EXPLORING THE AFRICAN SONGO GAME AND HOW GAMEPLAY ENHANCES MULTIPLE LITERACIES AMONG ADULT PLAYERS IN CAMEROON AND THE UNITED STATES

A Dissertation in
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by

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ABSTRACT

This microethnographic study cross-culturally explored the literacies that *Songo* board game players in Yaoundé, Cameroon, and New York City engaged in during gameplay. The theoretical framework included situated learning, legitimate peripheral participation, and a multiliteracies view of literacy. A combination of thematic analysis and Erickson’s (2006) approach to interaction analysis served as the analytic and interpretative lens. This study presents the nuances, similarities, and differences in the literacy practices of *Songo* board game players in Yaoundé, Cameroon, and New York City.

The findings indicate that cultural contexts and players’ identity (e.g., cultural identity) shaped the literacy practices in which participants engage. In addition, the literacies players exhibited and developed in the game environment were useful beyond the game environment. Furthermore, cultural contexts informed the structure of both gaming communities, while space/place influenced interactions among participants, game aesthetics, and knowledge about the game.

This research project contributes to the literature on games and literacies, to the field of the learning sciences, and to the burgeoning research on board games and learning. It demonstrates that *Songo* board gameplay facilitates a variety of literacies through the cross-cultural exploration of interactions that take place in the gameplay of an African board game. The study also highlights the intersection of learning, identity, and gameplay, and points to the situatedness of literacies shaped by the cultural contexts. Furthermore, the study presents a nuanced view of the concept of community of practice and demonstrates how space/place, cultural contexts, and identity interact to shape literacies. The findings of this study run counter to perceptions of African games such as *Songo* as being only objects of art useful to preserve
culture. The study shows the significance of these games to research on literacy and learning, and to the design of environments that support learning.
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PREFACE

Figure 1. Songo board game (adapted from RoseraiedesCultures, 2012)

*Songo* is an African board game he learned to play by observing and playing with friends and family. The game is an intergenerational and competitive board game in Cameroon that attracts both younger and older men. Chris’s goal today is to challenge and win against Jean, a faithful and famous *Songo* game player in his neighborhood. Chris and Jean are excellent *Songo* players and friends who seize every opportunity to play. This love for the game and desire for competition is common among *Songo* game players for whom mastery of the game and expertise come through frequent gameplay. Chris sits on one side of the rectangular *Songo* board game, which is comprised of two rows of seven holes each, while Jean sits on the other side of the board game. Before beginning the game, Jean and Chris take a couple of minutes to agree on who will start playing the game. After a short discussion, both players decide to have Chris begin the game.
At the start of every *Songo* game, there are five pebbles of identical colors, usually called seeds, in each hole. It is a game of two players, in which each owns the row of seven holes closest to him. The game starts when one player takes up all the seeds or pebbles of any holes on his side of the board and distributes them or “sows” them, one by one, into the following holes in a clockwise direction. The gameplay progresses by alternating turns between players. A player’s turn is complete when he spreads all the pebbles in his hand. Chris begins the game by taking up all the seeds from one of the holes on his side of the board and spreading all the five seeds in a clockwise direction, one by one, into the consecutive holes. Then Jean follows suit; he picks up all the five seeds in one of his holes and drops each seed into the consecutive holes. In the game of *Songo*, distribution of seeds is not limited to the player’s row; both players distribute seeds in both rows. Knowing that victory is determined by the number of seeds a player holds at the end of the game and that the object of the game is to beat the adversary by capturing the most seeds, Jean and Chris make sure to spread their seeds in an counter-clockwise direction when playing on the opponent’s side.

In the *Songo* game, a player can only capture seeds from holes that belong to his opponent. Each player starts with 35 seeds, but to be declared a winner at the end of the game a player needs to have at least 40 seeds. At every player’s turn, a hole is emptied of its pebbles, and the player drops only one seed in any other holes on the board game including those on the adversary’s side of the board game.

In their respective first turns, neither Chris nor Jean could capture any seeds from each other’s side. A capture on the opponent’s side is possible only when in the process of spreading the seeds, the last seed lands in one of the holes of the opponent, bringing the total of the seeds in that hole to two, three, or four. When this occurs, the player takes all the seeds in that hole, and
can capture all the seeds in preceding the hole of his first capture, if these holes contain two, three, or four seeds. The first moves allowed both players to position themselves in situations that could lead each one to victory. For example, by choosing to first empty the fourth hole on his left, then the fifth hole on his next turn, Chris positions himself for an imminent capture. Jean first plays with the seeds of the fourth hole on his right, then the fifth hole. Chris appears to have an advantage on Jean. By playing the fifth hole on his left, Chris lays out one seed into one of Jean’s empty hole, once he plays for the third time. This move also means that Chris is building at least two holes that will act as shields to protect him from Jean’s attacks. Holes that play the role of shield must contain at least seven seeds, and the seeds can go up to 17 per hole.

However, in the game of Songo, situations can be reversed quickly, and having an upper hand during the game does not always mean victory. Selection of the hole to play with is critical in ensuring victory because during the game. For example, a player is not allowed to spread seeds from his leftmost hole containing only two seeds in the opponent’s territory/row unless the distribution will lead to a gain. Therefore, players have to consider the consequences of the decisions they make when playing.

On his third turn, Chris starts capturing seeds, takes the seeds of the second hole on his left, and gains two seeds as he drops seeds in the consecutive holes. The game of Songo is one where players often also display mastery and superiority through the use of proverbs. It does not come as surprise that with this capture Chris verbally challenges Jean who responds with another proverb to demonstrate his expertise, while gazing at the board, trying to interpret Chris’ recent move and think about his next move. Jean knew that the “holes shield” Chris was creating limited his moves and the possibility of capturing grains. In fact, in the process of gathering the
opponent’s seeds, a player has to stop capturing seeds at any hole with more than four seeds and have his opponent play.

Although victory is based on the number of seeds, a player gathers at the end of the game, it is forbidden to leave your adversary with no seeds when playing *Songo*. Such victory is not allowed, and the player who ignores this rule loses the game. When a player finds himself with no seeds, his opponent often shares his seeds with him in order to give him a chance to continue to play the game. As the game progresses, the audience increases, and after a while it appears that Chris is increasingly unable to come up with a creative strategy to direct the game. Chris’s recent strategies have resulted in gains for Jean. During *Songo* gameplay, it is not unusual to call on the audience for help and to have a swap of players, especially when one of the players looks weak. At this point, Jean calls on the audience to offer some assistance to Chris, and a player in the audience steps forward to replace Chris at the game in an attempt to reverse the situation, and the game continues.
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My Song to You

When I looked up the sky, I saw no light

There you were, shining like a little light

Telling me here is the way

I cannot tell what tomorrow will look like,

Don’t they say tomorrow is pregnant?

I say today is at work

Had I known you will take me this far?

