-face groups of geocachers, who often were part of online groups as well. Hence, the emphasis on local knowledge and the fluidity of online/offline groups were very similar, and geocaching could have implications for the design of digital location-based games, chief among them the importance of making games that support emergent player practices, such as customs and styles of gameplay (Neustaedter, Tang, & Tejinder, 2013)**.**

Research Study and Methodology

Through this study I will probe the DTALS of Pokémon Go and the ways in which players engage in it. My overall, guiding research question is: *What is the nature of the distributed teaching and learning system around the game Pokémon Go?* Under the umbrella of this broad question, I have developed three sub-questions to guide each of the three main chapters which, along with this introductory chapter and a concluding

chapter, will comprise this dissertation. The DTALS is not a static artifact but rather an ever-evolving system, and as such, each question concerns a different aspect of this system in order to explore it from varying perspectives. My three sub-questions, and the methods I will use to go about answering them are forthcoming; but first, a note about the structure and methods of the study.

The first step in conducting my study on the DTALS of Pokémon Go was to become involved in the player community, participating in gameplay and conversations with players online and offline and taking field notes. Because *Pokémon Go* is based on local communities, my primary focus was on players in Arizona, although I also explored the many sites and resources that are relevant to all players of the game. From here, I constructed a survey to distribute both online and offline to players in this area, the results of which are the focus of Chapter Two. From the survey, I identified three focal parents to conduct interviews with on the topic of their family gameplay, and describe and analyze these interviews in Chapter Three. Finally, I focused on guides written for players, which were located on sites which were relevant to all players regardless of area. My analysis of these guides forms the basis of Chapter Four.

I employed primarily interpretive methods in order to focus on individuals and how they understand meaning, because this is key to researching human action and understanding (Erickson, 1986). I sought to understand the perspectives of players involved in the *Pokémon Go* community, and to use these perspectives to strengthen my identification of teaching and learning in the fan spaces of the game. Chapters Three and Four are based on interviews, coding (Saldaña, 2015), and Discourse Analysis (Gee, 2014). In chapter Two, which is based on a survey of players, I also used correlations

(Merrigan & Huston, 2008) in order to identify "types" of players who tend to be interested in different aspects of the game.

Chapters and Research Questions

My overall research question will guide this dissertation, but in each chapter, I will explore a different sub research question. The topics of the chapters move from broad to narrow; that is, Chapter Two explores the "whole" DTALS of players in the community I studied, chapter three analyzes the gameplay and learning practices of three focal families, and chapter four analyzes the ways in which particular values and identities are embedded in written teaching guides to the game. In each chapter and its associated research question, I not only address a different aspect of DTALS, but seek to make an argument for the application of DTALS not only to the informal learning literature mentioned above, but also to research relevant to each of the individual topics.

Chapter Two

Research Question: How do different types of players of *Pokémon Go* use designed and emergent teaching resources to find information around the game?

This chapter explores the trajectory of learners through the DTALS around *Pokémon Go.* In particular, players must use *designed* (made by the creators of the game) as well as *emergent* (made by players) resources (J. Holmes, 2015). While the game does have a number of built-in teaching resources, players must also utilize all of the resources around the game created by other players, including websites and groups on social networks. I administered a survey (n=149) to players in my area by posting on local social groups online as well as interacting with players in three local parks which are popular for players of the game.

This survey had two purposes. One was to determine what types of activities were most popular in the game, and if there were different "types" of players. The second was to determine what sites and resources were most commonly used in the game. Both of these are important because one of the core tenets of the DTALS framework is that it can support multiple learning pathways (Holmes et al., 2017). That is, not everyone will experience a DTALS around the same topic in the same way, because learners have different backgrounds and experiences.

It is also likely learners will be interested in different aspects of the same topic; for example, someone who is interested in cosplaying *World of Warcraft* characters will access a different set of sites of resources than someone who is interested in "theorycrafting" and building the strongest possible character. Of course, both of these interests could exist in the same person, but "cosplayers" and "theorycrafters" are two different types of players who would navigate the *World of Warcraft* DTALS in very different way. The same is true of Pokémon Go players, as there are many different reasons for playing. These reasons include getting exercise, bonding with family members or friends, a love of the other games in the *Pokémon* series, wanting to compete and power up the "best" *Pokémon*, and so on. In order to identify trends among what players like to do and hence identify and provide evidence for these different types of players, I used the survey results to identify and explain three broad player types.

Surveys. Surveys have been used by a number of writers on game communities, who have used them to get a sense for activities and members in a community (Poor, 2014; Sotamaa, 2010). Additionally, Boellstorff, Nardi, Pearce, and Taylor (2012) describe the use of surveys in ethnographic research, including in online worlds. This

allows researchers to document ongoing phenomena and constructs within a community, and even methods such as nominal classification can provide key insights for documenting a community. They frame it as being a way of obtaining information about a community, which can then guide a researcher's understanding and bring attention to aspects of a community that might not otherwise be obvious.

My survey can be found in the Appendix of Chapter Two. The questions were centered primarily around the topics of user activities in the game, social aspects of the game, and how players find information. I viewed this step as foundational to the rest of the dissertation, because getting a sense of what players are actually doing was key for going further in depth with the other questions. Here, I "mapped out" the DTALS, not from the perspective of any one individual, but rather as a "whole." While it is impossible to perfectly and comprehensively map out the system, as it is always viewed from a particular perspective (in this case, from my perspective as a researcher), the results of my surveys provided the foundation for discussion of the community and its practices. It made me aware of many sites which players visited and showcased which sites were most popular. The discussions of family gameplay in the open-ended portion of the survey served as framing for Chapter Three and also allowed me to identify participants for that portion. The sites which players identified, and how they talked about the game, also allowed me to get a better sense of the community and served as framing for Chapter Four.

Chapter Three

Research Question: How do parents with children who play *Pokémon Go* participate in its associated teaching and learning communities, and how do they interact with their children around this information and the game itself?

Families who play the game together comprise much of the audience of the game. In Chapter Two's survey, the majority of players play with at least one family member, and parent-child play is one of the primary family interactions around the game. Within the DTALS framework, parents play a key role in a young learner's DTALS, as parents can provide (or deny) access to various learning sites and resources (Gee & Gee, 2016). Indeed, numerous models of youth informal learning mention that parents are important because of the ways in which they can encourage or provide access to resources (Barron, 2006; Ito et al., 2009). However, in this chapter I sought to explore not only how parents provide access to learning but play an *active role* in their children's learning around the game, through researching and explicitly teaching about the game as well as playing alongside their children.

I interviewed three focal parents about their practices around the game, including how they found information, how the game impacted their family dynamics and relationships, and how they taught their children about the game. The interview was based on themes I had identified from the survey, as well as themes from the survey conducted by (Sobel et al., 2017). Additionally, I inquired about parents' perceptions of the positive and negative aspects of the game, including their perceptions about screen time, which is important for digital media and learning research (Takeuchi, 2011), as well as safety issues and perceptions of educational aspects of gameplay. These questions focused both on their experience with the game itself as well as the game's community.

The three focal parents were not intended to be representative of all parents, but rather illustrative of particular types of families and relationships: a "gamer" family who integrated the game into their daily lives, a single mother of an adolescent who saw the game as a valuable way to bond with her daughter, and a father who saw the game as way to teach his two daughters and communicate with them openly. The ways in which the parents discussed the game, especially its educational merits and the ways in which the game contrasted with traditional "screen time," provided valuable insights into how families engage with the game. Parents' discussions of finding information around the game in order to share it with their families provided key insights into how parents might play a role in a young learners' DTALS by brokering information and explicitly teaching may fill in gaps in existing literature around informal learning. Parents' personal excitement over and interest in the game also served as a reminder that interest-based informal learning is not solely the domain of children and adolescents, as it has sometimes been framed.

Chapter Four

Research Question: *How are the player-created guides for various aspects of Pokémon Go situated within particular Discourses, and how do they teach readers to be particular kinds of players (and people)?*

Here, I sought to explore *teaching* in the community around *Pokémon Go* by analyzing player-created guides to the game. Because there are different types of players in the game, there are different types of *learners,* as evidenced in the previous two chapters, but there are also different types of *teachers.* Players who write guides are not simply teaching about how to play the game, but also how to be a "good" player of the

game. This definition of "good" will depend on what type of gameplay the writer of the guide is interested in, and what Discourse this writer belongs to. A *Discourse* is a way of speaking, behaving, acting, and valuing that marks a person as being part of a particular group (Gee, 2014). In the case of *Pokémon Go*, these groups are different types of players, and each Discourse community of the game is infused with a broader Discourse. For example, a guide for parents may be influenced by the broader Discourse of parenting (of which there are many different types); a group of players interested in competitive play may be influenced by the Discourse of hardcore, competitive gaming (again, of which there are various types).

In terms of DTALS, this means that a learner navigating the systems of sites and resources around the game may encounter various Discourses, each with their own ways of speaking about the game and each with different specialist languages. I argue that understanding these various guides is a form of literacy, as learners must understand the specialist languages and values in each of these guides. Indeed, the question of values is key to my analysis of these guides, and I discuss how each guide defines, often implicitly, what a "good" player is (and even what a "good" parent and "good" community member are, as well). These guides cover three different topics and therefore have three different associated Discourses: a parent's guide for how to play with children, a competitive battling guide about how to obtain the "best" Pokémon, and a post from the so-called "scientific" community of the game which uses statistical analysis to debunk rumors and test theories about the game.

I believe that discourse analysis is a particularly well-suited method for exploring these questions. A number of researchers have used Discourse Analysis (Gee, 2014) to

analyze discussions in game communities, such as Poor's (2014) use of discourse analysis to uncover player values in the modder community around *Civilization* and DeVane's (2012) discussion of membership of identity in an after-school program based around the same game. I employed this method to analyze what types of values are embedded in these guides.

Implications for Informal Teaching and Learning

Pokémon Go and its community might provide a model for how learning can be interest-driven and situated in out- of-school contexts. While learning about a topic like *Pokémon Go*, or about any topic, there many other spaces in which people learn, including in their schools, in their communities, and in spaces such as libraries and museums. These spaces are sometimes treated as separate, or positioned in opposition to each other. One of the key strengths of the DTALS framework is that it considers the relationship *between* all of these sites for learning. This leads to questions about the relationship about these sites: What does a guide to playing *Pokémon Go* have to do with an institutionally-sanctioned school-based Discourse? How does a scientific community around the game make a statement about what counts as "knowledge"? How can a parent play a key role in scaffolding a child's understanding of how to play a game, and how might parents perceive the educational benefits of a game that is not about traditional academic content?

I explore all of these questions throughout the dissertation, seeking to understand how learning to play a seemingly simple game such as *Pokémon Go* has broad implications for teaching, learning, and the framework of DTALS. The goal of this dissertation will be to explore the DTALS around the game Pokémon Go and examine

what teaching and learning practices occur in the system. In doing so, I seek to expand the nascent frameworks of DTALS by providing an in-depth look at a working example and arguing for the importance of DTALS within related research and literature. This research, therefore, has implications that reach beyond *Pokémon Go* as single example; rather, the findings here are relevant not only to other games but to a wide range of other topics which individuals may teach and learn about.

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CHAPTER 2

PLAYERS AND RESOURCES: THE SHAPE OF *POKÉMON GO'S* DTALS

In early July of 2016, parks, college campuses, and other public spaces were crowded with people playing a popular mobile game known as *Pokémon Go.* The game, which had been recently released around that time, was the latest in the long-running *Pokémon* series of games. *Pokémon* has garnered attention from researchers across various fields (e.g. Bainbridge, 2013; Ito, 2008; Tobin, Buckingham, Sefton-Green, Allison, & Iwabuchi, 2004). One particular focus in this scholarship i*s Pokémon's* ability to engage players, especially youth, in literacy and problem solving (Gee, 2004).

Pokémon Go is a mobile, geolocation based game in the *Pokémon* series. In this version of the game, players interact with digital elements in real-life environments, so that these virtual elements are superimposed over everyday environments like parks, shops, and even players' homes. While there has been research over the years on various mobile augmented reality games (Burnett, Coulton, Murphy, & Race, 2014), the number of players of *Pokémon Go* has far exceeded any other mobile game to date. Within the first month, the game gained 50 million new users, which positioned it as the most popular application ever on both Android and iOS. While the number of players has decreased since this initial spike in popularity, the game still boasts a strong player community (Gilbert, 2016). Given the large number of people, especially young people, playing the game, *Pokémon Go* represents a unique opportunity for research. Outside of entertainment, are there benefits to playing? Are players learning anything through their gameplay?

Affinity Spaces and Pokémon Go

Video games and game communities have been framed as sites for learning (Gee, 2007; Gee & Hayes, 2010). Scholars have explored games and their associated communities for their learning potential, and one popular focus has been massively multiplayer online (MMO) games such as *World of Warcraft* (Chen, 2012; Nardi, 2010; Steinkuehler, 2008). *Pokémon Go* is distinct from such MMO games in that it is mapped on to real-world locations. The game is superimposed on everyday settings, meaning that players can interact with each other in-person rather than only in a game world. Unlike in an MMO where a player can interact with someone who lives across the country or around the world, play in *Pokémon Go* is based on local communities. As a result, much of the online community around *Pokémon Go* is situated in local groups for people who play in particular regions, such as an individual city or state.

This localized nature has a number of implications for research on the game. Numerous scholars have researched game communities using the model of *affinity spaces.* Affinity spaces are groups of people that share a passion for something, and this passion and engagement in turn promote learning (Curwood, Magnifico, Alecia Marie, & Jayne, 2013; Gee & Hayes, 2012; Hayes & Duncan, 2012; Lammers, 2011). In affinity spaces, participants share information about their passion, be it a sport, a hobby, or a favorite video game. One of the defining features of an affinity space is that location, age, and other demographic aspects are no barrier to participation- people in these spaces can share expertise with others all over the world.

In contrast, in the case of players who share an affinity for *Pokémon Go*, players provide information about their particular community- which parks have specific Pokémon to catch, for example, or which areas tend to be good for meeting other players.

Players also arrange meetups and events through these groups, such as social gatherings or plans to play together. In order to fully explicate what kinds of information players share around the game and why local information is so important, it is necessary to delve briefly into the basics of how the game is played.

Pokémon Go

Developer Niantic created *Pokémon Go* as a follow-up to *Ingress*, a cyberpunk-themed game that revolved around hacking computers and claiming territory. While *Ingress* garnered some academic attention (Chess, 2014; Sheng, 2013) and boasted a strong fan community, the popularity of *Pokémon Go* has far surpassed it. The game does retain some elements from its predecessor, in particular the player-reported locations of interest around the world, which become important locations known as Pokéstops in *Pokémon Go*.

The *Pokémon* games (and the anime show and movies based on them) were a cultural phenomenon in the 1990s, and new iterations of the games have ensured that the franchise has remained popular (with ebbs and flows) for twenty years as of the time of this writing. The core goal of the games is catching Pokémon, the titular virtual monsters. Players find Pokémon scattered throughout the world, and in this version of the game, players can catch Pokémon by flicking items called Pokéballs at them on the screen of their phones or tablets. Specific Pokémon appear in areas referred to colloquially by players as "nests." A local park which has a high population of the Pokémon Pikachu, for example, would be referred to as a Pikachu nest. Players can look up where nests are in their area to find specific Pokémon, and this information is generally shared on social media sites such as Facebook or Twitter, or on *Pokémon Go* specific websites.

Alternatively, players can use tracking sites such as PokeRadar, which shows players a map of where particular Pokémon are located.

There are 250 types of Pokémon in the game currently, with plans to add more as time goes on, and collecting all of them is a key part of the game. Once captured, each Pokémon can be powered up and used for battles at locations known as gyms. Each player chooses one of three teams, and battles for territory on behalf of that team. If two players on the same team are battling for territory in the same place, they can cooperate, which makes battling easier. As such, there is an incentive to meet up with players on one's own team, as well as to encourage friends and family members to join the same team.

Distributed Teaching and Learning Systems

As discussed above, affinity spaces have generally been framed as places where location is not of central importance. The location-based affinity spaces around *Pokémon Go* are a departure from the standard definition. However, location-based *Pokémon Go* groups do intersect with many other sites and resources, such as websites with general information for all players of the game. Players must navigate this variety of sites and resources to gather information about the game.

This leads to a deeper question of the ways in which participants in a community, online and otherwise, navigate between sites and resources. Here I draw upon the model of distributed teaching and learning systems, or DTALS (Holmes, 2016; Holmes, Tran, & Gee, 2017) to examine the ways in which players of *Pokémon G*o navigate the various sites around the game. The model of DTALS extends the notion of affinity spaces around games to account for how teaching and learning happen in a distributed manner across

sites and resources. While DTALS can be applied to many different learning spaces, here it is a particularly relevant framework for video games, as players of games must navigate information provided by the game in addition to information provided by other players.

Tutorials and Teaching

A key design feature of games is teaching players how to play, which is often accomplished through tutorials or other forms of explanation. This can be done explicitly (through text explanation), implicitly (by having players perform actions and see what happens), or, perhaps most commonly, somewhere in between these two methods. But another equally important form of instruction in games is the learning *around* games, as players discuss, share strategies, and compare gameplay experiences. Sometimes these experiences are designed by the developers of the games; for example, the official forums of the game DOTA 2 (Holmes, 2016). In other instances, players create their own sites and venues for game discussion, including videos, walkthroughs, and forums. In the case of *Pokémon Go*, there is not much designed teaching, such as tutorials. Rather, players must rely on *emergent* teaching; that is, teaching that occurs around the game that is performed by other players. This means that teaching materials for the game are not available in one place, such as in a guide or manual. The teaching and learning around the game are distributed across various resources, sites, and people.

Furthermore, this network of distributed teaching and learning resources will look different to each person depending on what information is relevant to them.
A DTALS can support various learning pathways (Holmes et al., 2017). For example, a player interested primarily in socializing and meeting new people through playing the

game would be interested in a different set of sites and resources than someone who is primarily interested in catching rare Pokémon. Alternatively, a person could be interested in both of these things, and so their network of sites would look different than either of the other examples. It is useful here to consider the "types" of players that might be interested in the game, and what resources these player types might need to access in order to play. The notion of identifying player types has roots in game design literature; for example, Bartle's (1996) classification of types of players and their motivations for playing is a classic framework for looking at online multiplayer games.

In order to examine the game's DTALS in depth, I seek to answer one guiding research question: How do different types of players of *Pokémon Go* use designed and emergent teaching resources to find information around the game?

Methods

In order to answer this question, I conducted a survey of 149 Pokémon Go players in an area of the Southwestern United States. Boellstorff, Nardi, Pearce, & Taylor, (2012) describe the use of surveys in ethnographic research around virtual worlds such as games, framing them as a way of obtaining information about a game community which can then guide a researcher's understanding and bring attention to aspects of a community that might not otherwise be obvious. Surveys are a well-documented means of obtaining a sense of the activities and perceptions of members in a game community. For example, Turkay & Adinolf (2010) explored the under-researched area of the effects of customization options on player engagement and enjoyment in an exploratory survey of players of the MMORPGs *World of Warcraft* and *City of Heroes/Villians.* The authors found that players enjoyed a variety of different types of customization options, and that

these preferences varied by gender. Sotamaa (2010) used a survey to investigate the motivations and attitudes of players creating modifications (mods) for the game *Operation Flashpoint*, finding that there was no one type of "modder" and community members were diverse in their reasons for participation. Poor (2014) surveyed modders of various games regarding their motivations and sense of communities, and found that respondents generally reported a strong sense of community.

As such, this exploratory survey regards the motivations, practices, and perceptions of players of Pokémon Go around the game and its community. The survey questions were constructed based on observations of the online community around the game, including popular practices and motivations for playing the game which players frequently discussed. The questions were all constructed from scratch, as there was no other survey research on this game at the time. Another player of the game reviewed the questions to establish face validity. The survey can be found in Appendix A.

In order to investigate how players participated in both online and face-to-face settings, the survey was distributed in both settings in order to "follow" participants between online and offline settings. For the online setting, I posted the survey in online groups for players of the game in my area: three different Facebook groups as well as a Subreddit (a subforum on the site Reddit) for Arizona *Pokémon Go* players. For the face-to-face setting, I chose three local parks which were popular locations for playing the game. At these parks, I asked players to participate in the study and had informal conversations about the game and its community.

The survey, hosted on the website SurveyMonkey, took participants around five to ten minutes to complete. Two participants were randomly selected to win a $50

Amazon gift card each. Most of the survey responses (n=149) came from Facebook and Reddit. The survey responses included likert-type scale questions, questions regarding timelines (how long players spent on the game each week, how long respondents have been playing), multiple choice questions about which resources and gameplay practices were most important to the respondent, and an open-ended response section. In addition to the survey, field notes were a key data source both online and offline.

Analysis

I analyzed these results for descriptive statistics in order to identify key trends among players in regards to their play habits, motivations, and information seeking practices. These are discussed in detail below. Additionally, in order to analyze how these habits and practices relate to each other, I also analyzed correlations between answers. (Merrigan & Huston, 2008). While these do not imply causation, they do point to trends in player types- that is, players who are primarily interested in certain play styles.

The open-ended response section was also key in identifying trends in players' practices and perceptions, and this also informed the analysis of player types. I identified these trends using two rounds of descriptive and in vivo coding. The codes and subcodes which I used to categorize these responses can be found in Appendix B. This identification of player types and their associated habits, practices, and motivations can illuminate the information gathering practices of various players. Implications for how players navigate the DTALS around the game will be discussed after an overview of the results below.

Results

The survey takers (n=149) were all over the age of 18. Overall, the survey takers skewed male, with approximately 67% of respondents who answered the question about gender responding as such. Most of the surveys were taken through online links I provided either on Reddit or on Facebook. As such, the responses to the survey reflect not only the *Pokémon Go* community in my area, but also the particular demographics of players who participate in the online communities on Reddit and Facebook.

This group of respondents was also interested in video games generally and devoted a significant amount of time to this game in particular. In total, 69.2% of respondents reported spending at least 4 hours on the game per week, with 18.49% of respondents reporting that they spent ten or more hours on the game each week. Finally, more than half of respondents (54.1%) strongly agreed with the statement "I am interested in video games outside of Pokémon Go." This interest in gaming may or may not reflect the interests of the community at large, but it was also reflected in the open-ended responses and is an important consideration when discussing motivations for playing. What follows are some of the results of the survey, along with a discussion of what these results mean for the *Pokémon Go* DTALS.

Player Types

A number of questions in the survey probed players' motivations for playing and their perceptions of the possible benefits of gameplay. From the primary activities (see Figure 2.1) and other answers, I suggest different "types" of players, in the vein of Bartle' (1996) classifications. However, unlike in Bartle's system, the types in this system are not mutually exclusive categories; a player could belong to one or all of these categories.

Rather, this analysis is a framing device for considering what information sources might be relevant to players.

For example, if a player is interested primarily in collecting Pokémon, this is different than a player being primarily interested in battles and strategy. The former player would be concerned with the locations of Pokémon and where to find them, while the latter would be interested in what the locations for battling are and where players who are on the same team are located. Hence, the information that a player needs in order to perform both of these activities (and the problems a player must solve) are very different. The three player types I will discusses are seekers, family bonders, and explorers.

Seekers. One topic of interest in the survey was what kinds of activities respondents primarily engaged with in the game. There are a number of things to do in the game and there is no set goal, so players can determine on which activities they primarily want to spend their time.

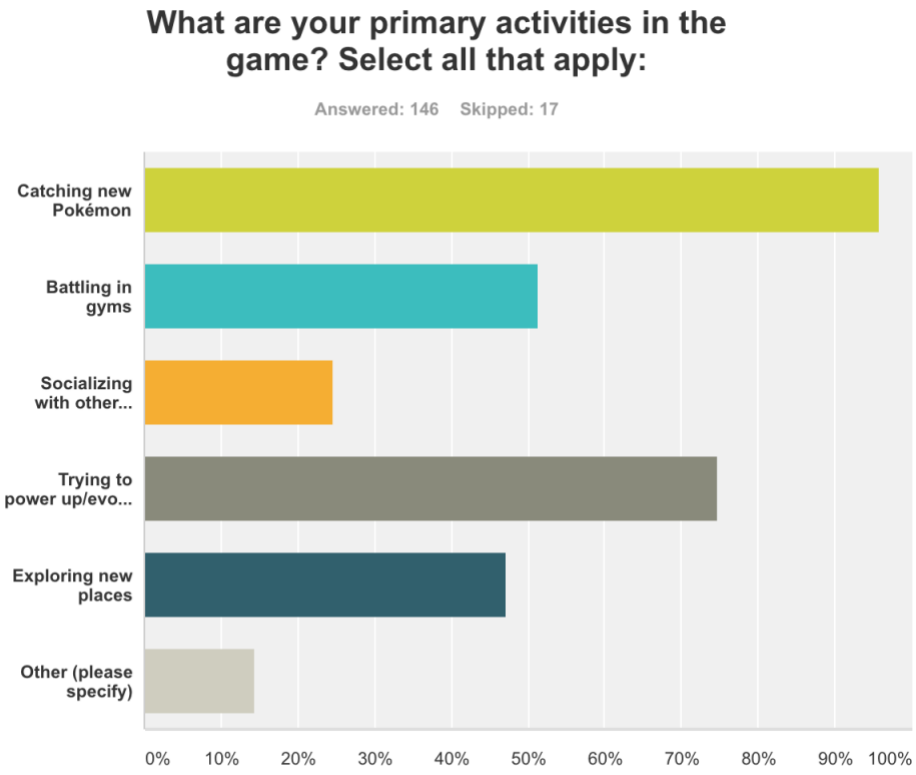


Figure 2.1 Primary game activities.

In terms of activities, 95.9% of players were interested in catching new Pokémon, so it is safe to say most players are interested in this aspect of the game. Trying to power up Pokémon was the second most popular answer, with 74.7% of players reporting that they were interested in this aspect of the game.

This means that most players seeking information online would likely be interested in information on where to find Pokémon, since this is interesting to almost all players of the game. There is a moderate positive correlation between players reporting that they use sites to find nests in their area and players who use tracking sites that show where Pokémon are located (r=.528)((Merrigan & Huston, 2008). This suggests that players combine resources in order to find information pertinent their interests. To a

player who is a “seeker,” interested in finding particular Pokémon, resources of interest to them in the DTALS will pertain to this question of tracking Pokémon.

Additionally, players hoping for the implementation of a Pokémon tracking feature in the game itself was a recurring trend in the open-ended responses. Because this feature was not operational at the time the survey was administered, many players reported using third-party websites and applications to track Pokémon. This supports the notion that many players of the game fall into this category of seekers, which can also overlap with other categories of players.

Family Bonders. Another important consideration with Pokémon regards community activities. Do players meet new friends to play with, or do they play the game as a way of spending time with existing friends and family members, such as their children? Or do people play alone, more interested in the game itself than in the social context around the game? On one hand, 58.6% of players reported playing with people that they knew before starting the game, suggesting that socializing with friends or family might be a motivation to play. Few respondents seem to have sought new people to play with, with 13.8% of players saying that they played with a mix of people they knew before playing the game and with new people, and only 1.38% of people reporting that they played only with new people.

At the same time, 65.8% of respondents agreed or strongly agreed with the statement that the game has allowed them to meet new people. This discrepancy- that players meet new people but do not play primarily with new people- suggests that while players may encounter one another while playing, they are generally more interested in

integrating the game into their existing social circles rather than forming new player groups.

Indeed, 61.7% of players reported playing with a family member. This has implications for information sharing, as unlike an MMO like *World of Warcraft* in which players socialize and share information with people they do not know outside the game, players seem primarily interested in socializing with- and therefore, sharing information with- people they already know, such as family members. The majority of participants (61.64%) reported that they played the game with at least one family member, such as a child or sibling. This suggests that there are also "family bonders," who use the game as a way of bonding with their families. In the open-ended responses, numerous participants reported that bonding with their children, spouses, or partners was a primary motivation for playing the game, further supporting this notion of family bonders.

Explorers. Finally, in observations of the community both online and offline, many players mentioned "getting out of the house" more as a result of playing the game. One of the most common comments in the open-ended responses was regarding the positive social impact that the game had. Here are two examples of such statements by players:

> "[The game is a] Community building experience. I met a lot of people. It's gotten me out of my house more. It's helped strengthen bonds with existing friends."
>
> "Pokémon Go has lessened the effects of my agoraphobia and panic disorder by providing me with distraction when I'm out of the house."

This last quote might support speculation that the game could have numerous mental health benefits (Dalai, 2017; Saifi, 2016). The majority of (70%) of players in this community agreed or strongly agreed with the sentiment that the game allowed them to

get out of the house, as shown in Figure 2.2.

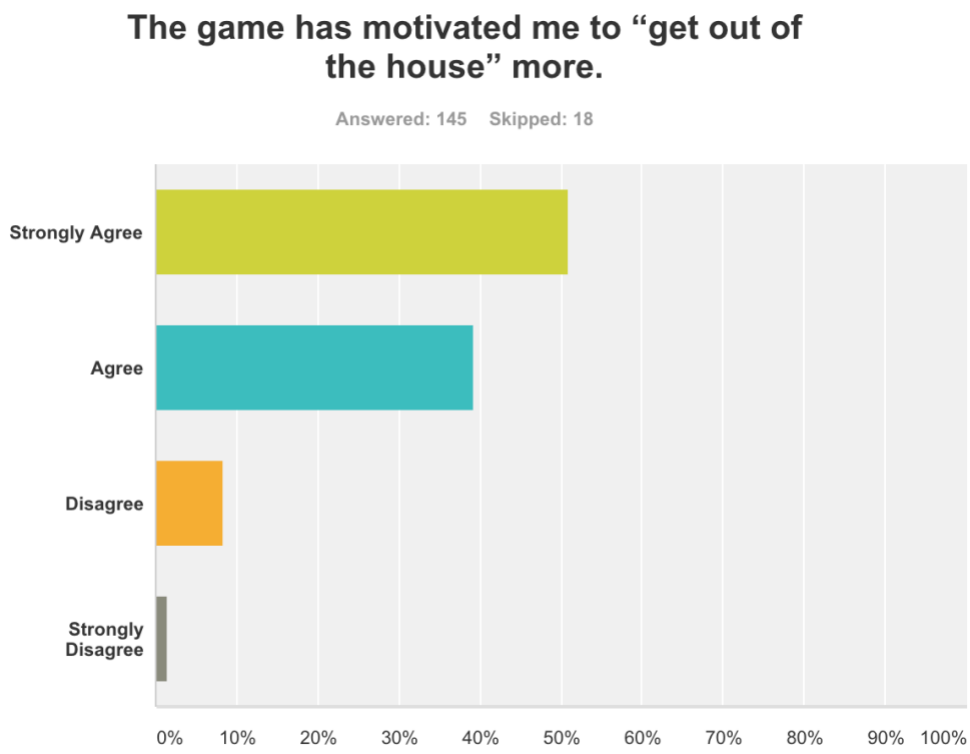


Figure 2.2. "Out of the house" motivation.

There was a moderate correlation between players reporting that the game encouraged them to get out of the house more and players reporting that the game increased their familiarity with their community (r=.400) and that the game allowed them to discover new places (r=.409).

There was also a strong positive correlation between players reporting that the game increased their familiarity with their community and reporting that it increased their familiarity with a place that they had visited (r=.703), suggesting that players use the game both where they live and while on trips. This suggests an "explorer" player type-players who are interested in the game because it allows them to get out and see their

community and other places in a new context, therefore becoming more familiar with them. There was a weak positive correlation between players reporting that the game increased their familiarity with their community and reporting that they would be interested in the game in 1 month (r=..337) and being interested in the game in 6 months (r=.342) (Merrigan, & Huston, 2008). This was the only factor correlated with a continued interest in the game, which suggests it could be a motivation for playing for some. Finally, getting out of the house was a common theme among open ended responses, further supporting the existence of an "explorer" player type.

Information Gathering

Each of these player types listed above (and certainly, many more types of players exist) need to seek information about the game, although they will all likely require different types of information. For example, a seeker would be interested primarily in tracking Pokémon while an explorer might want to find new places to play. It is important to note that none of these categories are mutually exclusive and can indeed overlap; that is, a player may be both a seeker and an explorer.

The next set of questions in the survey related specifically to information gathering: what sites, resources, and networks did players use in order to learn about the game? Were people learning through their existing social network, online resources, or both? And, given the local nature of these groups, were people learning primarily through these local groups or through sites and resources that were for all players of *Pokémon Go*, regardless of the area? Some of the answers regarding online resources are listed in Figure 2.3.

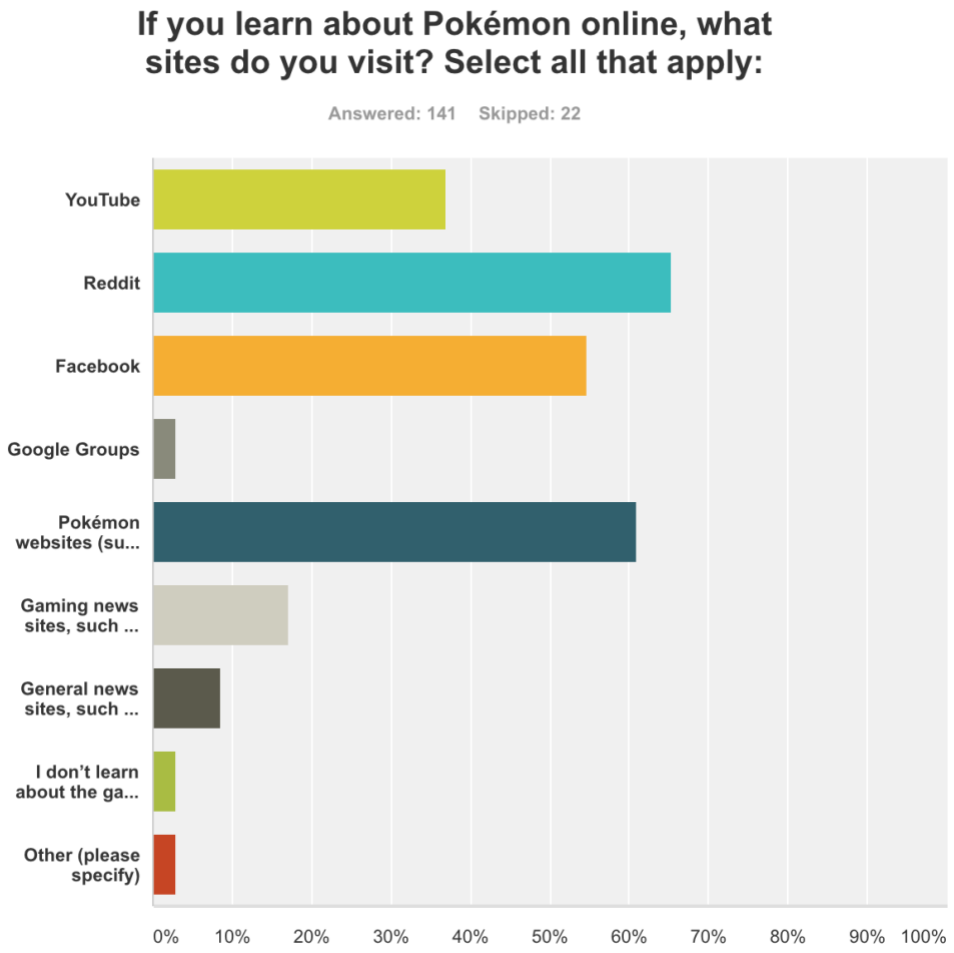


Figure 2.3. Common resources for players.