My fears vanish at the thought of You

Should I look up or down? I say looking up, that’s hope

To you who’s always been there, I say thank you

To that gaze, I say thank you

I will lack words, miss a word, but I do know you are thank you

And to you who stood there, far, near, you matter and mean a lot

Thank you All!
CHAPTER ONE

Introduction

This short scenario describes a few instances of *Songo* gameplay and demonstrates that this game facilitates different forms of literacy practices. However, games like *Songo* have mostly been placed in museums, removed from their contexts, and attributed either a fun or ceremonial purpose (de Voogt, 1997; Murray, 1952; Powell-Cotton, 1931; Tessman, 1913). Yet, in view of recent work demonstrating that games are settings for learning and literacy practices (Gee, 2009; Steinkhueler, 2007, 2008), which enhance positive learning experiences (Peppler, Danish, & Phelps, 2013), it becomes relevant to wonder about the skills and literacy practices displayed by *Songo* and/or acquired by players through participation in the game. If games are spaces where players can obtain skills and engage in various meaning making activities (i.e., literacies) that are relevant for this century (Berland & Lee, 2012; Gee, 2003; Steinkuehler, 2007), what skills and/or literacies do *Songo* players learn that are critical for this century? Likewise, if learning is shaped by the context, what skills and literacies do players acquire when playing *Songo* in different cultural settings?

Problem Statement

Gee (2009) contended that through gameplay, players learn true 21st century skills: “embodied empathy for complex systems; ‘grit’ (passion + persistence); playfulness that leads to innovation; design thinking, collaboration in which groups are smarter than the smartest person in the group; and real understanding that leads to problem solving” (p. 4). Game literature reveals that games afford different types of literacies as players engage in social and cultural practices within and around the game (Burwell & Miller, 2016; Steinkuehler, 2007). Yet, research on games as alternate spaces for learning and literacy practices predominantly tends to
focus on virtual games such as role playing games (RPGs), massively multiplayer online role playing games (MMORPGs), and other type of digital games (Shute, Rieber, & Van Eck, 2011). Board games, and particularly African board games, are often overlooked in the game literature discussion on games as spaces for literacy practices and learning.

Regrettably, board games have been understudied, and when studied, they are frequently discussed as essential spaces to either understand video games or gameplay in general (Carter, Gibbs & Harrop, 2014; Woods, 2008; Zagal, 2008). Research thus far does not relate board gameplay to literacies, as has been the case with video game research (Gee, 2009; Steinkuehler, 2007; Steinkuehler & Duncan, 2010). Compared to Western board games, African games are particularly overlooked in game literature. In spite of a long history of gameplay and historical evidence from the fields of anthropology and archaeology proving the popularity of games in Africa and Africans using games as spaces for learning (Mawere, 2012), research on games, literacies, and learning are typically limited to games played and developed in the United States and Europe.

Empirical studies on African board games are scarce. Most research on African games are descriptive (Akama, & Maxon, 2006; Wanderi, 2011) and aim at highlighting the potential of these games for preserving culture and indigenous knowledge and at understanding the scripts and behaviors in respective countries (Burnett & Hollander, 2004; de Voogt, 2015; Mawere, 2012). Moreover, African games are generally seen as art or exotic objects, useful tools for understanding human evolution (Crist, de Voogt, & Dunn-Vaturi, 2016), valuable for assessing technological advancements, migration, and information exchange among individuals in different parts of Africa (de Voogt, Dunn-Vaturi, & Eerkens, 2013). These games are clearly seen as cultural artifacts worth displaying in museum, outdated objects of ancient and archaic
societies (de Voogt, Dunn-Vaturi, & Eerkens, 2013). These considerations tend to relegate African games to the past and make these games irrelevant for exploring games, literacy, and learning. Indeed, information about these games is often written in forms of stories (de Voogt, 2001; Tessman, 1913), making them unattractive for empirical inquiries on learning, for example. Perceptions of Africa in general may explain why African games are usually ignored in the current discourse on games, learning, and literacy. Africa is often perceived as a single country, in need of aid and stricken with wars, disease, poverty, starvation (Asante, 2013; Omobowale, 2015; Thomas, 2016). In addition, this deficit view of Africa has almost confined research on African games to anthropology and archeology (de Voogt, 2001, 2005; Murray, 1952; Tessman, 1913). However, the popularity of some African board games, such as *Songo*, calls the attention of researchers with different research questions and from fields other than anthropology and archeology to explore African board games and their play.

Moreover, researchers have neither studied African games in a cross-cultural setting nor investigated the type of literacy practices these games can afford to players. In other words, research has not yet explored African board gameplay, particularly the *Songo* game, in terms of learning and other forms of literacy practices in cross-cultural environments. In addition, a microethnographic study has not yet been conducted to examine *Songo* gameplay in relation to learning and literacy. Since cultural contexts shape interactions (Rehm, Bee, & André, 2008), learning, and literacy practices (Jewitt, 2008; Street, 1998, 2016), it is important to explore how this African game, *Songo*, may contribute to research on games and add to our understanding of learning and literacies in game environments. It becomes, therefore, relevant to wonder whether players of a game such as *Songo* engage in any literacy practices. Are *Songo* players learning and gaining skills that could be useful beyond the game environment?
Diffusion of *Songo*-like Games

*Songo* (see Figure 2) is an African strategic board game, with geographical distribution now beyond the African continent. The game is played in Africa, Asia, and the Americas, particularly the Caribbean (de Voogt, 1996). *Songo* belongs to the family of board games known in the literature on African games as *Mancala* or “sowing” games (de Voogt, 2005; Mbarga Owona, 2006). *Mancala* refers to board games with rows and holes, played with seeds/stones distributed in a clockwise or counter-clockwise direction (de Voogt, 1996, 2005).

*Figure 2. Songo* game (adapted from Owona, 2004)

The wide diffusion of the game can be seen in Africa where many variations of *Songo*-like games exist in different ethnic groups, countries, or regions on the continent (de Voogt, Linders, & van den Broek, 2010). *Songo* varies with regard to the game name, rules, and physical appearance (de Voogt et al., 2010). For instance, in Gabon, the game is called *Owani* and is played by the Obamba and Batéké ethnic groups (Mve-Ondo, 1990). A similar game, *Awélé* or *Awalé* (see Figure 3), is found among the Akan and Baoulé ethnic group of Ivory Coast (Mve-Ondo, 1990). The game is known as *Songa* among the Fang ethnic group in Gabon and
Equatorial Guinea (Mve-Ondo, 1990). *Ncho, Jodu,* and *Ayo* are the respective game names among the Igbo and Yoruba ethnic groups in Nigeria (Omobola, 2013; Onyefulu 2000).

![Figure 3. Awalé game (adapted from http://www.awale.info/)](image)

*Jungkook* is found in Benin among the Fon ethnic group; *Chunca* among the Bwas group in Burkina Faso; *Bau* in Central Africa among the Swaheli; and *Nsumbi* in Senegal among the Serer ethnic group (Stoffle & Baro, 2016). *Chigogo* is the game version in the coastal region of Kenya (Wanderi, 2011). *Oware* (see Figure 4) is the game version found in Ghana among the Akan ethnic group (Gerdes, 1994, 1996; Henney & Agbinya, 2005; Owusu-Mensah & Quan-affour, 2015).

![Figure 4. Oware game (adapted from http://www.oware.ca/shop.html)](image)
In other parts of the world, Warri/Wari is a reference to the game in the Barbados, Antigua, and in the Caribbean (Chamberlin, 1984). In Asia, the game name is Aligulimane in India (Singh, 2008), Sungka (see Figure 5) in the Philippines (de Voogt, 2010), and the Indonesian version played in the Eastern part of the country is called Motiq ka ia (Barnes, 1975). In Vietnam, the game is known as Ơ ăn quan (P. Trang, personal communication, April 17, 2016). Although researchers do not agree on the reasons explaining the diffusion of this game (de Voogt, 2010), migrations of people from Africa to the rest of the world seems to be most plausible thesis (de Voogt, 2010; de Voogt, Dunn-Vaturi, & Eerkens, 2013).