A majority of players reported using Reddit or Facebook to find information about the game, although this might simply reflect that most respondents were recruited through one of these two sites. Pokémon websites were the most second most popular resource. While there is often reporting on the game on a variety of general video game websites, this was not a primary source of information for participants. Likewise, Google Groups, popular with *Ingress* players, were not a popular resource for players of this game.

Additionally, 72.37% of players often or occasionally looked up information on where to find specific Pokémon, which reflects that this was the most popular activity in

the game among these respondents and that the seeker player type is likely common. Most players relied on Reddit (56.7%) and Facebook (50.35%) for this information. Information about Pokémon locations is completely local: players find Pokémon in their areas, and so this information is mostly a discussion of what parks and other public areas have which Pokémon. As such, it follows that this information "hangs on" existing sites, sites which are built around social networks (and in the case of Facebook, local and pre-existing networks).

Designed and Emergent Teaching

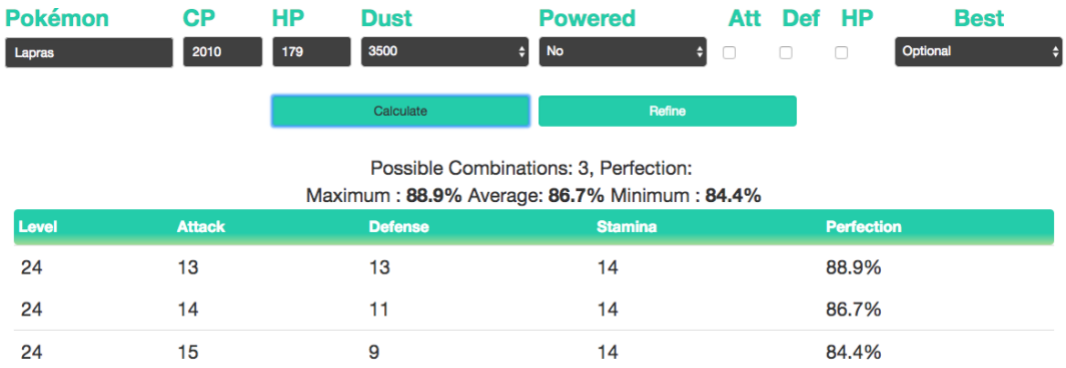
Players must seek all of this information because there is not much tutorial or explanation of the game in *Pokémon Go*. However, the game does contain some information for players, and more explicit instruction and resources have been added since the game's initial release. It is important to consider how the information *around* games and the information *in* games interplay with each other, as the teaching (or lack thereof) available in a game will affect its community and vice versa.

Within the framework of DTALS, one way of framing the difference between information provided by a game and information provided by players is through the notion of *designed* and *emergent* teaching (Holmes, 2016). Holmes defined *designed* teaching as a feature or features built into a game or experience, like a tutorial, and *emergent* teaching as teaching that occurs outside of the game, such as a walkthrough or YouTube video made by a player.

Although is not much designed teaching in Pokémon Go, more is being added over time by the developer. One salient example concerns a part of the game known as individual values (IVs). IVs are statistics that each individual Pokémon has, which

determines how strong it will be in battle. A part of the game's strategy is determining which of the Pokémon that players have caught have the best IVs. Players can then use their limited resources to selectively power up these characters and thus gain an advantage in battles. However, the game itself makes no mention of these values. The player community had to figure out this aspect of the game themselves, and this awareness spread throughout the community on websites and social media.

Initially there was no way to determine the values in the game, and the only way to find a Pokémon's IVs was by checking a website that existed for this purpose. There are numerous sites for calculating the IVs of a Pokémon, and 42.3% of players often or occasionally use these sites. However, a few months into the game's release, the "appraise" feature was released. This feature allows players to get a rough estimation of IVs, which, while less precise than the stat-calculating websites, gives a qualitative summary of how strong a Pokémon is. More players (64.1%) reported using this "appraise" feature than the IV calculating websites. Below (see Figure 2.4) is a comparison of these two ways of finding a Pokémon's IVs.



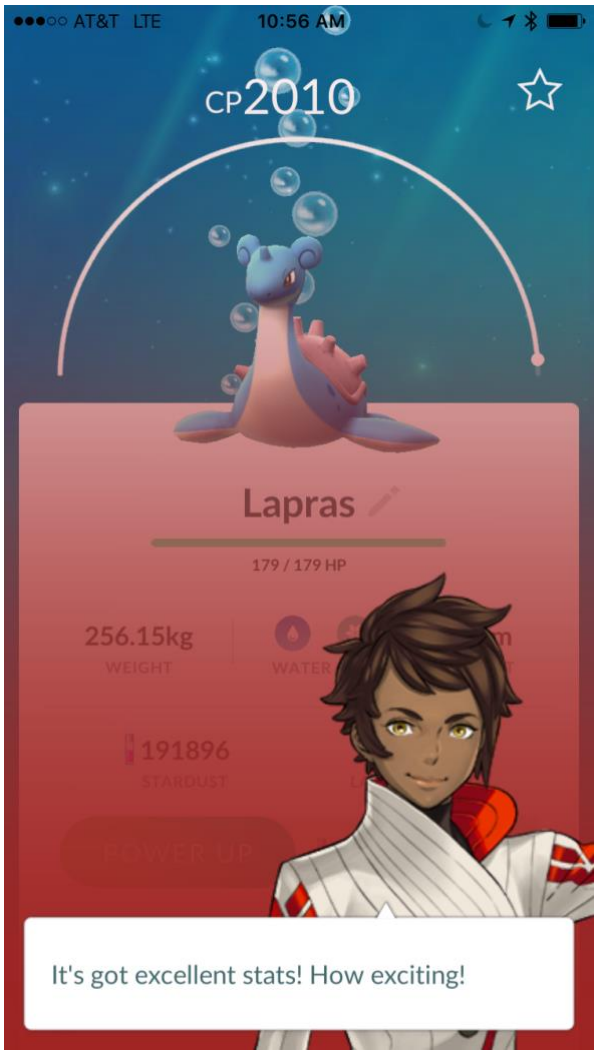


Figure 2.4. Emergent (top) vs. designed (bottom) teaching.

The emergent teaching in this case is somewhat complicated, and requires knowledge on how to use it. Conversely, the designed feature is rather straightforward and simply requires the tap of a button in-game. In this instance, players seem to prefer the in-game, designed teaching feature to the emergent teaching sites. Indeed, 10.6% of respondents reported that they used to check IV's online, but now have switched to using the appraise feature. This suggests that players may switch back and forth between using designed and emergent features as designed features are added or taken away.

Another example of designed versus emergent teaching concerns how players find Pokémon. As noted earlier, seeking Pokémon is a primary activity for most players and they use a variety of sites and resources in order to find Pokémon. This is because at the time these players took the survey, there was no way to find Pokémon through the game itself and players had to rely on player-created tracking sites. These tracking sites allow players to see the locations of Pokémon. In this way, players can go in a targeted manner to a location to find their desired Pokémon, rather than having to find them randomly.

In-game tracking of Pokémon was a much desired feature, as evidenced by how frequently it was mentioned by players in the open-ended responses. At the time of this writing, players can now track Pokémon in the game, as Pokémon nearby are shown alongside their approximate location. However, this is only useful when trying to find Pokémon in a small radius (within a few miles) and not when trying to determine where Pokémon are located within a larger geographic region. That is, the in-game tracking can answer the question *What Pokémon are around me right now?* The player-maintained sites for looking up Pokémon locations can answer the question *What park should I drive to in my city to find the specific Pokémon I want?* As such, designed and emergent teaching features in and around a game can supplement each other rather than compete with one another. Indeed, designed and emergent features represent different kinds of teaching, each with its own purposes and benefits (Holmes, 2016).

Illegal Tracking. In addition to sites where players reported the locations of Pokémon, there were also a number of sites which relied on data from the game's servers in order to track Pokémon. These sites displayed where Pokémon were in real-time and how long they would remain there. Developer Niantic shut these sites down, citing terms of use

violations as well as burdens on their servers. Many players were upset by this actions and what they saw as unfair actions on their gameplay experience. If the tracking in the game did not work, these players asked, what was wrong with relying on external sites to find such information? This reflects a theme of dissatisfaction or a desire for features among some players with the game. While this was not part of the initial survey questions, it was evident from the open-ended survey responses.

There are a number of issues players mentioned, including a feeling that the features they anticipated (such as tracking and trading) had not been implemented. A number of respondents discussed the "decline" of the game and their disappointment. Regardless, 98.3% of players agreed or strongly agreed with the statement that they would be interested in the game in a month, while 75.9% indicated they might still be interested in a year, suggesting that at least this player community is devoted to the game, in many cases looking forward to the implementation of desired features in the near future.

Discussion

What do these findings regarding player types and designed versus emergent teaching reveal about the nature of the game's DTALS? An important aspect of DTALS is that people will navigate a range of sites and resources in order to learn what they need. These findings demonstrate that there is a complex system of sites, resources, and people in the DTALS, many of which interrelate to one another.

It is evident from the player types that navigating these resources will look different for different players. For example, Holmes conceptualized this as a map of what a DTALS might look like for different types of players- in this case, the DTALS around

the game DOTA 2 (Holmes, 2015). In the case of Pokémon Go, players will similarly find different resources relevant. An explorer, interested in finding things in the community, might not be interested in battling and statistics. He might therefore be only interested in local sites and groups where people discuss Pokéstops and interesting locations to play, as shown in Figure 2.5.

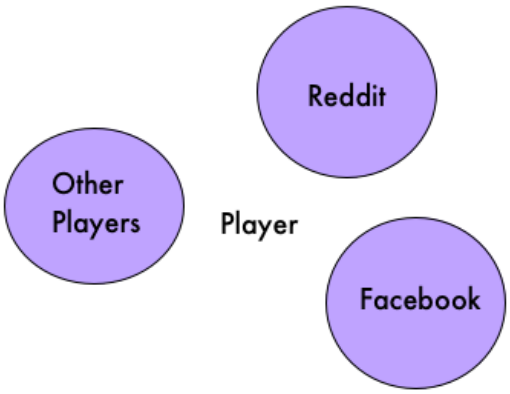


Figure 2.5. An "Explorer" DTALS.

This explorer could also be a family bonder, though, with a daughter that loves gym battles. In this case, he might also be interested in sites that talk about Pokémon statistics and IVs in the interest of bonding with his child. He might learn about these aspects of the game not out of personal interest, but out of an interest in family bonding, as depicted in Figure 2.6.

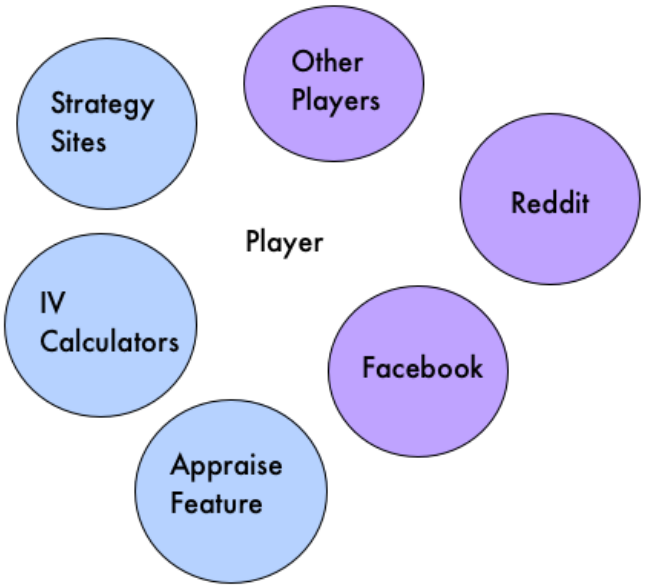


Figure 2.6. An "explorer and family bonder" DTALS..

In another example, a player might be a seeker who does not overlap with these other interests. Perhaps she is a fan of the other iterations of the game, and being well versed about the many species of Pokémon, hopes to collect as many as she can. In this case, she would be interested primarily in nest and tracking sites, shown in Figure 2.7.

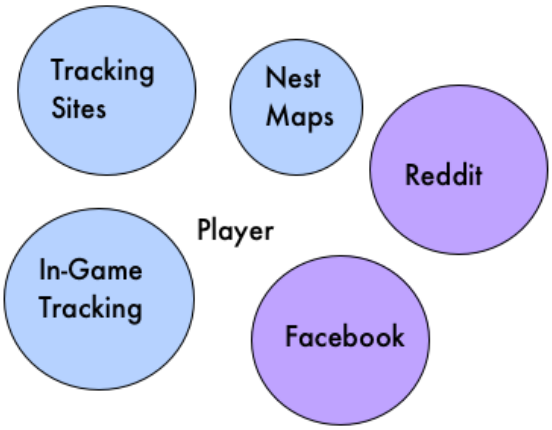


Figure 2.7. A "seeker" DTALS.

Note that there is some overlap in sites accessed by this player and the player identified above, even though the information sought is different. Of course, this seeker could also overlap with the other types of players. A player could be interested in many different aspects of the game. And there are many types of players which might exist that were not covered here. Open-ended answers and field notes based on observations of and discussions with players suggest that other types of players and motivations might include players who are primarily interested in battling, exercising, and even hatching eggs, activities which all have plenty of sites and information associated with them,

Implications

The findings presented here have a number of implications. One, they demonstrate how a mobile geolocation game like *Pokémon Go* (and the teaching and learning around it) differs from other online games. It seems that players primarily interact with people in their existing social circles, including family members, rather than with strangers online. However, even though a majority of players enjoy socializing and interacting with friends and family, and meeting (if not playing with) other players, this did not appear to be a primary source of information sharing among players. Players who wanted to know about where to find Pokémon or other information relating to the game relied on information posted by other players online. Much in the same way socializing around the game relied on existing social groups, information sharing around the game relied on existing geographically based communities. Players interacted with others from their areas on Facebook and Reddit. This is another way that the game differs from completely online games such as other MMOs, because with these games (and their affinity spaces) geography is not usually relevant.

Two, these findings demonstrate how player motivations are complex and vary from what might typically be expected around games. Motivations such as exploration, exercise, bonding, and a sense of (local) community are different from the motivations that might be found for playing a single-player console game. However, it is important to keep in mind that players of all games may have unexpected motivations, and it is important to consider that "gamers" are, in actuality, a diverse group.

Third, because *Pokémon Go* does not have explicit goals, many different play styles are possible. Players are interested in different aspects of the game and will in turn seek information around these aspects, meaning that there is a rich tapestry of sites and resources for players of the game. *Pokémon Go* players use this diverse range of sites and resources to find information related to *Pokémon Go*, suggesting that this kind of information seeking is not confined to institutions or classrooms, but takes place in day-to-day life. It is also clear that these practices are socially situated, and information is distributed amongst peers, friends, and families, not only through official guides like game manuals or in-game tutorials. It is also clear that players want to feel like their own work is validated by the company that makes a game, and issues of intellectual property, copyright, and the developer's needs raise complicated issues around game fandom, similar to the ones raised by Kow and Nardi (2010) in their exploration of *World of Warcraft* modders. Game developers and fans must continue to negotiate these questions as players participate around games as modders, teachers, and content creators.

Finally, it is important for both designers and researchers to keep in mind the importance of social practice. Take, for example, this quote from a player (corrected for minor typos):

> Researching and learning about the game (things like gym strategies, nest locations & migration patterns, individual values, etc) has been even more fun for me then even playing the game. I have 3 kids (ages 9, 7 and 4) that all play daily and each get something different out of the game. My 4 yr old loves throwing the pokeballs and catching Pokémon. My 7 yr old is enamored with gyms and wanting to takeover and control all the ones around us. My oldest is the most interested in focusing on finding and/or evolving specific Pokémon to complete his pokédex. It really great to have a game that I can share with my kids that is simple enough to attract my 4 year old, but with enough layers of complexity that it's fun for me as well.

While this respondent enjoys playing the game, his real motivation for playing is around enjoying "family time" and bonding with his children. Additionally, the learning around the game is more fun for this participant than the game itself. These are not thought of as "typical" motivations for playing games, but the reality is that this is an important aspect of gameplay for many players. Families are an important and central part of games for many players, as are the ways in which family members teach, learn, and navigate the dynamics of who has access to play (Siyahhan & Gee, 2017). As such, it is important to consider how a game like *Pokémon Go,* which is accessible to children and adults, can be particularly valuable for families who play games and engage with digital media together. It is important for everyone- educators, designers, and industry- to recognize the power of games for family engagement.

Limitations

A primary limitation of the survey was the respondents themselves. As the vast majority of the respondents were from Facebook and Reddit, this meant that I mostly

received responses from the kinds of players who were involved in the online community and were therefore likely to consider the Internet to be an important source of information. In order to get a broader sense of players, it would be necessary to get more responses from other places. The sample also skewed male, which may be due to who participates in the online communities around the game rather than who is actually playing the game in this area.

Additionally, the narrow geographic focus of the study provided a sense of this particular community, but it wouldn't necessarily be accurate to generalize any of this information to all players. *Pokémon Go* is popular not only in many places around the United States, but also around the world. Like all technology, the game must be considered within particular sociocultural contexts, and the practices of these players are very likely not the same as the practices of players in other places.

Finally, the player types were based on correlations between answers. This means that conclusions about causation cannot be drawn; rather, these findings can, in conjunction with other data collected, suggest that types of players who reported doing certain activities in and around the game also tended to report participating in other, related activities.

Future Work

Further research is necessary into *Pokémon Go* players. One, other areas around the world should be studied in order to investigate the practices of players. Even with a larger number of respondents, however, it will be important to keep in mind social context. Two, the rich potentials for intergenerational play among family members should be explored further. Young children tend to love Pokémon, while many parents of young children are of the millennial generation that first made the game a success. This means that the game can be appealing to many different family members. Additionally, the game is unique in that playing together means walking and exploring together, and this could potentially prompt rich conversation around not only the game itself but around the environment and the world. The teaching and learning potentials for parents, grandparents, and children should be explored.

Finally, more research needs to be done around access to the game. Playing the game require a smartphone and can cost users data. Not all families and players will have the access to technology or the financial resources to pay. It is important for both researchers and designers of such games to keep in mind issues of accessibility and equity.

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CHAPTER 3

"WE GAVE HIM A POKÉDEX": FAMILIES' LEARNING AROUND *POKÉMON GO*

Over recent years, digital media and technology have become increasingly integral parts of families' everyday lives (Takeuchi, 2011). The ways in which families engage around digital media- and how they share expertise and knowledge around it- is an area with enormous research potential. One key form of digital media that families engage with is video games. In the majority (59%) of families with children who play video games, parents report playing games along with their children (Entertainment Software Association, 2015). Additionally, video games have become more accessible as they are played not only on home game consoles and computers but on increasingly ubiquitous mobile devices such as phones and tablets.

A salient example of one such mobile game is *Pokémon Go.* The game is an augmented reality, location-based mobile game, released in July of 2016. Played on phones, the game requires players to visit real world locations in order to track virtual monsters known as Pokémon. Prior to the current study, I conducted a survey of 149 *Pokémon Go* players in a region of the American southwest. This survey probed players' experience with various aspects of the game, including social interactions, how the game integrated into players' everyday lives, and experiences with learning how to play. I found that although many players reported meeting new people during the course of their gameplay, respondents primarily played the game with people in their existing social circles. The most important of these social circles was family, as the majority of respondents reported playing with at least one family member. The open-ended response

section of the same survey also indicated that parents playing with their children was the primary family interaction around the game for many players.

In a study of 87 parents and guardians who play the game with children, Sobel et al. (2017) found that parents viewed *Pokémon Go* differently than other digital games, due to factors including its social nature, its promotion of exercise and outdoor exploration, and the ways in which it led to family bonding experiences. These positive associations contradict the ways in which parents often view screen time and videogames in particular. As such, one goal of this study is to probe further the perceptions and experiences of parents who play the game with children, and uncover some of the reasons that some parents might be more receptive to Pokémon Go than to other games as it relates to various opportunities for teaching and learning. Another goal is to explore parents' perceptions of potential educational benefits of the game. As video games and their communities have been framed as potentially boasting a number of learning benefits (Gee, 2007), a particular focus here is on how parents view the game and its community as a potential sites for learning, and how they see their role in mediating this learning. As such, the guiding research question I seek to answer is *How do parents with children who play Pokémon Go participate in its associated teaching and learning communities, and how do they interact with their children around this information and the game itself?* In order to fully explicate this notion of teaching and learning communities, it is first necessary to provide a brief overview of the game.

Pokémon Go

Pokémon Go is a mobile, augmented reality (AR) game in which players capture virtual monsters known as Pokémon. These Pokémon can be found in locations

throughout the world, and areas of interest in the game are mapped on to real locations of interest such as landmarks, historic buildings, and public art displays. Certain areas, such as particular parks, will have populations of specific Pokémon. Unlike many video games, Pokémon Go is not played at home on a console or computer, but can only be experienced by walking and playing. The game is also an inherently social experience; in the course of gameplay, players will encounter one another. Many people also play with friends and family members as a way of spending time together.

Besides catching Pokémon, players can level up individual Pokémon and increase their power. They can also "evolve" Pokémon, which is a way of powering up a Pokémon so that it transforms into a new, more powerful Pokémon. Powering up and evolving Pokémon requires players to use items, which are earned through walking and visiting various locations. Because players have limited resources, it is important to be strategic when choosing which Pokémon to power up.

The ultimate goal of powering up Pokémon is to use them to fight in arenas knows as "gyms." These gyms, like everything else in the game, are mapped to real-world locations- so a statue at a park or a building on a university campus could be sites for player battles. Players battle at these gyms with the goal of taking over territory. If a player wins a series of battles and takes over the territory, he or she can place a Pokémon in the gym, which in turn allows that player to win in-game items. Players can battle together cooperatively at gyms, so it is common for groups of players (such as families) to visit gyms together.

There are two key considerations to keep in mind when it comes to learning how to play the game. One important consideration with this game is that the game itself does

not provide much information on how to play it. Rather than providing a tutorial or guide on how to play, as many video games do, *Pokémon Go* mostly leaves players to figure out how to play the game on their own. As such, much of the teaching of how to play is offloaded from the game and distributed across sites and resources provided by other players. These sites and resources include videos, wikis, guides, and information shared on social networks. (Lee, Windleharth, Yip, & Schmalz, 2017) found that players seek information around *Pokémon Go t*hrough a variety of means, including online and through face-to-face gatherings, and that this information is socially distributed across a number of sites and resources.

Another consideration in regards to information around the game is that players need information as to where Pokémon are located. While a player could walk around randomly in the world and find them, many players prefer to know where specific Pokémon are located. If a player wants to catch Pikachu, for example, he or she will want to know what local park has a high population of Pikachu. Players can look this information up online, or speak with fellow players to find out. Because information around the game is geographic in nature, players generally learn form and socialize primarily with players in their areas. As such, information around the game tends to "hang on" existing social sites such as Facebook, Twitter, and Reddit.

Informal Teaching and Learning

In order to frame the learning that happens around the game, I take up a notion of learning that is socially situated and context-dependent. That is, teaching and learning can happen everywhere, be it in a classroom, in a museum, or among communities of video game players. Most commercial entertainment games (as opposed to educational games)

are played in everyday, informal contexts, and much of the research around these these games is situated in such everyday contexts. One key sociocultural learning framework for understanding learning in games is the framework of *affinity spaces.* Affinity spaces are where people share a passion for something, such as a favorite game, and within these groups, teaching and learning can occur (Gee & Hayes, 2012; Hayes & Duncan, 2012; Lammers, 2011; Steinkuehler, 2008).

Here I take up the framework of Distributed Teaching and Learning Systems (DTALS), which serves as an extension of this model of learning. DTALS provides a lens through which to observe how players navigate the selection of resources and sites available to them in order to learn how to play the game. Learners of any topic today have a multitude of resources available to them, such as classrooms, websites, online classes, workshops, and communities, and the ways in which learners navigate these sites is a focus of this framework (Holmes, Tran, & Gee, 2017). In order to learn how to play a game, players must navigate the DTALS around the game and determine which information is relevant (Holmes, 2015). In the case of *Pokémon Go* in particular, navigating this DTALS is essential because it is the only way to learn how to play.

DTALS accounts for the many resources, sites, and people that are part of a learners' world. In this framework, the connections between these resources- that is, the ways in which they interrelate, support and supplement each other- are important. Indeed, the framework of DTALS shares a number of similarities with Barron's (2006) model of learning ecologies, including a focus on how elements in a learners' world interrelate to one another (what Barron terms *ideational resources*), the multiple pathways for a learner through such a learning ecology or system, and a focus on how people (primarily

adolescents, in Barron's work) develop learning opportunities for themselves based on strong personal interest in various subjects.

However, there are a few gaps in Barron's framework that I seek to fill with the application of the DTALS framework to the data in this chapter. One is that, as with most literature on informal learning, the process of learning is the main focus, but teaching is not as important. While in Barron's model learners take control and seek out ideational resources related to their interest-based learning, the ways in which people take on explicit teaching roles is not given as much attention. This leads to the second, related gap: the role of families in informal learning contexts. While families are important in the learning ecologies framework in the context of home, especially in the ways in which they might support interests and provide access to resources for adolescents, I seek to focus more on the specific practices of parents who are not just facilitators of information access, but are explicitly teaching and guiding their children around the game. Finally, Barron and other researchers of adolescents' informal learning (notably Ito et al., 2009) often focuses on adolescents who were informally learning skills such as web design and programming. Here, I am focusing on the everyday learning of how to play a popular video game, a context which might be more commonplace in many families and also involves children of varying ages, not just adolescents

Families

A key contribution of this study to the DTALS framework is investigating the role of families in a DTALS. For children and adolescents, a family is a key part of their teaching and learning systems, because they can provide (or deny) access to resources such as workshops, classes, books, and the Internet (Gee & Gee, 2016). Beyond simply

supplying these resources, however, a family can itself be a learning resource, as parents, siblings, and children use their own expertise in order to convey information and teach fellow family members (Siyahhan & Gee, 2017).

The particular question of how to position families' game engagement within the larger fields of video game and media studies remains an open one. For example, (Gee, Siyahhan, & Cirell, 2016) discussed the potentials of looking at family gaming through various frameworks, including as digital media, as play, and as family practice. One particularly salient framework for looking at media engagement among families is Joint Media Engagement (JME). JME is a way of framing how people use media together, such as television, games, or the Internet (Takeuchi & Stevens, 2011). JME can encompass a number of activities, including searching for information, playing, and even content creation. Here, I am interested not only in how families play the game together, but also discuss, negotiate, and learn together around the game. In doing so, I seek to fill in the aforementioned gaps in the literature around informal learning and build an argument for the application of the DTALS framework to informal learning and, in particular, informal learning in the context of family gameplay.

Methods

There was little research on Pokémon Go at the outset of this study in the summer of 2016, as the game had just been released. To gather some baseline information about who was playing the game and their gameplay experiences, I created and administered an exploratory survey of players in an area in the American Southwest (n=149) which revealed that the majority of respondents played with members of their family. Additionally, in an open-ended question portion of the survey, a number of respondents

mentioned how they played the game with their children and other family members. From these responses, I identified specific participants who played with their children. From there, I selected three respondents who had different types of families and reported that they were interested in different activities in the game. They were selected not to be representative of all families, but to capture a range of experiences which families might have around the game.

I then conducted semi-structured interviews with these focal parents. The interview questions were based both on broad themes that were identified in the Sobel et al. (2017) study of families as well as themes that I identified from the open-ended portion of my own survey. Additionally, I sought to probe parents' perceptions of the game and potential issues around it. A number of questions reflected concerns parents often have around video game screen time, including that it displaces socializing and exercise (Takeuchi, 2011). Some questions also reflected newer concerns specific to *Pokémon Go* and location based games, including personal safety issues (Sobel et al., 2017). Finally, questions pertaining to information seeking, teaching, and learning were included to explore the ways in which the DTALS of the game related to families' gameplay experiences.

One interview was conducted over the phone, and the other two were conducted over email, resulting in twenty pages of transcripts. Meho (2006) noted that while e-mail interviews can present a number challenges for researchers, they can be rich sources of data and boast a number of advantages over other types of interviews, chief among them the ease of access to participants who prefer not to talk on the phone or in-person, or might be otherwise unavailable due to scheduling difficulties. Indeed, the two interview

participants who preferred e-mail noted that they did not have much spare time balancing their families and work lives and preferred to be interviewed over e-mail. The phone interview was transcribed for analysis alongside the e-mail interviews. I then proceeded to use a combination of descriptive and in vivo coding on the interviews (Saldaña, 2015) in order to identify common themes in an initial coding round, and then employed a second round of coding to categorize the data and look for patterns. Analytic memos served as a further tool of the analysis.

Results

Here, I present each of these parents and their families' stories as vignettes which showcase three examples of families who play and the ways in which they navigate the DTALS around the game. One participant is a mother who plays the game primarily with her husband and 10-year son and sees a number of benefits to gameplay, another is the single mother of a teenage daughter who sees the game as a valuable way to bond with her daughter and other extended family members, and the last is a father who plays the game primarily with his two daughters and performs explicit teaching around the game.

These families are not intended to be representative of all participants I surveyed; instead, they are cases which can illuminate information gathering practices around the game and highlight particular relationships such as father-daughter, parent and near-adult child, and a young "gamer" family. All names are pseudonyms provided by me. A copy of the interview guide can be found in Appendix C. Following a presentation of these results is a discussion of the common themes and insights from these parents, as well as implications for family gameplay, learning, and DTALS.

Rachel: "We gave him a Pokédex"

Rachel was the mother of two children, aged ten and two. She primarily played with her husband and ten-year old son (she indicated that her two-year-old son was too young to play). Rachel was enthusiastic about the game, and her family integrated it into their everyday lives and technology usage. For example, initially Rachel and her husband played individually on their own phones while their son used the family tablet to play. However, when her son turned ten and they determined he could have his own phone, she and her husband presented it to him on his birthday as a Pokédex, which is the device in the game for keeping track of captured Pokémon. In the other Pokémon games and the animated show, ten is the age at which children can become Pokémon trainers and receive their own Pokédex, and she and her husband "made a big deal" over how his receiving this "Pokédex" made him just like the characters in the games.

Her enthusiasm for Pokémon and gameplay carried over into many aspects of her engagement of the game. She frequently looked up information about the game online and shared it with her family. She and her son discussed theories around and tested them out together, and she noted that this was one of the most fun aspects of gameplay for her. She did not, however, look up information alongside her son or talk to him about how to find it. To Rachel, the information itself was more important than how she found it, as evidenced by how she readily shared information about the game with her family while at the same time not initiating conversations around information seeking. She was eager to share this information with people outside of her family, as well; she was invested in teaching people about the game, as she thought it was the perfect way to connect with other adults and make friends. For example, she made a presentation about safety, good community practices, and other information about the game to present at a large regional

games and comic book convention, and noted that she helped strangers that she saw out in the world when they needed it. As such, playing the game was not solely about family bonding; she was also interested in the game itself.

Still, she certainly perceived the game as a positive factor in "family time" which allowed her to bond with her son. She was somewhat apprehensive regarding the safety risks of playing the game; her safety concerns included being the victim of crime or even potential player conflicts which could lead to violence. However, she believed that the game was not any more dangerous than everyday life activities, such as commuting or going about daily chores. She emphasized that common sense and awareness were key to staying safe while playing the game. She did not consider *Pokémon Go* to be "screen time" (something she shared with the other mother interviewed, discussed below) and noted that the gameplay boasted many benefits.

These benefits of the game far outweighed any risks for Rachel. She perceived many positive aspects of gameplay, saying that the game promoted exploration and allowed her family to discover and discuss educational and historical areas in their community. She also believed that that the game could promote patience, because after putting in "hard work" earning items to power up Pokémon, players had to be patient and wait until they caught a good Pokémon on which it was worth using these precious items. She also noted that she and her son loved taking pictures of Pokémon, and that her son had taken up an interest in photography after playing the game. She mentioned that the game also promoted exercise and hand-eye coordination.

Still, for Rachel, the primary benefit of gameplay was in the bonding and communication it promoted for players. She stated that she wished that the game had

been around while she was in college before she had a family, because she thought it would have been a great social activity. Still, she sees much value playing with her family and bonding with them over the game. Although she reported that her two-year-old was too young to play, she said that she and her husband allowed him to try swiping on their phones to catch Pokémon. This child, too, was developing a familiarity with the game, a familiarity that for Rachel could promote fun and even education.

Lisa: "It's hard to bond with a teenager"

Lisa was the single mother of a sixteen-year-old daughter. Lisa was initially only interested in the game as a way to bond with her daughter. While they were on vacation together, her daughter downloaded it and became "obsessed" with it. While Lisa did not like the game when she first heard about it and thought it seemed silly, seeing how interested her daughter was in it prompted her to download it so that they would have "something in common" to talk about. However, after she started playing, Lisa realized that she enjoyed game as well. Lisa and her daughter were interested in different aspects of the game- Lisa loved gym battles while her daughter was primarily interested in finding new Pokémon. Regardless, the two shared information with each other frequently, as well as with other family members.

The two were part of a larger group of players that included Lisa's mother, her sister, her father's wife, and a number of family friends. They were all part of a running group text message, where they would share information about the game and send each other screenshots of what they had been doing in the game, such as "bragging" about finding or hatching a good Pokémon. This group also regularly drove around on Sunday nights in order to play *Pokémon Go* together. Additionally, Lisa's daughter had her own

friend group that she played with, especially her coworkers with whom she played frequently (she worked part-time at a location known locally as being one of the best locations for catching Pokémon). Lisa said that because of Pokémon, she was able to hear about her daughter's daily life and about friends she hadn't heard of before.

Indeed, Lisa mentioned several times that because it can be hard to connect with a teenager, she was appreciative of the game because it allowed her to communicate with her daughter. She also appreciated how it allowed her to spend face-to-face time with her daughter as the two would go on walks together to play the game. Lisa was not very concerned with safety in the game, noting that people needed to exercise common sense and take the same precautions when out in the world playing P*okémon Go* that they normally would doing any activity. As long as people were exercising this common sense, Lisa argued, there was nothing to worry about in terms of safety.

Like Rachel, Lisa indicated that she did not consider the game to be screen time, although she had recently decided to try and be more cognizant of screen time generally. She noted a number of benefits to playing the game, including exercise and an encouragement of exploration. She also believed that, instead of causing people to be too engaged in their phones and unaware of their surroundings, the game allowed people to appreciate their surroundings more. She elaborated that people find new areas while playing the game and can, in turn, appreciate beautiful things that they find, or find new places to go and explore. She told me of a friend of hers that she and her daughter visited on vacation. While playing the game, they discovered a trail near this friend's house that her family now uses regularly.

Interestingly, one of the biggest learning benefits in Lisa's opinion was not learning from the game, but learning from looking up information about the game. She was a frequent user of social media sites to find information, and she and her daughter shared information back and forth. She did not explicitly teach her daughter; rather, she and the rest of the family had an information exchange where they shared their findings through group text messages and weekly meet-ups to play together. She thought that doing research and reading around the game could be beneficial to young players, who are learning about Internet research and practicing reading. And for adults, including older adults, learning about new things like the game and practicing related research skills could help "keep the mind sharp." She thought all of this in spite of the content being somewhat "silly." This argument parallels numerous arguments that have been made about learning around games: that is, what is most important for learning is not the game's content but the learning and literacy practices in spaces around the game (Hayes & Duncan, 2012).

Aaron: Teaching the Game

The final participant was a father who played the game with his two daughters, aged eight and ten. He mentioned that he had tried to get his wife to play with them, but she was not interested in the game. His daughters each had their own phones on which to play, but their phones were older and so gyms did not run well on them. As a result, while Aaron would sometimes do gym battles on his own, the primary activity when he played with his family was catching new Pokémon. Aaron indicated that he did sometimes play alone or with his own friends, but did not emphasize this as a large part of his gameplay.