![Figure 5. Sungka board game (adapted from de Voogt, 2010)](image)

It is worth mentioning that Kalaha (see Figure 6), a commercial game similar to Mancala games, was launched in the United States in the 1950s by Julius William Champion’s company (Irving, Donkers, & Uiterwijk, 2000). In the 1960s, the computerized version of the game was released, and many other versions followed (Irving, Donkers, & Uiterwijk, 2000). The game became very popular in the United States and has been used in artificial intelligence research (Irving, Donkers, & Uiterwijk, 2000). Yet, despite its similarity with the African board games briefly discussed, Champion claimed to be the inventor of the game. Nevertheless, Kalaha game to some extent helped in the spreading of Songo-like games in the United States.
This brief overview of Songo board game expansion shows that the game is played in countries outside the African continent. The wide geographic distribution of Songo-like games has been explained through contact such as trade and migrations. Research demonstrates that prior to the launch of Kalaha game by Champion’s company in the 1950s, the game was played in the 19th century by Syrian immigrants in New York (de Voogt, 1998). The game did not draw a lot of attention in the 19th century, but an interest in the game emerged in the 1990s particularly, not only because of the commercial launch of the game (e.g., Kalaha) in the Western world, but also because of the work of entities such as the British Museum in London and the Oware Society. The Oware Society is a nonprofit organization based in the United Kingdom created with the goal of promoting Songo-like games worldwide through different activities such as tournaments.

According to literature, Syrian immigrants in New York introduced the game in the 19th century (de Voogt, 1998). Interestingly, the 21st century saw an emerging interest in the game, which resulted in the creation of gaming clubs or communities in cities such as New York City. The creation of African board-game clubs and communities can also be explained by the presence of African immigrants in the West, and particularly in the United States (Blanas,
Nichols, Bekele, Lugg, Kerani, & Horowitz, 2012). For example, the International African Arts Festival, a non-profit organization, has a history of organizing African board game (Warri) tournaments over the summer in the city of New York (Oware Society, n.d). Currently, Songo-like games in the United States are mostly known under the generic name of Mancala (de Voogt, 1998).

In Cameroon (see Figure 8), different ethnic groups play the game of Songo. For instance, the game is called Ndjeka by the Bassa ethnic group; Ba by the Bamiléké (see Figure 9), Mbi by the Bamoun, and Ngaka by the Douala (Mizoni, 1971). The game described in this study is played in the central region of Cameroon by the Ewondo and Fang/Beti ethnic groups (Meka Obam, 2008; Mve-Ondo, 1990; Njock, 1985; Tessman, 1913) in Yaoundé (Mbarga Owona, 2004; Meka Obam, 2008; Mve-Ondo, 1990; Ngono, 1983).

Figure 7. World distribution of Songo-like games
Figure 8. Distribution of Songo in Cameroon

*Songo* consists of a wooden board (see Figure 1) with two rows of seven square holes representing two sides or territories and 70 seeds/pebbles (Meka Obam, 2008; Mve-Ondo, 1990; Tessmann, 1913). As it is with most games, *Songo* is often played for fun, relaxation, and prestige (Meka Obam, 2008; Ngono, 1983; Tessmann, 1913). Yet, as Ngono (1983) noted and others before him, this game has educational values (Mizoni, 1971; Njock, 1985) that cannot be limited to counting, arithmetic, or mathematics learning. *Songo* was restricted to men in the past and was preferably played at the end of the day, once chores and activities of the day were assumed completed (Meka Obam, 2008; Tessmann, 1913). However, today in urban areas women are slowly engaging with the game (Meka Obam, 2008), and gameplay occurs at any time of the day between two players often surrounded by an audience (Meka Obam, 2008; Ngono, 1983).
Recognizing that games in Africa were historically spaces for teaching, learning, and communication (de Voogt, 1997, 1998), questions arise regarding the knowledge, practices, and skills Songo game players acquired that are not limited to counting or mathematics. Furthermore, game research shows that games are not just for entertainment, they are spaces for learning and engaging in various forms of literacies that are important for 21st century individuals (Gee, 2013; Hayes & Gee, 2012; Steinkuelher, 2010).

**Purpose Statement**

As previously stated, research on African games has mostly been conducted for documentation purposes, and it has primarily been descriptive (Burnett & Hollander, 2004; Mawere, 2012; Meka Obam, 2008; Mizoni, 1971; Njock, 1985). Furthermore, empirical research on African board games such as *Oware* or *Bao* has predominantly been experimental with the main purpose of understanding the cognitive abilities of players (Gobet, Voogt, & Retschitzki, 2004; Voogt, 1995). Nevertheless, Squire (2002) suggested that the study of games and learning
should start with qualitative study of game players and game-playing groups. Literature on the
game of *Songo* so far mainly discusses its mathematical potential (Mbarga Owona, 2004;
Mizoni, 1971; Mve-Ondo, 1990), its representation of the Ekang/Fang ethnic group society, and
its reflection of the cultural beliefs, values, and philosophies of this ethnic group (Mbarga
Owona, 2004; Meka Obam, 2008; Mve-Ondo, 1990). Research exploring *Songo* gameplay in
relation to skills and other forms of literacy practices players may gain is still limited. Therefore,
the purpose of this cross-cultural study is to examine the playing of *Songo* game and explore the
skills and literacies players display during gameplay.

This study was conducted in two gaming communities in New York City (United States)
and Yaoundé (Cameroon). Interestingly, studies of literacy practices in games rarely focus on
non-Western and non-digital games (Burwell & Miller, 2016; Gee & Hayes, 2012; Steinkuehler,
2007; Zagal, Rick, & Hsi, 2006). Indeed, most research on games as spaces for skills acquisition
and literacy practices is conducted with non-African games. This study explores *Songo* gameplay
to uncover the literacy practices and skills learned that could be relevant for this century.

**Research Questions**

Adopting the educational research stand as Steinkuehler (2007), I am interested in the
“intellectual substance,” that people learn in *Songo* gameplay, the practices they engage in, and
the impact of gameplay on their lives outside of the game environment. Consequently, I
addressed the following main research questions:

- How do players interact with each other and the audience during gameplay in both
cultural settings?
- What practices do players feel they participate in during the gameplay?
• How do these practices and learning in the game pay off in the real world or non-gaming settings?