Aaron approached the question of safety in a different manner than Rachel and Lisa. He was not concerned with physical safety issues such as being the victim of violence. Rather, he deemed the game "safe" because of the lack of a chat feature in the game. He also said that he monitored his daughters while they were playing. He was focused not on the potential dangers of the game due to playing in the world, but rather on the dangers his kids might encounter in a typical online game: chatting with strangers or seeing inappropriate content. He did note that he felt his daughters did not pay attention to where they were going sometimes while playing, but this was the only physical concern that he had. Aaron did consider *Pokémon Go* screen time, although he mentioned that there was a "minor" difference from other games because it involves walking while playing.

Aaron said that in regards to learning around the game, he would look up information and tell his daughters about it. He did note that they would sometimes look with him, but he never discussed how he found information with them. Aaron used a number of social networks in order to find information about the game, including Facebook and Reddit. He said that he did not learn from his daughters, and expressed that his daughters sometimes "did not listen" to him when he was trying to explain information he had learned online, particularly around how to figure out which Pokémon were the strongest and therefore worth powering up. He said that his daughters just wanted to evolve Pokémon. Therefore, he tried to frame his teaching around the game in terms of their interests; that is, he attempted to explain why determining which Pokémon were the strongest was important for evolving them. This in turn allowed his daughters to

understand his explanation, and he expressed that they were getting better at this aspect of the game.

Aaron did not seem particularly interested in the community around *Pokémon Go*, or with playing often with people other than his daughters. Rather, the value of the game was in the opportunity it gave him to spend "family time" with them. Rather than the skills and benefits that the mothers perceived as arising from gameplay, Aaron instead cited the biggest benefit of the game being that it could "open up the lines of communication" between him and his daughters. To Aaron, it wasn't necessarily the game that was important, but the way that it enriched and enabled his family time.

Discussion

(Gee & Gee, 2016), in their overview of DTALS, provide an example of how a parent might play a role in a child's DTALS. When a child is interested in a domain such as science, parents can play a key role in ensuring that their child has access to sites and resources around this domain, such as books, museums, summer camps, or access to online resources. Alternatively, a parent might not have the resources or knowledge to provide access to this informal learning, or might not consider it a priority.

The findings of this study reveal that parents can serve a role in a child's DTALS not only by providing access to resources, but by taking on an active role as both teachers and co-learners. Additionally, there are a number of factors that influence how parents are involved with the game, including their perceptions of it in terms of benefits, education, and safety. Finally, the parents in this study each had their own DTALS through which they sought information on Pokémon, because all three of them were

interested in the game independently of their children. What follows is a discussion of common themes and findings regarding these families, the game, and its community.

Teaching and Learning

Sobel et al. (2017) found that around this game, there was a shift in expertise where children taught their parents about the game. In contrast to this, the findings here pointed to more traditional roles. While Lisa and her daughter exchanged information with each other frequently, Rachel and Aaron both took on more of an explicit teaching role. They both sought information online and then talked to their families about it. While Rachel reported that her son would sometimes teach her something that she didn't know about the game, she was generally the one explaining information to him. Aaron indicated that his daughters did not teach him anything new about the game.

This indicates that these two parents served as providers of information, rather than teachers of how to find it to begin with. Lisa and her daughter exchanged information, although this was because her daughter was old enough to use the Internet and social media on her own. In this case, too, they were essentially both teaching. They did not research together or talk about how to find information, although Lisa did note that she thought that looking up information was beneficial. However, there was no co-viewing between these two when seeking information.

None of the families discussed how to find information online or modeled these kinds of behaviors. They generally perceived benefits of playing as rooted within the game experience itself. They cited exercise, finding new places, and bonding as some of the main benefits, which are all more part of the game than its community. They did perceive the game as having a number of educational benefits. Rachel noted that the

game could “teach patience” because players needed to learn to wait for the best Pokémon on which to spend their limited resources. Similarly, Aaron stated that he was trying to teach his daughters about Pokémon statistics so they could be strategic. Both parents looked up information online to learn about the game so that they could then teach their children and have experiences playing together that were educational, such as exploring historical and educational sites and communicating about the game and strategies around it. Hence, the perceived value of the game for these parents was not in the DTALS but in the gameplay. Only Lisa mentioned benefits from doing research around the game. These included practicing reading and research, and she perceived these practices as being beneficial for everyone, children and adults alike.

Rather than co-researching the game, parents sought to scaffold their children's learning how to play by providing them with information and testing out various aspects of the gameplay together. Sobel et al. (2017) found that adults accomplished this scaffolding through turn-taking and taking over in more difficult parts of the game, and the parents in this study did so as well, with each parent mentioning this in their interviews. Aaron would let his girls try catching Pokémon on his own personal phone when there was a rare or difficult to find Pokémon, in order to give them more practice. He also provided information about how to determine which Pokémon were the strongest and let them make their own choices around which Pokémon to evolve. Rachel did the same thing with her son, letting him play his own game but offering guidance and assistance when needed. She even allowed her two-year-old to try and catch Pokémon by finding Pokémon on her own phone and then letting him perform the task of swiping on the screen to try and catch them. In this way, she was scaffolding not only his experience

with the game but his experience with technology and touchscreen devices. While Lisa did not need to provide as much scaffolding for her daughter, she did send her information about the game and encourage her to share what she found. In this way, she was scaffolding not the experience of the game but her daughter's role as as an independent researcher and teacher. This serves as evidence that parents may serve a more active role in children and adolescents' interest-based learning than has been discussed in other informal learning frameworks (e.g. Barron, 2006; Ito et al., 2009) including previous work on DTALS (Gee & Gee, 2016; Holmes, et al., 2017).

Family Bonding

All three of the parents reported that they enjoyed family bonding through the game. Sobel et al. (2017) found that parents reported that they were able to spend time with their children that they might not be able to otherwise, and that *Pokémon Go* gave them something to talk about with their children. The participants here certainly echoed these sentiments and went a step further, discussing how it not only allowed families to spend time together, but became part of their everyday practices. For example, Rachel presenting her son with a "Pokédex" and making it a part of his birthday party and Lisa and her daughter communicating around the game in a running group chat showcase how the game integrated into the lives of families beyond simply allowing them to spend more time together.

A key theme of this family bonding was that *Pokémon Go* created interactions which otherwise would not have occurred. Lisa noted that she did not know who her daughter's work friends were or much about them, but she got to hear about them and her daughter's day generally because the discussion was framed around the game. She noted

that she could sometimes find it hard to bond with her daughter, especially because they weren't a "sit at the table and eat dinner" type of family. The game provided opportunities to bond, both through their discussions of the game and their gameplay. The two would go on walks to catch Pokémon together, and also bonded with their extended family and family friend circle in their weekly rides to catch Pokémon.

Likewise, Rachel was able to bond with her family and have different types of interactions. Presenting her son with a "Pokédex" (his own phone) for his tenth birthday was a way of connecting the gift with a shared interest that was important to everyone in the family. A key part of gameplay for this family was discussing and testing theories, which Rachel noted was a particularly fun aspect of gameplay for them. Finally, Aaron emphasized that the game provided time for him to bond with his daughters. He thought that the game opened up opportunities for communication, and also brought him and his daughters closer together.

Safety

One important consideration around games, especially for a location-based game such as *Pokémon Go*, is how safe the game is to play. There have been numerous news stories about crime and safety incidents related to the game, including a number of incidents in the community in which this research was conducted. Observations of the local online community also revealed that safety concerns were a common theme.

The two mothers in the study both mentioned that while there were safety concerns, exercising "common sense" was the most important aspect of staying safe while playing. Rachel did mention that Pokémon could appear in "less than ideal" areas, and expressed some concern that there could be disputes over in-game elements such as

battling that could escalate into real danger. Even so, she emphasized that it was the player's responsibility to be aware and exercise caution. Both parents expressed that the game was not more dangerous than activities in everyday life, such as commuting and running errands.

Aaron was the only parent who did not express concern over these physical aspects of personal safety. Rather, he stated that he considered the game safe due to the lack of a chat function where his daughters might interact with strangers. He also noted that they did not play without his supervision unless they were at home. This concern over online interaction was reflective of more traditional concerns parents might have over online games, such as their children seeing inappropriate content while playing a game. While Rachel also mentioned that there could be some "inappropriate names" in gyms, it was not a primary concern for her. Aaron's interpretation of what safety around the game meant was a departure from how both mothers interpreted it. While there are not enough data to make broad claims regarding the gender differences in perceptions of safety around games, it does seem that the divergent concerns here could be due to the mothers and Aaron having different concerns around the game and ways of thinking about the meaning of safety more generally. This could have implications for DTALS and the accessibility of teaching and learning, as well. For example, a parent who viewed going online as a risk to his or her child (either playing games or looking up information) might place restrictions on accessing certain sites, meaning that the resources available to a child or adolescent are affected. A parent who buys an official guide or book for his or her child about a game, perhaps with the perception that the printed materials are safer or

perhaps more reliable, is brokering a different kind of DTALS for the child than a parent who is encouraging him or her to look at information online.

Besides physical safety concerns, another way in which the game was viewed differently from other games concerned how the parents viewed screen time. The concern of "screen time" is ever present regarding digital media and video games (Takeuchi, 2011). Both mothers noted that they did not consider the game to be screen time. They cited a number of factors in their reasoning, including that the game involved both exercising and socializing, and therefore it did not replace either of these important activities. Indeed, Takeuchi (2011) found that concerns over screen time were often related to parents' concerns that screen time displaces activities such as socializing, going outside, and exercising. Perhaps because *Pokémon Go* promotes rather than displaces these very activities, it did not draw the same concern from the mothers in this study. Aaron, however, did consider the game to be screen time. He acknowledged that the game involved walking around, but called the difference with other games "minor." Still, he did not mention any large concerns about screen time more broadly. Because screen time, and its potential to displace other activities, is such a concern among parents generally, it is significant that *Pokémon Go* does not seem to raise these concerns as much as other games.

Implications

These findings regarding the experiences and perceptions of three parents who play *Pokémon Go* with their families have a number of implications for families' engagement and learning around games. In particular, these three parents provide a

number of insights into how different types of families might engage around this and other games.

Scaffolding and DTALS

A player of most modern video games needs to access a range of different sites and resources in order to learn how to play the game, including websites, forums, and other players. This is true of adults as well as children and adolescent learners; for example, a young fan of *Minecraft* might watch YouTube videos about the game, interact with peers around the game, and read the various print books available in the subject. Parents may or may not play a central role in this child's DTALS (although they likely provide access to resources). In the case of the children in this study who play *Pokémon Go,* their parents are a central part of this DTALS. Because parents tend to play Pokémon Go for various reasons (and perhaps feel that they need to, since they might feel the need to accompany their children while playing due to safety issues), parents become teachers of the game to their children. Combined with the lack of designed teaching in the game which can often make learning to play a frustrating experience, parents play a key role in ensuring that their children have an enjoyable experience playing. Even in the case of Lisa's teenage daughter, who navigated many sites and resources around the game including social media and her peers at work, her mother and other family members were still key sources of information. In that case, however, she was also able to take on the role of teacher, explaining aspects of the game to other family members. Indeed, parents not only provide access to learning materials as they do in Barron's (2006) model, or even in previous writing on DTALS (Gee & Gee, 2016), but rather take on the role of active teachers. Informal learning cannot happen without informal teaching.

While parents were eager to facilitate their children learning how to play the game, they did not generally facilitate their children learning how to look up information. It is impossible to say without knowing more about each family's' practices around digital media more generally whether these parents never teach their children about how to find information or if they simply didn't see any benefit to doing so around *Pokémon Go*. Lisa said she thought that looking up information around the game was an educational experience even if the content was "silly;" it is possible parents don't perceive a benefit to looking up information around the game because it is not related to explicitly educational content. Or they might not think of learning how to look up information online as something they need to teach their children directly. In any case, it is clear that teaching how to play a game and teaching about finding information around a game are two different activities.

Intergenerational Appeal

All three of these parents, in addition to a number of parents in the survey that preceded these interviews, noted that the game was engaging to players of different ages. Indeed, in the case of these families, the game was appealing to everyone from a two-year-old to the parents themselves. While there is plenty of deep strategy to the game, it can also be enjoyed in a much simpler manner if the primary activity of a player is walking around and catching Pokémon. Because there is no explicit goal in the game, players are free to set their own goals and explore what aspects of the game appeal to them.

This means that in each of these families, the parents were interested in somewhat different elements of gameplay than their children. In the case of Lisa and her teenage

daughter, Lisa loved the gym battles while her daughter didn't care for them and was more interested in catching Pokémon. However, the two were able to play together regardless because both aspects of play involve walking around and exploring. In the case of Rachel and Aaron, both expressed frustration that their children didn't listen sometimes while they were explaining various aspects of the game to them. However, both of them then framed their children as having different play styles. Rachel said that her son was simply interested in playing in a different way than she was. Aaron noted that his daughter just wanted to evolve Pokémon, which differed from his goals. The parents didn't frame the different play styles as right or wrong; rather, they were simply different choices.

Pokémon Go's open goals and ability to support multiple play styles means that different types of players can enjoy the game. Indeed, this is important to keep in mind for designers of intergenerational, joint media experiences as well as researchers and parents who seek out games and digital media that can support such joint engagement. A game which can support multiple levels of engagement lets children of different ages as well as parents to play together, and also provides valuable opportunities for parents to scaffold their children when they want to try out new, more advanced aspects of the game.

Finally, the complexity of some aspects of the game meant that the parents were all interested in seeking information around the game for their own gameplay. While it is impossible to separate parents' information seeking for their own purposes versus information seeking for their children, there is evidence here that parents also engage in interest-driven learning around the game. This kind of game-based interest-driven

learning which is associated with the acquisition of skills (Barron, 2006, Ito et al., 2009) or various literacies (Gee & Hayes, 2012) has often been associated with adolescents in research on informal learning, but the results here indicate that adults may commonly engage in this kind of learning as well. The ways in which this learning might intersect with the interest-driven learning in adolescents and children is worthy of further research.

Limitations and Future Research

There are a number of limitations to the findings presented here. One is that this study focused on only three families, which are not necessarily representative of all families who play. More research with other families is necessary to uncover the varying attitudes and experiences with the game among families who play. In particular, the ways in which socioeconomic status, culture, language, and the gender makeup of families affect gameplay are all important considerations for future research.

Additionally, while this study was intended to provide a thorough description of families' play of *Pokémon Go*, there is no description of how each of these families connects the game to their everyday practices and engagement with other games and social media. The way that these families approach finding information more generally, and even how the game integrates into family routines and dynamics more broadly, cannot be determined without a larger sense of other activities of the family. Future work around how a game like Pokémon Go integrates into family life more generally is necessary, which would need to involve more extensive ethnographic work.

These interviews captured only the perspectives of parents and, in the case of two-parent households, only of one of the parents. Understanding perspectives of children is essential in order to obtain a full understanding of the family dynamic around the game.

Indeed, the perspectives of the other spouses in the study would be important as well for understanding these dynamics and how the family interacts around the game. Particularly in the case of the parent who did not play the game at all, understanding her perspective and reasons for not playing would be incredibly valuable. This could lead to important findings about motivations for playing and not playing, as well as for designing experiences to engage entire families.

Additionally, Siyahhan & Gee (2017) found that the role of siblings was an important aspect of family dynamics around games and digital media. One child was an only child and one was eight years older than his brother, who was too young play. Only one family had two children who were close in age, but the ways in which the sisters interacted was not a key part of the discussion. Understanding this dynamic, as well, is of key importance moving forward.

Finally, this group of parents were still playing the game months after its release. The game was initially very popular, but the number of players has decreased over time. Understanding why families have stopped playing could also be important to understanding what kinds of games and media are engaging to families.

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CHAPTER 4

THE DISCOURSES OF GUIDES TO *POKÉMON GO*

Video games and digital media play an important role in of the lives of children, adolescents, and adults today. With the ubiquity of video games in particular, not only on consoles and computers but on mobile devices such as phones and tablets, many people who might not consider themselves traditional "gamers" spend time playing games, increasingly reporting that they play on various devices (Entertainment Software Association, 2016). Among experts, there has been both derision of and excitement over this increasing engagement of people of all ages with digital media and video games. The field of education has been no exception to both of these reactions, with experts and practitioners alike both concerned about displacement of educational activities in favor of games, but also expressing excitement at the possibility of bringing games into the classroom or other formal educational settings (Collins & Halverson, 2009). Whether or not students are exposed to games in the classroom, however, many students are playing them outside of school, and potentially learning from their gameplay.

In terms of digital media practices like gaming, informal learning which happens outside of the classroom is very important for young learners (Sefton-Green, 2004). A number of scholars have argued for the importance of exploring the everyday learning that occurs in various informal contexts, such as playing games and using the Internet (Ito et al., 2009; Jenkins, Ito, & Boyd, 2015; Jenkins, Purushotma, Weigel, Clinton, & Robison, 2009). Examining the practices that occur "in the wild" (Hutchins, 1995)

around games and digital media can illuminate how games and digital media are already central to learning, teaching, and literacy for many people.