Moreover, the desire to explore similarities and/or differences in both cultural contexts drives this study. Hence, finding similarities and/or differences is of particular significance in this cross-cultural study

**Rationale for Cross-cultural Research**

The need for comparative studies in the field of education stems from the desire to obtain a better understanding of a phenomenon (Buendía, 2015; Nieben, 1982). This explains the use of comparisons in the study of phenomena in society (Buendía, 2015). Cross-cultural research as an approach to comparisons is instrumental in demonstrating whether a shared phenomenon can be explained by the same factors (Buendía, 2015). Cross-cultural research compares cultures and aims to elucidate the influence of culture on a phenomenon as well as the sources of cultural variations (Ilesanmi, 2009). Hence, a cross-cultural study of board gameplay is important for understanding how the cultural context shapes learning as well as what is learned. Indeed, cultural contexts have often been ignored in board game research, and even with the introduction of Asian and African games, studies have mostly been conducted to ascertain findings of previous research on Chess (de Voogt, 2002). Moreover, the diffusion and resurgence of the Songo board game in the current century across countries and cultures makes a cross-cultural study appropriate. In this regard, this study moves beyond ethnologists whose call for cross-cultural studies of games such as African board games primarily aims at understanding these games’ contribution to culture (de Voogt, 2015).
Research Sites

Conceptually, the cities of New York City in the United States and Yaoundé in Cameroon have differences and similarities. For example, both cities have a great number of migrants, who often migrated into the cities in search of better opportunities (Schonfeld & Sweeney, 2016; Tsafack-Nanfossi & Zamo-Akono, 2009). Both cities are linguistically diverse (Feussi, 2008; Fisher, Durrance, & Hinton, 2004). Below, I briefly discuss the research sites and give further details about the research sites in the third chapter.

The Case of New York City

New York City is one of the most diverse cities in the United States with a population of more than eight million, and a foreign-born population that has doubled in the last 30 years (Schonfeld & Sweeney, 2016; Vertovec, 2009). Migrants are an integral part of this cosmopolitan city on the eastern shore of the United States. Almost every country in the world is represented in New York City (see Figure 8), and this diverse population varies in terms of social practices because many residents remain connected to their countries and/or communities of origin (Ljungkvist, 2015; Vertovec, 2009).

The multi-ethnic nature of New York City links the city to the rest of the world, as almost 40% of the city’s population is foreign-born (Ljungkvist, 2015). The history of mass migration that results in the multi-ethnicity of the environment (see Figure 10) today gives New York City a competitive advantage (Ljungkvist, 2015). On the cultural spectrum, broadly speaking, New York City is an individualistic city (Conroy, 2016). In individualistic cultures, a greater emphasis is placed on individual development and success, as well as on verbal communication; lesser attention is given to values such as sharing or nonverbal communication (Conroy, 2016).
Moreover, New York City is one of the cities in the United States where variants of *Songo* are played and promoted at the Young Men’s Christian Association (YMCA) throughout the year. The African International Arts festival held every summer is another venue that shows the popularity of the game in New York City. Finally, New York City is appropriate for this study because multiple groups of players play the game throughout the city (O. Cullins, personal communication, January 17, 2017). The continuing appeal of *Songo*-like games in this era where digital games compete for players’ consideration and time (Carter, Gibbs, & Harrop, 2014) makes *Songo* worth investigating.

**The Case of Yaoundé, Cameroon**

Cameroon, and particularly Yaoundé, is an interesting context for exploring *Songo* gameplay. Cameroon is an ethnically heterogeneous country, with more than 250 languages and ethnic groups (DeLancey, 1989; Kassea, Sakki, & Pirttilä-Backman, 2009; Mbaku, 2005; Neba, 1987). At the crossroads of the west and central part of Africa, Cameroon—because of its
colonial experience—is a bilingual country with a French- and English-speaking region (see Figure 11). Moreover, the country is ethnically much more diverse than the sub-Saharan region of Africa since almost every ethnic group in Africa is present in the country (Mbenda, Awasthi, Singh, Gouado, & Das, 2014; Nyamnjoh, 1999; Orock, 2014; Yenshu Vubo, 2006). Cameroon is often called “the melting pot of Africa,” or the microcosm of Africa, because, much more than elsewhere in Africa, it contains representatives “from every African people to every form of landscape” (West, 2008, p. 7). The estimated population is more than 20 million, and the country is located in the center of the African continent (Kouega, 2007; Mbenda et al., 2014).

*Figure 11. Cameroon’s English- and French-speaking regions (adapted from Achimbe 2014)*
The diversity of Cameroon extends to Yaoundé, the capital city. Yaoundé is one of the two cosmopolitan cities of Cameroon. With more than three million habitants, of which almost 50% are not natives of the city but rather migrants into the city (Demographia World Urban Areas, 2016); Yaoundé is the second most populated city in Cameroon after Douala (Tsafack-Nanfosso & Zamo-Akono, 2009). Like New York City, Yaoundé is a multi-ethnic city, originally home to the Beti ethnic group, but the ethnic composition of the city has changed over the years (Farenkia, 2013; Onana, 2005; Yenshu-Vubo, 2006). The various waves of migrations the country has experienced throughout the years (Yenshu Vubo, 2006) have reshaped its ethnic map (see Figure 12); this multiethnicity is pivotal to the economic growth of Yaoundé (Onana, 2005; Yenshu Vubo, 2006). With regard to culture, Yaoundé, as well as Cameroon, can be described as collectivistic, where sharing, community life, and respect of the elderly or people in authority is an integral part of life (Pirttilä-Backman, Kassea, & Ikonen, 2004; Schonfeld & Sweeney, 2016).

In spite of Yaoundé’s ethnic diversity, the game of Songo remains one of the most popular games among young adults in Yaoundé (Djimadeu, 2015). The game is played by members of different ethnic groups that make up the city of Yaoundé, even though Songo is known to be the game of the Ewondo ethnic group in Yaoundé (Djimadeu, 2015). Songo is still extremely popular in the city; any study of social activities in Yaoundé is incomplete without alluding to Songo and its players (Djimadeu, 2015).
Figure 12. Ethnic diversity of Yaoundé
(map adapted from http://www.mapsofworld.com/cameroon/cities/yaounde.html)

Based on their diversity and the existence of locations or clubs where players of Songo-like games gather, Yaoundé, Cameroon and New York City, United States are best suited for this cross-cultural study of Songo gameplay.

Significance of the Study

This study contributes to the game literature by exploring a game that has not yet been explored as a space for learning and literacies, that is, meaning making. In this regard, this research will shed light on this game and how it could be used to inform our understanding of literacy and learning in the 21st century. In their conclusion on the importance of mancala games, de Voogt et al. (2010) concluded that these games have much to offer both socially and educationally to the West. The study of Songo will add to the understanding of games, literacy, and learning. Observing the gameplay in an individual and collective cultural context provides
the opportunity to note what practices are transferred across contexts and what skills are culturally sensitive. In fact, the cross-cultural perspective this study brings provides a better understanding of literacy practices, of learning, and of how literacies and other gameplay practices are shaped by and related to the cultural context.

**Theoretical Framework**

This study explored literacy practices and skills learned in *Songo* gameplay in two cultural contexts (New York City and Yaoundé). It adopted sociocultural, situated learning, and legitimate peripheral participation approaches to learning and literacies. I discuss my theoretical framework in the next section.

**Sociocultural Theory**

Sociocultural theory grows out of Vygotsky’s (1978) work. For Vygotsky, intellectual development is driven by social interactions, and human actions do not happen in a vacuum but are shaped by the context and culture in which they occur (Crowley, Pierroux, & Knutson, 2010; Prior, 2006). Vygotsky (1978) contended that “human learning presupposes a specific social nature and a process by which [people] grow into the intellectual life of those around them” (p. 88). Sociocultural theory contends that activities are “situated in concrete interactions that are simultaneously improvised locally and mediated by prefabricated, historically provided tools and practices, which range from machines, made objects, semiotics means … to people themselves” (Prior, 2006, p. 55). The sociocultural approach focuses on conversation and interactions among individuals as a means to understand learning (Crowley et al., 2014).