This paper focuses on the learning that happens around the game *Pokémon Go*. This mobile game centers around capturing virtual monsters known as Pokémon that are spread across real-world locations, such as parks, urban areas, and college campuses. The game is inherently social; players must interact with others in order to play the game. These interactions include meeting people while playing, as well as exploring online spaces and resources around the game. It is in these various online and offline spaces that informal learning (and teaching) can occur, because in learning to play there is not a singular guide or resource that players can utilize. Rather, learning to play the game is a complex process that includes navigating a variety of player-created guides and resources. These player-created guides are created by players who are affiliated with a range of Discourse communities (Gee, 2014), each with distinct ways of speaking, valuing, and behaving. As such, learning to play the game involves navigating different Discourses, which are reflected in these guides

Prior research has suggested that learning to participate in particular Discourses is an important aspect of the learning and literacies associated with video gaming (Gee, 2007; Paul, 2012; Steinkuehler, 2006). For example, Steinkuehler (2006) examined how a more experienced player, in a brief teaching-learning exchange, introduced a novice player to a Discourse associated with the MMORPG *Lineage*. However, in learning to play *Pokémon Go*, and other games, players may encounter more than one Discourse as they move across various physical and virtual spaces, interact with players who have varied goals and interests, and access different kinds of resources. The different kinds of

Discourses that players might encounter have not been given much attention by scholars, yet learning to move *across* Discourses may be just as important as learning to participate in one Discourse as players become increasingly proficient in game play. Player-created guides are a particularly interesting and important instantiation of these Discourses; they are plentiful, widely accessible on varied sites, and likely to be among the first resources that novice players seek out. Navigating these guides and being able to understand them is tied to learning and in particular literacy learning, as I argue below.

Learning, Teaching, and Affinity

It is first necessary to define the "learning" that occurs around the game, which I describe here as being social and situated (Gee, 2007; Kress, 2003; Lankshear & Knobel, 2003; New London Group, 1996). Learning and literacy are not simply cognitive processes, but are based on the understanding of particular kinds of meaning-making and practices tied to particular contexts. In particular, I am focusing here on *literacy learning.* "Literacy" refers to forms of socially-mediated practices, knowledge, and meaning making which are situated in particular social contexts (Coiro, Knobel, Lankshear, & Leu, 2008;. Gee & Hayes, 2012; Lankshear & Knobel, 2003). The New London Group (1996) called for research and practice that reflects the multiple and socially situated nature of literacy, particularly in consideration of the knowledge-based, global 21st century economy for which students need to be prepared. These literacies are often (but not always) tied to the digital media and technologies that students encounter every day. As such, it is essential that we look at the practices of young learners in authentic, everyday contexts which involve these technologies. One example of an authentic context for this particular type of literacy is when learners engage in

communities around their favorite video games, whether it is through writing and sharing fanfiction or discussing game strategies (Curwood, Magnifico, Alecia Marie, & Jayne, 2013; Gee & Hayes, 2010; Hayes & Duncan, 2012; Lammers, 2011; Martin & Steinkuehler, 2010; Steinkuehler, 2008).

To this end, one way of conceptualizing the learning and literacy around games is through the notion of *affinity spaces* (Gee, 2004). Affinity spaces are spaces people can develop and support affinities for practices or things (such as a favorite video game, playing the harp, or French cuisine). In affinity spaces, players share expertise around a favorite subject. This expertise is distributed across members of a group, with participants sharing their own individual knowledge and expertise. The fan spaces that exist around games have been researched as sites where a number of learning and literacy practices take place, including research, writing, and collaboration (Black, 2008; Curwood et al., 2013; Gee & Hayes, 2010; Gee & Hayes, 2012; Hayes & Duncan, 2012).

In the case *of Pokémon Go*, players can participate in these affinity spaces not only to share their affinity for the game, but to meet other players, discuss where to find Pokémon, and share strategies. However, because *Pokémon Go* is a game with open goals, this means that players might interact with different spaces for different purposes-that is, there are different *kinds of players* of *Pokémon Go*. Different kinds of players of a video game will likely engage with different kinds of spaces. (Gee & Hayes, 2010; Gee & Hayes, 2012), for example, distinguish between nurturing and elitist affinity spaces, where elitist spaces have different ways of behaving and valuing than nurturing spaces. For example, elitist spaces expect participants to possess particular skills and conform to a narrow set of behaviors. Nurturing affinity spaces, on the other hand, tend to be more

supportive of new participants in the space. That is, the criteria for belonging in both of these spaces are very different. Most spaces exist somewhere between these two extremes, but even in the case of affinity spaces around a single game such as *Pokémon Go,* there can be plenty of variation. As such, a player might encounter different kinds of spaces and resources while participating in *Pokémon Go's* fandom and learning about the game.

While affinity spaces are a key concept for conceptualizing socially-situated learning around games, the model does not fully take into account the ways in which information and knowledge are distributed not only across people in one space, but across a wide variety of sites and resources. This is where the model of *distributed teaching and learning systems* (DTALS) can be useful for conceptualizing the ways in which information is distributed. The model of distributed teaching and learning systems extends this notion of affinity spaces (and other models of informal learning) by providing a framework for examining how learners navigate all of the information that is available to them from websites, books, forums, wikis, other people, and a plethora of other resources (Holmes, 2015; Holmes, Tran, & Gee, 2017). DTALS is intended to cover aspects of a number of other models, including the aforementioned affinity spaces as well as frameworks proposed by (Barron, 2006; Ito et al., 2009; Jenkins et al., 2009). All of these models of informal learning propose that people (especially youth) are driven by their personal interest (such as interest in a favorite video game) to learn in a self-motivated fashion, using technologically-mediated resources to learn about a topic, socialize with others, and even acquire various skills.

DTALS can build a bridge between these various models of informal learning, and also fill in gaps in these frameworks. There are two main issues which are relevant here that are not addressed by these other frameworks, but are part of the DTALS framework. One, none of these aforementioned frameworks are primarily concerned with the connections *between* the resources that learners access. These resources include the various websites, forums, videos, and online sites that learners access in a technologically-mediated context, but also include all the other resources that the learner might use, including family members, workshops, peers, and the classroom. These resources do not exist independently from each other; instead, the ways in which a learner interacts with a resource will determine how he or she interacts with other resources. If a young learner watches a YouTube video about cooking, for example, this might prompt him or her to seek out information from other sources, such as asking family members about their experiences or finding texts on the subject.

The second issue is that previous models of informal learning have treated *learning* as an active and important process while *teaching* has been, generally, ignored. In order to learn from others in a video game fan community, for example, a learner must read guides or explore forum posts. This means that some people must, in these informal contexts, take on the role of teacher. While this teaching is implicit in these other models, within the DTALS framework teaching is as explicitly important as learning. The role of teachers and learners can also be permeable; that is, participants in spaces around the game are not only learners but teachers themselves, as they disseminate information to other players through writing guides, posting videos, and participating in discussing.

Teaching, like learning, is interest-driven and distributed among various sites and resources.

I have used the DTALS framework here to investigate how information around *Pokémon Go* is distributed among different people and places, and how learners must navigate the various teaching resources available to them such as the aforementioned guides to the game. In order to explicate why *Pokémon Go* is a particularly good game though which to study DTALS, a brief explanation of the game follows.

Pokémon Go

The gameplay of *Pokémon Go* centers around finding and capturing Pokémon, which are then used for battles in the game. Players choose one of three teams to join, and battle to claim territory for that team at locations known as gyms. Gyms are mapped onto real-life locations of interest, such a public artwork or historic buildings. In order to do well at these gyms, players must strategically choose which Pokémon to level up. This involves analyzing and deciding which Pokémon are the most powerful, and then spending scarce resources to level them up and increase their power in order to succeed at these battles.

Additionally, particular Pokémon are only found in specific areas- so one type of Pokémon might only be found at a local park or landmark. Such a place might boast high populations of a particular Pokémon- for example, a Pikachu, which is a popular and highly sought-after creature. In order to figure out where a specific Pokémon appears in a player's local area, this player would need to learn this information from other players. Fans of the game have formed groups to discuss the game with others in their local area, swapping information and reporting sightings of Pokémon. The geolocation-based nature

of the game means that the community around *Pokémon Go* is different than the community for many other games, as gaming affinity spaces have generally been framed as places where player location is not of primary importance (Gee & Hayes, 2010; Gee, 2008; Lammers, Curwood, & Magnifico, 2012).

The locations of Pokémon shift every twenty-eight days, so players must stay up-to-date with their information before it becomes obsolete. Other changes in the game, such as the introduction of new Pokémon with updates to the software, further promote the need to seek out new information. Even with the need for location-based information, there is some information which is relevant to all players of the game. Most of the information which centers on strategy, such as deciding which Pokémon to level up and how to level up most effectively, is not tied to location. Thus, information gathering and sharing around strategy occurs in a widely distributed manner, with many different players contributing to this information. While many games offer tutorials on how to play or otherwise explicitly demonstrate what the goals and rules of the game are, *Pokémon Go* does not feature such on-ramping for players. Rather, players are left to figure out the mechanics of battling and the particulars of strategic leveling of characters on their own. As a result of this, it can be difficult to determine what is true and not about the game, as players share rumors and theories about it. Misinformation about the game abounds, and some players set out specifically debunk this misinformation.

All of the information on the game is distributed across a number of different sites and spaces. Some of it "hangs on" to existing sites, like Reddit and Facebook, and so it integrates with players' everyday social circles. Some of it exists on specialized websites for the game. These various sites might intersect with other interests such as other

Pokémon games or gaming more generally. Finally, some of it happens face-to-face with players sharing information with friends, family, and strangers they meet in the world. All of these resources around the game, whether they are physical or digital, comprise the DTALS of the game. Each player will access particular resources and sites in the DTALS, depending on factors including which aspects of the game are most interesting to a particular player and what the player's purpose in engaging with the game is (for example, for fun, as a means of getting exercise, and so on).

Discourses in the DTALS

In order to examine the teaching and learning that takes place in the *Pokémon Go* fandom, it is necessary to examine the information that is being shared online. As with many other video games, while players share information face-to-face, much of the information about the game is distributed across a number of websites and other online resources (Lee, Windleharth, Yip, & Schmalz, 2017). While public spaces for discussion, such as forums, have served as objects for analysis for a number of games and learning scholars (Devane, 2009; Lammers, 2011; Owens, 2011), equally important are the instructional guides that players write to share on these forums or post on other sites. Teaching is a rhetorical act, including the teaching that happens around games (Holmes, 2015). Therefore, the ways in which players teach each other through guides and tutorials can reveal players' attitudes, beliefs, and values, not only around the game but around the identities which they enact. Embedded within a guide will be a set of values which mark the writer as belonging to a particular group; or in this case, a particular type of player. When navigating the DTALS around *Pokémon Go*, a player will access a number of such guides, which are distributed across various sites. The guides available for learning how

to play are written by and for various types of players; for example, parents who are interested in learning to play so that they can accompany their children as they play, fans of the other games in the Pokémon series who are just getting started with *Pokémon Go,* "hardcore" gamers, game developers and programmers, and so on. A guide written for (and from) each of these perspectives will reflect ways of behaving, acting, and valuing for each of those groups of people. One way of framing this reflection is that the guides will be situated within particular *Discourses.* A Discourse includes not only speech, but behavior and ways of acting and valuing that mark an individual as being part of a particular group (Gee, 2004; Gee, 2014). A group that shares a Discourse, or a *Discourse Community,* shares an "identity kit" which both allows individuals to enact a particular identity which marks them as belonging to the group, as well as recognize when other people are part of this group (Gee, 1989). This "kit" includes not only speech but combinations of ways of saying, doing, being, valuing, and believing which are socially recognized and sanctioned. For example, there is "kit" which marks one as being a professor, a hardcore video game fan, a parent, a goat herder, and so on. Members of these communities must enact particular identities and in turn can recognize when others belong to this group.

Because there are many different ways to enjoy the game, in order to learn how to play *Pokémon Go*, players may encounter the Discourses of gamers, parents, students, travelers, fitness communities, technology fanatics, and teachers. For example, communities of fitness-oriented players might frequently discuss how steps are counted, or hatching Pokémon from eggs (which is based on the number of steps a player takes). There are numerous guides for players of the game who are new to fitness

generally which cover information such as finding good walking shoes, staying hydrated, and safety advice. In another example, a community of technology fans might be interested in discussing the wearable device for the game known as the *Pokémon Go* Plus, which is a watch that allows players to catch Pok*é*mon more easily. A number of players are interested in "modding" (modifying) the device, or even creating their own homemade versions. Hence, even if everyone in the fan community of the game shares the common endeavor of wanting to play the game, they may have very different purposes in doing so. In the case of *Pokémon Go,* a player who is interested in gym battles and taking over territory has a very different purpose in playing than someone with the primary goal of using the game as a way to motivate themselves to track their daily walking steps and get more exercise. These two types of players will likely find information that is situated in completely different Discourses. Of course, one person might be interested in both purposes- a player may want to get more exercise as well as excel at the battling. Conversely, these Discourses could also exist in opposition to each other- a player who is only interested in battling might think this competitive style of play is the only way to be a "good" player of the game, and that the more casual, exercise-oriented player is not playing in the "right" way.

In practice, most players will likely be interested in more than one aspect of the game. Because of this, they will encounter a number of different Discourses throughout the course of their information-seeking around the game, which involve not only different types of players (players devoted to egg hatching, *Pokémon Go Plus* enthusiasts) but also the broader outside Discourses which influence these player communities (fitness fans, people who love technology and "tinkering") Therefore, each

Discourse a player encounters which is tied to the game requires an understanding of the particular meanings, words, and practices of that Discourse- that is, an understanding of the particular Discourse "kit." In order for a player to comprehend an explanation of the underlying statistics of *Pokémon Go,* for example, players must possess a kit which includes an understanding of how the game works, a base level understanding of statistical concepts, and a grasp on how battles are fought in the game. As such, each of these requires a type of literacy to read and understand these guides (Gee, 2014). More importantly, the writers of these guides- the informal teachers in the DTALS- must also draw upon these kits in order to write these guides. Teaching is not a neutral transmission of information, but a rhetorical act (Holmes, 2015). Teachers therefore shape learners to be particular *kinds of people* through teaching- people who speak, behave, and value in specific ways that are sanctioned socially and, often, by institutions. For example, there is a school-based Discourse that teachers convey to students in school, which students need to conform to in order to be "good" students and therefore successful. Hence, enacting this student identity- and indeed, enacting an identity in any social context- is key to learning and literacy within that context.

Similarly, in the communities around a game such as *Pokémon Go,* there are ways of valuing and behaving that mark people as being a particular type of player. As guides to the game are written by particular types of players, they are not simply providing information regarding how to play, but are instead teaching about how to be a particular type of player (or even community member, or parent). Key to this communication is the use of s*pecialist language*- that is, language that is used not only to communicate information but also particular identities and ways of knowing (Hayes & Lee, 2012).

Specialist languages are key to learning in social contexts. Guides to the game will utilize different kinds of specialist language, including the languages of gamers, scientists, and parents.

Guides are written for different types of players, such as teachers, fitness enthusiasts, and parents who play the game, and the creators of these guides therefore situate their guides (and discussion) in these various outside Discourses. The ways in which these guides are situated conveys information about how teaching and learning can function in a DTALS and in particular how resources can be connected (or not) to one another. The guiding research question here is: *How are the player-created guides for various aspects of Pokémon Go situated within particular Discourses, and how do they teach readers to be particular kinds of players (and people)?*

Methods

In order to collect data, I first researched the broad player fan base around *Pokémon Go,* as I discussed in Chapter 2. One way to gain insight to how teaching, learning, and literacy occur "in the wild" is through examining existing player communities, in particular the discussions that players have on websites, forums, and other spaces where players discuss games (Devane, 2009; Gee, 2007; Owens, 2011). I became familiar with various styles of play, as well as some of the common sites which players visited. Players referenced these sites in both my survey as well as in online and offline discussions that I had with players, and I went to these sites and observed activity on them.

From there, I selected three guides, each written with a particular target audience (and Discourse) in mind. The first guide was written for parents, who might not be

familiar with the game, and draws on a larger Discourse of parenting. The second guide reflects a Discourse associated with “hardcore” competitive players, and the third guide illustrates the Discourse of the so-called scientific community around the game (a self-described “research group” that refers to their findings as “science,” their community members as “researchers,” and their moderators as “scientists”). Each of these guides and their associated Discourses was selected because they represent very different types of players with different interests. Each has a set of sites, resources, forums, and people associated with it. In order to analyze the each of these communities and the values, practices, and beliefs of each of them, I employed the method of Discourse Analysis outlined by (Gee, 2014) in order analyze a guide written from each perspective. They are not representative of all guides; rather, they are cases meant to illuminate different types of guides and perspectives on gameplay. Additionally, these examples are not intended to suggest that there is a singular Discourse of parents or even a singular Discourse of parents who play *Pokémon Go.* The intention here is instead to provide examples that illuminate the ways in which various larger Discourses (parenting, hardcore gaming) can infuse a guide to the game with values, behaviors, and ways of being that are associated with those Discourses. This in turn can illustrate how different Discourses are important to the DTALS framework. A more thorough analysis of a particular guide or player community, or even of how teachers and learners move between player communities and their associated Discourses, is necessary for future DTALS research.

Analytic Tools

Gee (2014) provides a number of tools for analyzing examples of Discourse, including seven building tasks and six tools of inquiry. He presents these tools and tasks

as possible options to use for analysis, where the most relevant tools for the present job should be used. Each of the tools of inquiry can be applied to each of the building tasks for a total of 42 questions. While all of the tools and tasks were relevant (in various places) to this data, the most important building tasks and tools for the question of how players' teaching is situated within particular Discourses were practices, identities, sign systems and knowledge, and Conversations. Their definitions, and relevancy to this study, are detailed below (Gee, 2014, p. 140):

1. *Building Task 2: Practices (Activities)*: How are situated meanings, social languages, figured worlds, intertextuality, Discourses, and Conversations being used to enact a practice (activity) or practices (activities) in context? In this study: How do players use their guides to detail particular practices? Which practices are being encouraged and discouraged?
2. *Building Task 3: Identities*: How are situated meanings, social languages, figured worlds, intertextuality, Discourses, and Conversations being used to enact and depict identities (socially significant "kinds of people)? In this study: How do players position their guide as being for (and written by) a particular type of person? What kinds of identities is the author encouraging the reader to enact?
3. *Building Task 7*: Sign Systems and Knowledge: How are situated meanings, social languages, figured worlds, intertextuality, Discourses, and Conversations being used to privilege or disprivilege different sign systems (language, social languages, other sorts of symbol systems) and way of knowing?

In this study: What kinds of evidence does the author provide for his or her claims? What kinds of knowledge and ways of knowing are privileged?