Learning is a complex phenomenon that occurs in a social environment, and any attempt to understand it as a mental process, taking place in the mind of an isolated learner, is challenging (Crowley et al., 2014). The emphasis on the cultural context in sociocultural theory
draws from Vygotsky’s (1978) theory of learning and development. Vygotsky (1978) argued that learning starts in the social interactions between people and is then internalized by the individual learner. Intellectual development emerges from social interactions as individuals internalize ways of thinking, acting with, and using tools. Knowledge is socially constructed for sociocultural theorists, and participation in meaning making cultural activities involves learning (Crowley et al., 2014; Korhonen, 2010). Learning then means partaking in cultural activities or social practices of meaning making communities by making use of the tools existing in the community (Korhonen, 2010; Wersch, 1995).

The focus on context, culture, and interactions among people in the understanding of learning is similar when defining literacy from a sociocultural view. From a sociocultural perspective, literacy is not about reading and writing, is not related to formal instruction, and is not separated from the context, culture, history, and values (Gee, 2002; Perry, 2012). Literacy includes social practices people engage in; it is about meaning making in real-world contexts (Gee, 2002) and different modes of “visual, gestural spatial, and other forms of representation” (Perry, 2012, p. 58). Consequently, literacies are multiple, and literacy practices are embedded in cultural practices and associated with different domains of life (Gee, 2004; Perry, 2012).

For this reason, sociocultural theory has been used to examine learning and literacy in informal settings, including non-western contexts (Crowley et al., 2014). In summary, learning and literacy—from a sociocultural view—are not developed outside of one’s social and cultural context (Korhonen, 2010; Nathan & Sawyer, 2010). As such social practices, different interactions with tools or other cultural artifacts do reflect ways of learning, thinking, and acting learned through the different social interaction among people in a specific culture (Korhonen, 2010). Therefore, when examining literacy practices in Songo gameplay, the sociocultural lens
helped me focus on the social practices and interactions that occurred among players, between players, and between the players and the audience, taking into account the cultural context where these practices took place to understand the nuances or peculiarities.

**Situated Learning Theory**

Situated learning theory is another perspective adopted in this study. The theory arises from the work of Lave and Wenger (1991) on communities of practice as environments where people cultivate practices (e.g., values, norms, and relationships) and identities appropriate to that community (Handley et al., 2006). Situated learning and sociocultural theory both view learning and literacy as “the acquisition and enactment of new identities, practices, social relationships, and forms of meaning making, tied to particular social and cultural contexts” (Duncan & Hayes, 2010, p. 5). Knowledge is not abstract, but rather socially constructed and situated in a context (Handley, Sturdy, Fincham, & Clark, 2006). Situated learning theory builds on other theories, such as Vygotsky’s (1978) scaffolding concept. Learning is an unplanned activity and is the result of social practices, rooted in activities, context, and culture (Handley et al., 2006; Lave & Wenger, 1991).

Social interactions are essential to situated learning theory since learning cannot be decontextualized from the context or the culture in which they occur (Lave & Wenger, 1991). As in sociocultural theory, learning in situated learning theory is bound to a particular context, and practices individuals engage in are forms of literacies and reflect learning. As Handley et al. (2006) pointed out, situated learning theory understands learning as emergent, “involving opportunities to participate in the practices of the community as well as the development of an identity which provides a sense of belonging and commitment” (p. 642). Moreover, learning involves understanding one’s identity, beliefs, and the way this identity shapes practices and
interactions (Handley et al., 2006). Because the theory stresses variations within different communities of practice, it provides a way of understanding learning that may take place within, beyond, and across communities of practice. For the purpose of this study, situated learning theory is useful to making sense of what players learn in both communities of players (i.e., Elig-Essono, Yaoundé and the Bronx, New York City).

**Legitimate Peripheral Participation**

Legitimate peripheral participation is a theory also developed by Lave and Wenger (1991) that emerges from the authors’ community of practice concept. From a legitimate peripheral participation (LPP) perspective, learning is an “integral and inseparable aspect of social practice” (p. 31). Central to LPP is the notion of participation at varying degrees into sociocultural activities or practices of a community (Lave & Wenger, 1991). Such participation is essential to learning, since “learning is not merely situated in practice—as if it were some independently reifiable process that just happened to be located somewhere; learning is an integral part of generative social practice in the lived-in-world” (Lave & Wenger, 1991, p. 35). Participation is then an expression, a component of learning (Consalvo, Schallert, & Elias, 2015; Engeström, 2007). LPP describes the process through which a “newcomer,” beginner, or novice moves from the periphery of the community of practice to the center of the sociocultural practices by becoming more engaged in the practice (Hay & Barab, 2001; Lave & Wenger, 1991). Accordingly, novices or newcomers to a community participate in activities or practices that are not central and are at the periphery of the community because they lack the community knowledge that would allow for a central participation (Eberle, Stegmann, & Fischer, 2014; Lave & Wenger, 1991). However, as newcomers gained knowledge at the periphery, they participate in more complex activities and practices within the community (Eberle, Stegmann, & Fischer,
2014; Lave & Wenger, 1991). Thus, engaging in passive activities such as observing experienced members’ ways of speaking or acting, understanding new situations, and reacting to these new conditions are different forms of peripheral participation for newcomers (Eberle, Stegmann, & Fischer, 2014; Lave & Wenger, 1991). In the context of this study, LPP is useful to understand the different interactions between players and the audience. Therefore, the theory helped identify the various forms of participation and literacy practices occurring during Songo gameplay as players and the audience interacted.

**Study Limitations**

This study is first limited by a sample that consists of a limited number of participants (further explained in Chapter Three). Although findings from this study provide insights into Songo gameplay and literacy practices, additional research is needed to include the various versions of Songo in different contexts. Secondly, the study was conducted in gaming communities located within cities, excluding participants from rural areas (particularly in Cameroon) where interactions during gameplay may be different. Hence, other studies are needed to research Songo gameplay among diverse communities and ethnic groups.

It is commonly acknowledged that the topic, research questions, and even the theoretical perspectives selected by the researcher often limit any research endeavor. However, these limitations are necessary to make research manageable. Nevertheless, in this research, the context of study and choice of game are certainly other limitations. Though research on African games is limited, the choice of my topic was influenced by my background and desire to contribute to the diversification of studies about games, learning, and literacies. Therefore, my goal was to compare two gaming communities—one in Cameroon and one in the United States—to show similarities and/or differences in literacy practices. In addition, the current study
is driven by the belief that a non-contemporary African board game such as *Songo* can be a space for learning and literacy practices relevant for the 21st century.

**Definition of Key Terms**

**Board Games**

Cognitive psychologists describe board games as games with stable sets of rules that determine the number of pieces on a board, the number of positions for these pieces, and the potential moves players can make (Gobet, de Voogt, & Retschitzki, 2004). These characteristics distinguish board games from card games or lottery games (Gobet et al., 2004). For de Voogt, Dunn-Vaturi, and Eerkens (2013), a board game is defined by its playing materials (the board, pieces, and dice), the rules, and the game context. However, in this study, I build on de Voogt et al.’s (2013) definition and argue that a board game consists of a board, rows, stones or seeds, and a set of rules influenced by culture (e.g., players cultural identity, and country where the game is played).