4. *"Conversations."* Sometimes when we talk or write our words don't just allude or relate to someone else's words (as in the case of intertextuality), but they allude or relate to themes, debates, or motifs that have been the focus of much talk, writing, discussion, argument in some social group with which we are familiar or in our society as a whole.

   In this study: What themes and debates are the author referring to, if any? Is he or she building an argument in relationship to this debate?

All of the tasks are relevant here; but these were the most important for answering the question of how these guides reflect and are situated in particular Discourses. I analyzed each of the three guides according to these tools, using the methods for working through data outlined by (Gee, 2014), including the various extra tools he outlines in addition to the tools listed above. In particular, the "making strange" tool which involves asking the question of what would be strange (to an outsider) about the data, was of key importance here. Although I became an insider to *Pokémon Go* through playing and writing this dissertation, I was not truly an insider to any of these specific Discourses. Questioning how these guides deviated from "standard" *Pokémon Go* Discourse was one way of answering this question. I then selected a segment of each guide to present here, based on which two or three segments from the guide best illustrated the most prominent (in each individual guide) underlying, embedded values of the associated

Discourse Following this is a discussion of the implications for literacy, education, and video game communities.

Results

Each of the guides presented here was posted on a public website, and each of these websites was intended for a different audience. The first guide was written for parents who might be unfamiliar with the game or with games generally. The second was intended for players who are already familiar with the Pokémon series, and were interested in particular styles of play in *Pokémon Go.* The last one was from a "scientific" *Pokémon Go* community, and was intended for players who are interested testing hypotheses about the game and its workings. These guides are presented in order of increasingly specialist language; that is, each guide increasingly builds on existing knowledge of the game and presumes that the reader understands a particular Discourse (and even multiple Discourses).

A Parent's Guide

The first guide was written from a parent's perspective, intended for other parents. It was posted on the website Lifehacker, which covers software as well as various "life hacks," or tips for productivity. It tends to cater to a tech-savvy audience, and features articles about how to improve (often but not always through technology) aspects of everyday life, including health, parenting, cooking, and various other topics.

For analysis here, I have organized the data into stanzas. This stanza comes from the first paragraph of the guide, entitled "A Parent's Guide to Playing Pokémon Go With Your Kids," was posted by a regular staff writer for the site and covers a few different

topics around the game over the span of 1,254 words To begin with, the author is describing her initial experience playing the game with her child.

Stanza 1 (Parent's Guide)

(1) I helped my kindergartener install it yesterday,

(2) and we spent an afternoon at a park looking for Pikachu.

(3) There are some safety concerns,

(4) but lots of potential for exercise and learning, too.

The author begins by establishing herself as a parent who is playing the game with her child. She does not state that she installed it for her child but rather that she "helped" install it. This choice in language builds an identity as a particular type of parent, one who supervises and scaffolds her child's technology usage. She then describes her gameplay, and how they "spent an afternoon" playing at the park, which is a common practice among players. She goes on to state that the game has "potential," such as encouraging learning and exercise, despite the safety concerns.

In doing so, she is entering a Conversation- that is, a larger theme or debate in a social group or in society (Gee, 2014). There is Conversation about video games and whether they are good or bad for children. *Pokémon Go*, as a location-based game that is played in the world rather than at home, has prompted much writing and discussion around the benefits and potential drawbacks of children playing the game, such as safety issues. In lines 3 and 4, the author acknowledges these concerns while making an argument for the benefits. She goes on to describe how to set up the game, and the basics of gameplay, before coming back to this argument.

Stanza 2 (Parent's Guide)

(1) Yesterday my son and I visited a cannon in a cemetery (dedicated as a war memorial)

(2) and a chestnut tree nursery in a park.

(3) I had driven by those trees a million times without knowing what it was,

(4) but signs explained how the area's chestnut trees had been devastated by a fungus

(5) and park workers were trying to protect some of the trees so they could reach maturity.

While this stanza does not explicitly reference the gameplay of *Pokémon Go,* it does important work in building the author's argument. By mentioning that the cannon was a war memorial, she indicates that it is a historical landmark that therefore has educational merit. In lines three, four, and five, she notes how the game allowed her to find signs explaining the trees she had seen many times before. Here, she is privileging the sign system of text over the everyday experience of seeing the trees- that is, she is enacting the identity of someone who is interested in this particular type of educational information.

More importantly, an implication here is that she is also building the identity of her child as someone who seeks information through text, and regards such information as expert or correct. This is the kind of Discourse that a child needs to succeed in school, and is a Discourse that is primarily used in some types of families and not others (Gee, 2014). Hence, a player who reads about this game will not just learn neutral information about how to play, but rather will encounter a particular Discourse with assumptions about how to raise a child and what counts as "educational." The guide also serves an

argument for the merits of *Pokémon Go* and of games and technology more generally, which in turn is built on an identity of a tech-savvy parent. The author of this guide is not just encouraging a particular identity as a player, but as a parent.

An IV Guide

The next example of a Discourse that players might encounter is that of players who are interested in battling in the game. In order to excel at this aspect of the game, it is necessary to strategically level up only the best Pokémon. In order to determine what the "best" Pokémon are, players need to understand Individual Values (IVs). These are ratings that each Pokémon has for three statistics ("stats")- its attack, defense, and stamina. Pokémon with higher IVs will be better in battle and are therefore worth spending resources on. These IV ratings are not apparent in the game itself, so it is necessary to consult a guide such as this one to understand what they are and how they function in the game.

This guide to IVs was posted on a website which features general video game guides and news, Eurogamer, self-described as the largest independent gaming site in Europe Eurogamer features guides and walkthroughs as well as reviews on their websites and associated YouTube channel, and this guide intended for an audience of video game fans. As such, this guide in particular is primarily for a gaming audience, and one that is interested in *Pokémon Go* battles in particular. This 1,861 word guide from a writer for the site mainly discusses competitive play. The author begins this guide as such:

Stanza 3 *(IV Guide)*

(1) Much like the main Pokémon games,

(2) alongside the standard combat modifiers like Type advantages and weaknesses,

(3) it turns out Pokémon Go has a whole secret layer of stats for every creature in the game,

(4) with hidden values for a Pokémon's Attack, Defence, and Stamina

(5) that's linked to their CP.

The author of this guide begins by connecting *Pokémon Go* to the other games in the Pokémon series, and this intertextuality establishes that the intended audience of the guide is a player who is familiar with these games. Here, the author cross-references various elements of the Pokémon series. In order to understand this stanza, in particular the situated meanings of words like “type” and “advantages” (line 2) or “stats” (line 3), a player must be situated in the Discourse of Pokémon fans. There is therefore an assumption that players who are interested in the more “hardcore” elements of the game such as battling are likely already “gamers.”

However, the underlining in lines 2 and 3 indicate where the author has included hyperlinks. These links lead to other guides on the same site that explain the topics mentioned. While a reader needs to understand a particular Discourse in order to read this guide, the author is guiding readers to other resources, and hence scaffolding their research on this particular type of gameplay. The assumptions about players’ understandings of these terms is not, therefore, necessarily meant to be exclusionary to new players.

In a similar fashion, later on in the guide, this author provides a step-by-step guide to leveling up the “best” Pokémon, introducing it as follows:

Stanza 4 (IV Guide)

(1) The best Pokémon in Pokémon Go -

(2) in terms of battling that is;

(3) you might think Jigglypuff's the best looking, and more power to you -

(4) is the Pokémon with the highest possible CP

(5) when it's at maximum Level, with perfect IVs.

The function of this guide is to not only educate readers, but also to socialize them as certain types of *Pokémon Go* players. That is, what counts as a "good" player is someone who understands IVs and is to participate in the practice of competitive battle. This guide is intended for these types of players; however, here the author of this guide acknowledges that there are other styles of play and other Discourses around the game.

After beginning to discuss "the best" Pokémon in the game in line one, the author stops and qualifies what he means in line two with "in terms of battling." That is, he is saying that "best" really means best *for this particular practice*. He then goes on in line three to reference Jigglypuff- a cute, pink Pokémon that is popular among fans but is not generally considered useful in battle. In recognizing different styles of play, the author is socializing the reader not only to be a particular kind of player, but to be a particular kind of community member- a member who recognize that there are multiple ways to be a "good" player.

A Research Guide

The final example of a guide around the game is from a website for a community of "scientific" players of the game known as Silph Road, which provides guides to various aspects of the game. These guides are the result of the analysis of data

contributed by participating members of the community, who are referred to as "researchers." The people who analyze the data are "scientists." Their explicit, stated goal is to examine the "unexplained mechanics, rumors, and mysteries" of the game. As such, a particular focus of the guides are aspects of the game that tend to have rumors and misinformation frequently shared about them on other sites in the game's community. This community debunks these rumors by gathering datasets and analyzing them- a practice that they frame as "research."

The guide here concerns an aspect of the game known as Pokémon movesets. Movesets are the actions that Pokémon can perform while in battle. Some of these actions are considered more desirable (stronger, more effective) than others, and as such, many players want to know how their Pokémon can acquire these optimal moves. This guide is titled "Is there ANYTHING I can do to influence a Pokémon's moveset?" The guide is structured like a research paper, with an explanation of how the study was conducted, findings, and then a more extensive methodology section over the course of 1555 words. A shorter version was also posted on the group's subreddit.

At the beginning, the premise of the guide is introduced as such:

Stanza 6 (Research Guide)

(1) When a Pokémon evolves,

(2) its quick and charge move are re-rolled according to unknown odds.

(3) Silph researchers began recording various attributes of their Pokémon before evolution,

(4) including their moves, appraisals, STARDUST, and their evolved movesets.

(5) Over 10,000 evolutions were captured over the course of the study.

Immediately, there are a number of specialist languages required to understand the guide. The discussion of "quick and charge moves" in line two calls on the specialist language not just of *Pokémon Go* players, but players with the particular mechanics of battle. Indeed, there is no introduction to any of the game concepts mentioned here or definitions of the situated meanings of the terms used.

Besides the terms from the game, there is another specialist language being used here- the language of research. This "study" is described as such in line five. In lines three and four, the author discusses methods and how much data was collected. There are, therefore, two specialist languages being used here: that of *Pokémon Go* players and that of researchers. The author of the guide is building an identity as an expert, and therefore shaping an identity for readers as people who believe such expert opinions. This specialist language continues throughout:

Stanza 7 (Research Guide)

(1) The data suggests that,

(2) of the effects we looked at,

(3) none caused a significant deviation from random uniform selection.

The author's assertion is based on the "data" (line one). In lines one and two, through word choices, the author is drawing a connection between the practice discussed here (gathering data on Pokémon) and the practices of the scientific community more generally. The conclusion, in line three, is also delivered using a specialist language ("deviation," "random uniform selection") that would only make sense to a certain sort of reader. In fact, the only time the author uses "everyday" Discourse to describe the

findings is in the last paragraph before the extensive methodology section. The author summarizes the findings:

Stanza 8 (Research Guide)

(1) So, travelers, if you see any evolution moveset myths floating around,

(2) share the knowledge:

(3) it's truly random, and in general has an equal chance every time.

(4) And that's no longer just a hunch!

The author is not just encouraging readers to share this knowledge; rather, he is privileging a type of knowledge (data-based) over the "myths", referred to in line one, that players commonly share with one another. In lines two and three, the author is asking for readers to participate in a specific practice, that is, the practice of sharing the findings from this guide with a wider audience. Finally, the author contrasts these findings further with unfounded rumors about the subject, which are referred to in line four as "just a hunch."

In this way, the author is participating in a broader Conversation in the community around the game. There is a tendency for false information to spread; numerous sites exist around the game which offer primarily rumors and other unconfirmed data. In offering scientific data, the community of Silph Road and the creators of these guides are challenging this practice of spreading misinformation, which is especially prevalent on social media sites. The author is shaping the identity of not only a "good" player of the game but of a good community member and even a good citizen.

Discussion

Rather than there being a "*Pokémon Go* Discourse," these guides demonstrate that there are multiple Discourses that exist in the DTALS of the game. Each of these guides was written by and for a particular type of player, and each author has his or her own notion of what a "good" player is. In writing these guides, the authors are not just teaching about how to play the game, but rather socializing players into particular Discourses.

Other scholars have discussed how participants in video game affinity spaces must learn how to speak, act, and value in order to be accepted as a certain type of players (Hayes & Duncan, 2012). These findings highlight how players seeking information in a DTALS may need to understand and navigate multiple Discourses as they explore different sites, resources, and groups.

Implications for Literacy

Navigating the DTALS around *Pokémon Go* and learning how to play requires knowledge of not only how to find information across a range of sites, but also how to determine which information is relevant and useful for one's own interests. I argue that being able to navigate and understand the various resources available- which exist in various Discourses- is a form of literacy practice. An understanding of socially-mediated practices and meaning-making are key to each of these guides, whether they are assuming knowledge of parenting, a working knowledge of the particulars of gameplay, or a familiarity with how to read reports of research. This aligns with the notion of literacy as forms of socially-mediated practices, knowledge, and meaning making which take place in particular social contexts (Coiro, Knobel, Lankshear, & Leu,, 2008; Gee & Hayes, 2012; Lankshear & Knobel, 2003).

This means that there are multiple voices of authority within a DTALS, with no particular type of player serving as the gatekeeper of information. At the same time, players who do not possess the prerequisite literacy skills to understand these guides could be excluded; for example, new players might have particular difficulty reading the IV guide or the moveset guide. The ways in which authors include links to other resources in the DTALS to assist readers (or don't) is telling in regards to how they perceive their roles as teachers and the ways of behaving that are valued within particular Discourses.

Implications for Education

The teaching in these guides looks different than teaching that occurs in formal classrooms, but it is teaching nonetheless. One of the key takeaways of DTALS is that there exists a rich system of sites and resources around a game like *Pokémon Go,* and the teaching and learning that happens within them can supplement what happens in formal educational environments. An important implication of this that these guides can also support (or challenge) a school-based Discourse. In the parent guide, the author mentions that she learned things from the signs planted around some trees she had seen many times before. In doing so, she privileges text and expertise over real-world experience, something middle-class parents often do which sets up their children to participate in a school-based Discourse (Gee, 2014). In another example, she "helps" her child install the game, rather than doing it for him or leaving him to his own devices with the phone. This, too, is a particular practice of parenting, one that sets her child up with a particular orientation not only toward technology but toward interacting with adults and authority figures such as teachers.

The scientific guide, as well, privileges a certain type of information- that which is obtained through research. Indeed, the description of methodology and how the conclusions in the guide were drawn would not be out of place in a scientific journal- or in a textbook on statistics. While the content of *Pokémon Go* would seem, on the surface, to have nothing to do with school, these guides are still building a certain type of identity. While the notion of identity is complex and somewhat murky in relationship to affinity spaces, it is nevertheless a notion which is essential to socially mediated learning (DeVane, 2012). Finally, the usage of specialist language is important in all of the guides, but particularly in the guides to IVs and the research report. This means that these spaces demand the use of this language in order to fully participate (Hayes & Lee, 2012) called for further research and consideration of the specialist technical language around digital technology such as games and game modding, as these languages can be as complex as the specialist languages in school and learning them could potentially contribute to learners' ability to pick up this specialist language in the future. Likewise, the use of specialist language in Discourses such as that around *Pokémon Go* is worthy of further examination, in particular the potential barriers to picking up this language for various kinds of learners.

Finally, in the previous chapter, I discussed how it is often actually parents who go online to do research on the game. Two of these guides offer not only information on the game, but encourage a particular relationship to school-based Discourse. The ways in which these guides support or contradict this Discourse- and whether these guides have any deeper impacts on readers' relationship to this Discourse- is worthy of further consideration and research.

Implications for Games Design (and Players)

It is well-recognized that there are different types of players of games with various motivations for playing. The popularity of *Pokémon Go* means that many different types of people play. In the spaces around the game, these different types of players seem to exist alongside each other. Indeed, while the IV guide is written from and for a particular perspective on gameplay, it does not discount other styles of play. The author does not deride more casual styles of play, but instead emphasizes that the guide is useful for players are interested in one style of play based around competitive battling. *Pokémon Go,* with its open goals, represents a *possibility space* (DeVane & Squire, 2008) through which players can make sense and meaning of their own gameplay experience. Because of the lack of tutorials in the game, the teaching has been offloaded on to players. And these players have created guides that reflect and value different kinds of knowledge and different practices within the game.

This informal teaching in game communities is deserving of equal attention to the informal learning in game communities. Even games with robust instruction and tutorials still tend to have active player communities and resources such as player-created guides. Players need to learn not only the mechanics of the game itself, but the practices and values of its players, which only emerge and develop after a game's release. Hence, all learning around games must involve the type of identity building demonstrated here, as players learn how to be a “good” player in particular contexts.

Conclusion & Limitations

Pokémon Go offers a glimpse into the potential complexity of video game DTALS, and how varied sites and resources can be even around the same game. The

various Discourses are key to both teaching and learning around the game. The guides chosen here are only a small example of the number of sites and resources available about the game. Further research not only into this game but into the guides written about other games is needed in order to further probe the complexities of the DTALS around video games.

One important consideration is that one guide cannot encompass the whole of a Discourse. For example, there are many other Discourses of parenting around the game, including guides for families who are concerned with the content and values in the game, or guides that are much more concerned with safety issues than with potential benefits of playing. Indeed, a researcher could focus on only one Discourse in a complex DTALS and find many differences between the resources situated in that Discourse. These difference provide rich opportunities for understanding teaching and learning in informal environments, not only in regards to *Pokémon Go* but in regards any number of topics that have passionate fans.

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CHAPTER 5

CLOSING THOUGHTS

Throughout this dissertation, I have discussed the implications of various aspects of the DTALS of *Pokémon Go*. What follows is a discussion of overall limitations and implications which did not fit into the individual chapters, as well as further implications for video games and for the framework of DTALS more broadly.