**Songo**

*Songo* (see Figure 1) is an African strategic board game, played among the Ekang/Fang ethnic group in Cameroon, Gabon, Equatorial Guinea, and the Democratic Republic of Congo (Meka Obam, 2008; Mizoni, 1971; Mve-Ondo, 1990; Njock, 1985).

**Literacy Practices**

A term used to refer to what people actually do during gameplay (Nasir, 2005; Steinkuehler, 2007; Steinkuehler & Duncan, 2008). Literacy is “the ability to both recognize and produce meanings in a given semiotic domain, with particular attention given to sense making in multimodal [...] spaces such as those enabled by [games]” (Steinkuehler, 2007, p. 298).
Therefore, literacy practices include the multiple ways of meaning making employed by participants (Jewitt, 2008; Perry, 2012; Steinkuehler, 2007).

**Mancala**

This is the generic name used for board games played on rows of holes with similar pebbles or seeds (de Voogt, 2005; de Voogt et al., 2010). Mancala games are characterized by the dropping of counters, as opposed to placing pieces in different holes on the board (de Voogt et al., 2010). The rules of the game are boundless, and these games are often divided according to the number of rows on the board: two-row and four-row board games (de Voogt, 2003).

**Summary**

Broadly, this dissertation is concerned with literacy practices and skills players of *Songo*-like games learned during gameplay that are useful in their lives beyond the game environment. The primary aim is to add to the body of knowledge on games, literacy, and learning focusing specifically on the gameplay of an ancient African board game in the United States and Cameroon. Understanding the practices players engage in during gameplay is critical to making sense of the importance of games for learning in the 21st century. The next chapter presents the literature review for this study.
CHAPTER TWO

Literature Review

Gee’s (2009) observation on play and learning informs my review of the literature. He contended that “play and learning are primordial human urges. Unfortunately, we have come to take it for granted that adulthood will kill play and schools will kill learning as a human pleasure. These assumptions are particularly dangerous in the twenty-first century” (p. 4). For this reason, I provide in this chapter a brief historical overview of the concept of games and learning by discussing the influential work of Piaget and Vygotsky. A synthesis of the literature on video games and learning is then provided to justify the need for exploring literacies in games and to expound on literacy and 21st century skills. Literature on board games and learning is also discussed with a focus on western and African board games, with a summary of Songo game rules.

Games and Learning

Addressing learning within game spaces, Gee (2018) stated that “learning [is] not confined to one site or one kind of person; [it is] distributed across many locations, people, and practices” (p. 9). The concept of games and learning is not new. Piaget (1932, 1966) noted an interaction between games and the intellectual development of children (Linaza, 1984). Piaget (1962) viewed games as pleasant activities that enabled children either to be part of their environments or to replicate what struck them. The game was then a space for practice and understanding of the environment (Piaget, 1962). Piaget recognized the value of games in observing growth and development, and his work already revealed that gameplay was not just a ludic activity.
Vygotsky (1966) went a step further to articulate that games were spaces where children learned new things. Gameplay affords children the opportunity to engage in activities governed by rules that the child has to grasp in order to play (Nicolopoulou, 1993). Engaging in gameplay is therefore engaging in learning (Nicolopoulou, 1993). While Piaget and Vygotsky’s work focused on children, it did set the stage for thinking about gameplay as an activity not limited to fun and pleasure alone.

Since the early work of Piaget and Vygotsky, the concept of games as learning spaces has developed. In recent years, literature on games and learning has expanded, particularly with the seminal book by James Gee (2003), *What Video Games Have to Teach Us about Learning and Literacy*. This work contended that playing video games gives players learning experiences that are relevant and appropriate for the 21st century. Gee (2003) also established the relationship between learning and games by presenting games as tools and spaces for understanding learning and how people learn in the 21st century. Play and learning are not different activities. While playing, individuals engage in literacy practices such as problem solving and strategic thinking—that is, on how to win—which implies identifying the game rules and ways to use them at their own advantage (Gee, 2007; Gee & Hayes, 2012). Learning is then embedded in the gameplay; it is an integral part of the play process, which is linked not only to the complexity of the game (Gee, 2003, 2007), but also to the social practices developed within and around the game (Gee, 2007; Gee & Hayes, 2012; Pelletier, 2009).

The focus on games as learning spaces in recent years has been driven not only by their popularity, but also by their appropriateness for learning in the 21st century. Learners today differ from previous generations in the way they think, act, and learn (Prensky, 2001). According to Prensky (2001), the failure of schools to engage and motivate this generation to learn is partly
due to the use of old strategies, for individuals that view play and learning as one activity and for whom learning means doing. Games, as spaces where many young people spend most of their time and—as Gee (2005) put it—“pay lots of money to engage in an activity that is hard, long, and complex” (p. 33), make them alternative learning spaces to explore learning in the 21st century (Prensky, 2001). Although the growing body of literature on games and learning mostly focuses on video games, this literature is still relevant for the current study because it serves as a framework for exploring literacy and learning in games. Therefore, the following section reviews research on video games and learning to situate the current study within the broad discourse on games, literacies, and learning.

**Video Games and Learning**

Literature discussing video games and learning examines both serious and commercial video games. Commercial video games or commercial off-the-shelf games (COTS) are video games developed for entertainment, while serious games or learning games are designed with a learning purpose/objective (Connolly, Boyle, MacArthur, Hainey, & Boyle, 2012). However, this review centers on COTS because these games align more with the game under study. *Songo* is a board game played for fun and entertainment (Mbarga Owona, 2004; Mve-Ondo, 1990).

**Video Games as Designed Learning Experience**

Squire (2006) argued that advanced features in today’s video games make them captivating and turn them into interesting collections of learning. Video games are spaces where learning can be understood both in players’ social and material interactions with the world as players engage in problem solving and participate in self-organized communities (Squire, 2006). In the immersive world of video games, gameplay is a designed learning experience because interacting with the game also means developing one’s understanding through different actions
In the game environment, this implies understanding the game space and learning how to be in that space (Squire, 2005, 2006). Deep learning occurs when people can take a new identity and learn to think like either a physician or a dentist (Gee, 2005). Video games allow players to take on different identities and, as such, enable deep learning to happen (Gee, 2005; Squire, 2006). Indeed, video games are simulations of the real world and as such share knowledge that is relevant and situated in the game context (Shaffer et al., 2005). Through gameplay, individuals gain skills, literacy practices, and values that allow them to act in this environment (Gee, 2007; Shaffer et al., 2005; Squire, 2006). Players learn by doing (playing) as they interact with the game environment and are then able to construct meanings as they navigate the game context—just like in real life (Shaffer et al., 2005). Thus, video games provide an environment for active and experiential learning and situate learning in a context that makes it meaningful for players (Gee, 2007; Squire, 2006). Researchers agree that learning is at its best when people are actively engaging and when what they learn is contextualized (Gee, 2008b; Shute, Rieber, & Van Eck, 2011). Video games create an environment where a contextualized or situated and active learning happens.

**Video Games as 21st Century Learning Spaces**

Video games have also been related to 21st century learning. For Gee (2009), skills needed in the 21st century can include empathy, passion, persistence, design thinking, creativity, problem solving, and collaboration. Interestingly, through gameplay, people learn to persevere and perpetually learn (Gee & Hayes 2010). For this reason, 21st century skills are also referred to as 21st century learning (Gee & Hayes 2010). Indeed, for researchers, video games spaces are ideal for 21st century learning because as successful learning environments, “they are active, goal oriented, contextualized, adaptive, and feedback oriented” (Hovious, & Richard, 2015,
p. 34). Critical thinking, decision-making, and strategic thinking are other examples of skills gained through gaming that are valuable in the 21st century (Gee, 2005; Hommel, 2010; Prensky, 2006; Squire, DeVane, & Durga, 2008). Simply put, researchers agree that games are alternative spaces for equipping young adults with 21st century skills (Anetta, 2008; Gerber & Scott, 2011; McCreery, Schrader, & Krach, 2011; Shute, & Kim, 2011). As Prensky (2006) explicated, through gameplay, players learn collaboration, risk taking, strategy, morality and ethics, which is a learning opportunity not provided to every student in every school (Rotherham & Willingham, 2009).

Twenty-first century skills have been identified as skills critical for work, learning, and life (Dede, 2010; Garcia, 2014; Gut, 2011; National Education Association, 2014). The list of 21st century skills is not exhaustive, but includes problem solving, critical thinking, communication, collaboration, and social awareness (Partnership for 21st Century Skills, 2009). Assessing and interpreting as well as being able to use information to solve problems and innovate are other competencies needed to function in the complex and challenging world of the 21st century (Gee & Hayes, 2010; Karoly & Panis, 2004; Steinkuehler & Duncan, 2010).

As Gee (2009) pointed out, current schools do not equip students with 21st century skills, neither can they, alone, empower learners with these skills. Though 21st century skills are not new, per se, the rapid changes experienced in our world (e.g., shift in global economies, geopolitical changes, immigration, and integrated global communication) make these skills more imperative (Gee, 2009; Rotherham, & Willingham, 2009; Wright, & Lee, 2014). A growing body of research shows that success in the current world is tied to having 21st century skills (Lindqvist & Vestman, 2011; Rotherham, & Willingham, 2009; Silva, 2009; Wright, & Lee, 2014). Living in this century means adapting to new social and economic environments for
young adults, which requires abilities often different from those necessary in previous
generations (McComas, 2014; Wright & Lee, 2014).

Interestingly, current research on games reports that games, by design, are problem-
solving spaces, and interacting with games engages players in problem solving and situated
activities (Hayes & Gee, 2012; Steinkuehler & Duncan, 2008). Literature also shows that
through games, players develop persistence, perseverance, discipline, and interpersonal skills
that facilitate deeper learning useful in the present interconnected and flat world (Gee, 2009; Gee
& Hayes, 2012; Nasir, 2005). Steinkuehler and Duncan (2008) further explained that games
cultivate scientific reasoning in players that schools failed to impart in students. As such, games
provide a venue for acquiring 21st century skills that young adults do not get in most schools
(Gee, 2009; Hayes & Gee, 2012). In this vein, Gee (2018) wrote “entirely consistent with recent
research in the learning sciences, a good game gives players interesting and challenging
problems to solve, varied opportunities to learn, and instruction and mentoring as needed” (p. 9).

**Video Games and Literacies**

Gameplay also means participating in different communities, sharing, playing, and
talking about game strategies in these spaces (Squire, 2006; Squire & Steinkuehler, 2006). In the
video game literature, literacy refers to practices players engage in within or around the game
environment. Video games generate a collection of literacy practices as players together read and
write multimodal scripts, engage in online discussions, and author threads on fan sites (Black &
Steinkuehler, 2009; Steinkuehler, 2007, 2010). Literacy is then about meaning making or
meaning production within the game space (Gee, 2007; Steinkuehler, 2007, 2010). The
relationship between games and literacy emerges from a contemporary understanding and
definition of literacy drawn from the New Literacy Studies and the New London Group perception of literacy.

According to the New Literacy Studies (NLS), literacy is not limited to reading and writing, but includes social practices, ways of acting, interacting, and knowing in a context (Gee, 2000, 2010). In other words, for NLS, literacy is a historically, socially, and culturally complex practice (Gee, 2004; Jewitt, 2008; Perry, 2012). Indeed, NLS scholars “have argued that ‘literacy’ is not one thing. Rather, there are as many different ‘literacies’ as there are socioculturally distinctive practices into which written language is incorporated” (Gee, 2004, p. 83). Street (2003) further explained that:

What has come to be termed the “New Literacy Studies” (NLS) … represents a new tradition in considering the nature of literacy, focusing not so much on acquisition of skills, as in dominant approaches, but rather on what it means to think of literacy as a social practice …. This entails the recognition of multiple literacies, varying according to time and space, but also contested in relations of power … and asking “whose literacies” are dominant and whose are marginalized or resistant. (p. 77)

Drawing from NLS, literature shows that video games are spaces where players participate in situated literacy practices (Gee, 2012). Literacy is then a social practice (Perry, 2012). Through gameplay, individuals acquire competencies and skills as they read the game meanings and write back into it through play (Black & Steinkuehler, 2009; Gee, 2007). For instance, video gameplay involves the reading of text, which is a critical part of video games (Steinkuehler, 2007). This reading is not different from reading text in schools, and as such, video games enable players to practice literacy (Steinkuehler, 2007; Steinkuehler, Compton-Lilly, & King, 2010). Apperley and Walsh (2012), in their study of literacy in video games, revealed the commonalities between literacy in games and traditional school-based literacy. The authors demonstrate that playing implies understanding (i.e., reading) the contexts and situations where the game is taking place—and acting appropriately—is a literacy practice identical to
traditional literacy practice (Apperley & Walsh, 2012). In fact players access other resources related to the game; participate in the game online fan sites or online affinity spaces; alter the program code of the game to change its interface, operation, or appearance (i.e., modding); or customized the appearance of their avatars (Apperley & Walsh, 2012; Hayes, 2013; Hayes & Gee, 2010; Hayes-Gee & Tran, 2015; Steinkuehler et al., 2010). I should mention here that the authors’ identification of modding and/or players customization of the game avatars as literacy practice builds on the New London Group (NLG) definition of literacy. The NLG places literacy in the context of different changes experienced in the world (e.g., technology innovation) and how these changes influence the way people make sense or produce meaning in the real world (Alvermann, 2008; Perry, 2012). The NLG perspective broadens the understanding of literacy, and calls for the inclusion of literacy practices “that are augmented and modified by other modes in digital formats” (Mills, 2010, p. 250). Hence, conceptions of literacy should not exclude:

the increasing multiplicity and integration of significant modes of meaning-making, where the textual is also related to the visual, the audio, the spatial, the behavioral, and so on ... particularly important in the mass media, multimedia, and in an electronic hypermedia. (New London Group, 1996, p. 64)

Consequently, literacy involves meaning making, decoding and interpreting symbols, gestures, interactions, and other practices within the game context (Gee, 2010; Steinkuehler, 2010; Steinkuehler et al., 2010). Thus, through games, players gain the ability to identify, understand, and produce meaning with diverse communicative modes within a socially situated context (Steinkuehler, 2007, 2010). Thus, interacting with the game or gameplay is a form of literacy (Hayes & Gee, 2010; Steinkuehler, 2010). Gameplay results in multiple literacies such as communication, collaboration, strategy development, ways of interacting, talking, believing, and knowing (Apperley & Beavis, 2013; Steinkuehler, 2007; Steinkuehler & Duncan, 2008).
Exploring learning in video games, Steinkuehler (2007) demonstrated, in her study of massively multiplayer online games (MMOGs), that players engage in what she called multiple literacy practices that align with the national standard developed by the council of English teachers. Video game players demonstrated complex literacy skills that, rather than posing a threat to the traditional understanding of literacy, enabled them to practice and develop literacy skills relevant for the 21st century (Gee, 2018; Gee & Hayes, 2010; Steinkuehler, 2007). Video gameplay also fosters the acquisition of other competencies related to 21st century learning such as critical thinking, creativity, systems thinking, and problem solving (Adachi & Willoughby, 2013; Gee, 2008a; Gee & Hayes, 2010; Squire, 2011). Through gameplay, other literacy practices such as collaboration and communication are enhanced as well (Adachi & Willoughby, 2013; Hayes & King, 2009).