Limitations

While this study represents a "snapshot" of a DTALS and the learners who interact with it, it is only one example of a DTALS. The DTALS around other games as well as other topics will vary, and more research is needed on other working examples. Additionally, it is not clear from this data what long-term effects of participation are. For example, an outstanding question is whether participating in the scientific Discourse around the game actually leads players to become interested in further pursuing science. Does participation prepare them to later acquire the Discourse of science in school or work? In the case of adolescents and other young learners, are players who participate in these communities more like to pursue science careers or college majors later in life? And do adults take on any more interest in science generally through this participation? Another consideration is that readers who are equipped to read material situated within particular Discourses may already possess the requisite skills to understand it. For example, it is impossible to say without further research whether players are learning about statistics from reading articles on the Silph Road, or if the guides are only benefitting readers who already understand the concepts referenced. This problem is not unique to DTALS, however, and a longitudinal study or other long term tracking of

players in these communities could reveal how this participation affects players in the long term.

Additionally, at the time of this writing there is little to no research around how factors like race, SES, and gender play into the experience of playing *Pokémon Go*, and these factors were not a primary focus of this dissertation. As with other games, it is likely that these factors play a huge role in a player's experience, particularly in this case, as *Pokémon Go* is an embodied game which involves accessing public spaces. The implications of race on gameplay in this game are worthy of consideration as players of different races will likely have very different experiences (Harris & Wynn, 2016). Additionally, gender is a salient issue in gaming, and with a physical game especially like this it is likely that male and female players will have very different experiences. Considering that it appears that there are more female players of *Pokémon Go* than males (Mac, 2016), there are many opportunities for research around this topic.

Finally, as with any technology, not all learners will have equal access to the technology. Families must be equipped with smartphones in order to play the game, and the game takes data to play, which can be expensive for families with limited resources. Additionally, accessing online resources is also contingent on having access to technology and the Internet to begin with. Practices of children and adolescents around games may be very different depending on SES (Andrews, 2008); and SES also impacts players' and their families' access to the technology to play the game. It is important to consider the differential access that players may have to the game as a result. Again, this is not a unique problem to *Pokémon Go*, and further research into how these factors intersect with this games and video games more generally is needed.

Finally, this study was intended to be exploratory and build a case for DTALS through the lens of particular aspects of *Pokémon Go.* As such, all of the data in this study is intended to illuminate practices, people, and relationships in the part of the game's DTALS which I studied, rather than claim that this is in any way a summary or complete picture of the game's DTALS. Indeed, the practices of players in different areas is likely to vary widely, especially given that the game is a global phenomenon popular in many counties. As such, capturing the entirety of the DTALS is an impossible task, and so the cases and data presented here are only A jumping off point. Further research into *Pokémon Go* and its community would illuminate the DTALS further and shed new light on its implications for teaching and learning.

Implications for Games and Communities

There are a number of implications of this study that are relevant for game scholars and designers in particular. The ways in which the game influences its community- and vice versa- reveal that the design of a game and the ways in which the developer interacts with its community can have profound effects on the teaching and learning in a community.

There are a number of resources and applications around the game that stand on contested ground. There are two main categories of these resources: maps and individual values (IV) checkers. In terms of maps, a player can pull up a map of, for example, her neighborhood, and see precisely which Pokémon are where and how long the Pokémon will be there. These sites accomplish this by checking data from the game itself to see where Pokémon are generated, rather than relying on player reported data. For statistics, players can use third party apps in order to check the IV's of their Pokémon. Rather than

using the in-game appraise feature, these apps provide detailed information as one might find by checking a website and inputting values, but with the convenience of being able to check directly on one's phone. In order to use some of these apps, players must provide their credentials and log in to the app with their logins for their game. Doing so can result in players being banned from the game and losing their accounts.

While a number of these third party applications and websites are banned for various reasons, many players feel that they have a degree of ownership over the game and should be allowed to use them. (Kow & Nardi, 2010) explored similar questions in the community of *World of Worldcraft* modders. Questions of who owns the game and who controls what players make are complicated, and as the authors found, can cause players and content creators to ultimately leave a community. They discuss the "fragile synergy" between allowing player creativity and participation and maintaining control over the game as a product (p.11). The question of the relationship between the developer and people who are making external resources such as third party applications is one that will continue to influence the community throughout this study. However, unlike the case with modding, many players themselves side with the developer and consider the use of these third party applications to be cheating.

Indeed, using external tracking sites that display where Pokémon are located or using a false GPS location in order to catch and hatch Pokémon (known as "spoofing") are contested practices among players. Some players see these as perfectly acceptable, and may cite the lack of a precise tracking feature in the game as a reason to rely on these sites. They also claim that they should be able to play the game however they want. At the same time, other players consider this unfair or a form a cheating, noting that because

Pokémon Go is a multiplayer online game, the actions of an individual do affect everyone. Either way, it is clear that at least in the community I researched, there is no consensus as to what constitutes cheating versus fair play. The definitions of cheating in the game's community are complex, and may be reflective of different Discourses of players. The notion of what is "fair" in a game is important to researching game communities and in particular game DTALS, because teaching that may be valued by some players might be considered actively harmful by others.

Implications for Teaching and Learning

In addition to the implications for games and their communities, there are also a number of implications that are relevant not just to the DTALS around video games but also to a number of other topics, including other forms of digital media and online learning. One form of teaching in a DTALS that was not a prominent part of this study is designed-for-emergent teaching. Holmes (2015) identified three types of teaching that occurs in and around games, but can apply to other types of DTALS as well. *Designed* teaching is any method through which the game teaches players explicitly, including in-game tutorials or text explaining how to play the game. *Designed for emergent* is when a game includes a way for players to coach or teach other, such as in the game *DOTA 2*. The game features a coach mode that allows players to train each other in the game, and also allows players to stream their gameplay for others to watch and learn from. *Emergent* teaching is teaching initiated by players; it is not set up by the game or in an "official" venue. *Pokémon Go*'s teaching is almost entirely emergent; it relies on player to player contact without the mediation of the game itself. There is also some designed

teaching in the game. There is, however, virtually no designed-for-emergent teaching, which allows players to teach each other in a manner which is supported by the game.

Designed-for-emergent teaching scaffolds players' teaching by providing them the tools to do so, rather than needing to find and implement ways of teaching from scratch. This has implications for classroom education, as well. The educational versions of numerous commercial games (such as *MinecraftEDU* or *CivilizationEDU*) are versions of the games which exist explicitly for educational purposes, and therefore allow anyone who wants to teach with the games a way to do so. While designed-for-emergent teaching is not as common as either designed or emergent teaching, this could represent a "best of both worlds" approach to teaching around games. Indeed, this can extend outside of games to any domain but especially to applications and other technologically-mediated forms of teaching.

Misinformation

Misinformation abounds around the game, and this misinformation is often shared in social groups, including local communities. This misinformation can include false reports of *Pokémon* sightings, unfounded rumours about upcoming features, and inaccurate information about current features. At the same time, communities like Silph Road are trying to position themselves as authorities and offer evidence (or counterevidence) for existing theories, as well as promoting this evidence-based mindset among the community as a whole.

The ways in which players determine which information is true and which is false is particularly relevant today. For example, boyd (2017) notes that there is a complex relationship between media literacy and education against misinformation on the one

hand, and encouraging individuals to do their own research-which may result in people losing trust in expert knowledge- on the other. More importantly, how do young learners in particular discern which information is true? While it is impossible for parents and educators to develop familiarity with every game that kids play- and every context in which players find information- explicitly teaching about finding information online and verifying sources may allow them to guide young learners and scaffold their information practices online, helping them to develop valuable skills.

A Final Word

Pokémon Go is, like all games, ephemeral. While fans might revisit favorite games, and the re-release of older titles on modern systems is now commonplace, rapidly changing technology outdates games faster than other media such as movies and television shows. Even if a game is not rendered completely obsolete, the number of players who engage with a game over time will decline.

Pokémon Go is no exception. The player community has not declined as much as it might appear from the outside, as part of the perceived decline is due to the fact that the game was the most popular app of all time upon on its release (Leswing, 2017), a growth and popularity which is unsustainable. Still, over the course of writing this dissertation, I have seen the game go from ubiquity in its first few weeks, with people playing publicly in nearly every park, campus, and shopping mall, to a smaller community of dedicated players. The play has also ebbed and flowed, as players reported stopping playing then resuming to participate in one of the numerous special events that occur around the game (which are centered around holidays, such a proliferation of ghost-type Pokémon for Halloween) or for major updates (such as the “Generation 2” update which added 80 new

Pokémon as well as a number of gameplay elements and mechanics) which ted to attract lots of returning players to the game.

Even so, people will eventually stop playing the game, although when that will happen is impossible to predict. What is important about these findings, then, is not only their implications for *Pokémon Go*, but their various implications for games and DTALS. For any game (or media artifact, or endeavor) there will be different types of learners with different pathways through a DTALS. Intergenerational play can be examined through any number of games, and the ways in which families bonded over this game has implications for family gameplay more generally. The ways in which parents thought of the game as being different from other games or forms of screen time also provides a lens through which to view other games and applications, especially location-based games. Finally, the notion of navigating Discourses is relevant to all learning, as all learning is socially situated and will depend on learners understanding how to speak, act, value, and behave in particular ways which are situated within social traditions and institutions. Therefore, this study provides a starting point through which to explore the DTALS around other games and other domains, and the complex relationships between learning and teaching online, offline, in schools and out.

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APPENDIX A
SURVEY

Last 4 Digits of your phone number (or any 4 digit combination)

Demographics

Age
Gender
() Male ()Female ()Unspecified or other
What team are you on?
() Valor [Red]
()Mystic [Blue]
() Instinct [Yellow]
() I have not yet selected a team
How long have you been playing Pokémon Go, in months?
What are your primary activities in the game? Select all that apply:
() Catching new Pokémon
() Battling in gyms
() Socializing with other players
() Trying to power up/evolve the strongest Pokémon
() Exploring new places
() Other (please specify)
Do you play with other people?
() Yes, I play with people I knew before I started the game
() Yes, I play with people I did not know before I started the game
() Yes, I play with both people I knew and did not know before I started the game
() No, I play on my own
On average, how long do you spend actively playing Pokémon Go every week?
() Less than 1 hour
() 1-3 hours
() 4-7 hours
() 7-10 hours
() 10 hours+

Attitudes

I am interested in video games outside of Pokémon Go.
() Strongly Agree () Agree () Disagree ()Strongly Disagree
I think I will continue to be interested in the game this time next month.
() Strongly Agree () Agree () Disagree ()Strongly Disagree
I think I will continue to be interested in the game in a year.
() Strongly Agree () Agree () Disagree ()Strongly Disagree
I use various resources online to learn about the game.
() Yes () No
Interacting with other people motivates me to play the game.
() Strongly Agree () Agree () Disagree ()Strongly Disagree
The game has allowed me to meet new people.
() Strongly Agree () Agree () Disagree ()Strongly Disagree
The game has motivated me to “get out of the house” more.
() Strongly Agree () Agree () Disagree ()Strongly Disagree
I have discovered new places while playing the game.

() Strongly Agree () Agree () Disagree ()Strongly Disagree
I have found things that I never noticed before while looking at Pokéstops.
() Strongly Agree () Agree () Disagree ()Strongly Disagree
The game has increased my familiarity with my community or area.
() Strongly Agree () Agree () Disagree ()Strongly Disagree
The game has increased my familiarity with a place I have visited.
() Strongly Agree () Agree () Disagree ()Strongly Disagree
I play this game with at least one family member (parent, sibling, child, etc.)
() Yes
() No
Do you own a Pokémon Go Plus accessory?
() Yes
() No, but I want one
() No, and I don't want one
() No, and I don't know what that is

Information Gathering

Where do you learn information about the game? Select all that apply:
() YouTube Videos
() Online articles and guides
() Other players, face-to-face
() Other players, online
() Other
If you learn about Pokémon online, what sites do you visit? Select all that apply:
() YouTube
() Reddit
() Facebook
() Google Groups
() Pokémon websites (such as Silph Road)
() Gaming news sites, such as Kotaku or Polygon
() General news sites, such as CNN
() Other (please specify)
() I don't learn about the game online
Do you look up information on where to find specific Pokémon or "nests?"
() Yes, often
() Yes, occasionally
() Yes, but seldom
() I am aware that you can do this, but I never have
() No, and I did not know that you could find this information anywhere
If so, where do you go to find information on where to find specific Pokémon?
() Facebook
() Reddit
() Google groups
() Silph Road
() I don't look up where to find specific Pokémon
() Other (please specify)
Do you use a site for locating Pokémon, such as Poke Radar?

() Yes, often
() Yes, occasionally
() Yes, but seldom
() I am aware that you can do this, but I never have
() No, and I do not know about these sites

Do you use sites for finding statistics or calculating IV's (individual values), such as Poke Assistant or Silph Road?
() Yes, often
() Yes, occasionally
() Yes, but seldom
() I used to, but now I use the "appraise" feature in-game
() I am aware that you can do this, but I never have
() No, and I do not know about these sites
Do you use the in-game "appraise" feature on your Pokémon?
() Yes, often
() Yes, occasionally
() Yes, but seldom
() Yes, but I don't feel that I understand this feature
() I am aware that you can do this, but I never have
() No, and I do not know about this feature
Do you use any other sites or resources to look up information regarding Pokémon Go? Please describe.
Is there any other information you'd like to tell me about your experience with Pokémon Go?
Please leave your phone number or e-mail address so I can contact you if you win the gift card, or if I request a follow-up interview (optional):
That's all! Thank you so much for your participation!

APPENDIX B

CATEGORIES AND CODES

Bonding
Players discuss bonding with others while playing.

Family Bonding
A reference to bonding with family members.
"It'd been great bonding time with my teenagers"

Friend Bonding
A reference to bonding with friends.
"It's helped strengthen bonds with existing friends."

Partner Bonding
A reference to bonding with a spouse or partner.
"It has been an amazing bonding experience for my wife and I as we have started together."

Gaming
Players discuss this game and its features, or their relationship to games more generally.

Gamer Identity
Identifying oneself as a gamer or non-gamer. Also referring to the Pokémon Go main series.
"I've been a fan of Pokémon since Red/Blue was released. I have played every Pokémon game since then. I think that is another reason why I play this game as often as I do"

Developer
A reference explicitly to the developer/updates.
"Niantic ruined the game by destroying tracking and shutting down 3rd party trackers (none work that I know of now)."

Features
Discussing features of the game and talking about which ones should be implemented.
"The hope of trading Pokémon and 1v1 battles against other players keeps me leveling."

Boredom
A discussion of how the game gets boring/tedious eventually, sometimes due to a lack of features.
"Fun game, but it gets a little tedious at higher levels."

Fun
Referring to the game as fun, entertaining, or something similar.
"It's a fun game, I enjoy it greatly. But I feel it could be better"

Negative Community
References to negative aspects of the player community.
"I think it's a good way to get people outside, but the competitiveness of some people can ruin it for others"
Positive Community
References to positive aspects of the community.
"The people I have encountered while playing Pokémon go have been very friendly even if they are in another team"

3rd Party
References to using 3rd party software such as trackers.
"I use the PokeGo master android application to calculate IVs"

Motivations
Players refer to motivations for playing the game other than the fun or playing and/or bonding with others.

Exercise
Descriptions of how the game has helped the player exercise more.
"I play as I am walking exercise, I've walked longer and further distances since I started"

Commute
References to playing the game while commuting.
"My roommate and I play and are pretty devoted, but it's bettered my commute by a lot"

Daily Life
Descriptions of how the game integrates with daily life.
"i use it in tandem with my lunch break walks while at work"

Out of the House
References to "getting out of the house" while playing.
"It definitely gets me motivated to get out of the house."

APPENDIX C

PARENT INTERVIEW

Hi, I'd like to ask you a few questions. To get started, I'd like to know some basics.

Background

How many children do you have, and how old are they?

How many of them play the game with you?

What is your occupation?

Are you still playing Pokémon Go?

How long have you been playing Pokémon Go?

What kinds of activities do you like to do in the game? (for example, gym battles, completing Pokedex, etc).?

Who else do you play with in your family? (Spouse, partner, siblings, etc.)

Do you play with anyone else who is not in your family?

Does your child(ren) play with anyone outside the family?

Mediation

How do you play? Does each family member have his or her own phone? Do you pass one phone back and forth between you?

If you and your child(ren) play on the same phone, who primarily has control of it?

If you have multiple children that play, how do you decide who gets to play? Are there disagreements?

Do you think Pokémon Go is different than other games? Are you more or less concerned with your child(ren) playing this game than other games? Why or why not?

Do you consider playing Pokémon Go "screen time" like playing other video games or watching television? Why or why not?

Do you have safety concerns about the game?

Do you let your child(ren) play without your supervision?

Do you let your child(ren) look up information about the game without you?

Do you play without your child(ren)?

Information Gathering

What are your top websites for looking up information related to Pokémon Go, if any? (Facebook, Reddit, Silph Road, etc.)

Do you look up information alone, or does your child look with you?

Do you explain things you've learned to your child(ren)? What are those conversations like?

Do you talk about how to find information about the game with your children?

Does your child(ren) teach you things you didn't know about the game?

If so, where do you think your child(ren) learned this information?

Do you discuss "theories" with your child, for example, how do get the strongest Pokémon, how to take over a gym, etc.?

If you have multiple children that play, do they learn from each other?

Do you share information with (either teach or learn from) other players besides your children, face-to-face? Who?

Do you talk to strangers playing the game while you are playing with your children?

Do you learn from strangers out in the world while playing?

Do you teach strangers out in the world things you've learned?

If you have had any interesting experiences with strangers while playing (positive or negative), please describe.

Conclusion

Do you think there are any benefits to playing the game for your children?

Do you think there are any benefits to looking up information about the game for your children?

Do you think there are any benefits to playing the game to your family as a whole?

Have you ever created a guide for other players, or posted on a website to share information with other players (including posting in a Facebook group)?

If so please describe.

Is there anything else you'd like to me know? Please share any thoughts about your experience around the game, family-related or not.

You're all done! Thank you so much!