In sum, games require critical literacy practices for gameplay and participation in the gaming community online (Apperley & Beavis, 2013; Gee & Hayes, 2010; Steinkuehler, 2010). Indeed, literacies in games include the ability to analyze, design, and play; literacy is about practices, actions, social relationships, enacted identities, and forms of meaning making linked to specific cultural and social contexts (Curwood, 2013; Duncan & Hayes, 2012; Hayes-Gee & Tran, 2015). This understanding of literacy is critical in this study as it explores literacy practices in *Songo* board game environment. Consequently, I derived my conception of literacy from the multiliteracies framework because literacy involves “multiple modes of visual, gestural, spatial, and other forms of representation” (Perry, 2012, p. 59).

**Board Games and Learning**

Research on board games and learning in game literature is limited (Carter et al, 2014). However, game researchers recognize that board games are appealing spaces for exploring
learning because of the simplicity of these games mechanisms (Horn et al., 2012; Zagal, Rick, & Hsi, 2006). A game mechanism should be understood here as a physical object, rule, or form of interaction that enables or facilitates an action in the game (Zagal et al., 2006). In the following paragraphs, I review literature on board games and learning in various fields.

**Learning in the Chess Board Game**

Interestingly, the relationship between board gameplay and learning has been explored in the past. Traditional board games such as Chess have been used to understand cognition (Horn, Weintrop, Beheshti, & Olson, 2012). In fact, compared to other board games (e.g., Monopoly), literature on Chess is abundant and this is an indication that past research on board games has mainly centered on Chess (Gobet, de Voogt & Retschitzki, 2004). Nevertheless, studies on Chess have been instrumental in deconstructing board gameplay to better understand how individuals learn, become expert players, memorize, strategize, recall, and apply skills acquired in different contexts (Ericsson & Ward, 2007; Gobet & Jackson, 2002; Gobet et al., 2004; Unterrainer, Kaller, Leonhart, & Rahm, 2011; van der Maas & Wagenmakers, 2005). This literature also served as a springboard and framework for analyzing and exploring board games in other contexts (Gobet et al., 2004). Needless to say, theories of learning, such as chunking theory, were born out of Chess research, and it has been used to understand the mechanism of learning in different contexts (Gobet et al., 2001; van Merrienboer, Jeroen Kirschner, & Kester, 2003). For instance, the chunking theory of learning attempts to explain how individuals acquire knowledge and develop expertise in different subject areas like language learning, or reading comprehension (Ross, 2006; Shell et al., 2010).

Research on Chess gives enough evidence indicating that learning takes place in board gameplay (Gobet et al., 2004). This literature shows that playing Chess involves problem-solving
skills as well as complex cognitive activities such as memory, attention, motivation, and decision making (Chassy & Gobet, 2011; Duan et al., 2012; van der Maas & Wagenmakers, 2005). These studies reveal that Chess players’ perceptions, intellectual abilities, problem-solving abilities, and mathematical skills are considerably superior to those of nonplayers (Gobet, 2016; Gobet et al., 2004; Kazemi, Yektayar, & Abad, 2012; Sala & Gobet, 2016; Trinchero & Sala, 2016). In addition, Chess improves players’ life skills, since challenges in this game are similar to real life challenges (Fadul & Canlas, 2009; Moreno, 2007). The Chess board is a mirror of people’s life, the pieces are life situations, and the gameplay is a way of finding alternative solutions to life problems (Moreno, 2007). Consequently, playing Chess enhances social skills such as communication (Ferguson, 2007; Moreno, 2007), problem solving (Aciego, Garcia, & Betancort, 2012; Trinchero, 2013), decision making (Moreno, 2007) critical and strategic thinking (Ayperi, 2016; Sala, Gorini, & Pravettoni, 2015), interpersonal skills (Moreno, 2007), and creativity (Ayperi, 2016; Kazemi, Yektayar, & Abad, 2012). Respect for others, patience, responsibility, commitment, and self-esteem are other benefits of Chess gameplay (Ayperi, 2016; Moreno, 2007). These findings suggest that Chess is a means through which players develop and acquire skills (Sala et al., 2015). Findings on Chess highlight that learning does occur in board gameplay as players acquire different skills while learning the rules of the game.

**Learning in Board Games Other Than Chess**

In recent years, research on board games has expanded to include other board games (Berland & Lee, 2011; Gobet et al., 2004; Peppler, Danish, & Phelps, 2013; Zagal et al., 2006). In their discussion of *The Lord of the Rings* board game, Zagal et al. (2006) observed that board games could be useful for designing digital collaborative games. However, board games are not only spaces for understanding current video games, which are often derived from the traditional
board games, but also environments for acquiring game literacy (Zagal, 2008). Zagal argued that being a game literate means being able to “explain, discuss, describe, frame, situate, interpret, and/or position” (p. 33) games in the cultural context, in relation to other games, the game platform. Zagal (2008) also included the ability to analyze and understand the interaction among the different features of a game and how they influence players’ experience in his definition of game literacy. In other words, board gameplay fosters situated learning, the ability to interpret, analytical and communication skills. These competencies align with what game literature calls “21st century skills and literacy.” Yet, the board game literature does not explicitly mention 21st century learning and literacy practices.

In the board game literature, learning is discussed in terms of skills acquisition, skills transfer to other settings, or learning a specific content knowledge (Peppler et al., 2013). Learning is also analyzed through interactions among participants during gameplay—competition, collaboration, or cooperation (Zagal et al., 2006)—since the different interactions can undermine or enhance learning (Peppler et al., 2013). This understanding of learning in board game research shows the need to investigate learning in board game environments (Horn et al., 2012; Zagal et al., 2006), but also points to the similarities that exist between board games and video games in terms of learning. Indeed, for video game researchers, learning is often seen as situated and experiential, occurring either through participation in the game or in the different interactions around or within the game. For instance, learning takes place during play because, in the game environment, it is biologically motivated and pleasurable (Gee, 2005). Through gameplay, individuals engage in meaningful experiences as they experiment with concrete realities, explore new identities, and create communities with shared values in specific contexts (Gee, 2005; Shaffer, Squire, Halverson & Gee, 2005). Learning is not necessarily in the
outcomes as much as it is part of the process of playing (Gee, 2005; Pelletier, 2009). Learning is seen in the different social spaces, interactions, and practices players participate in (Hayes & Gee, 2012; Squire, 2006; Steinkuehler, 2007; Stevens, Satwicz, & McCarthy, 2008).

Furthermore, the underlying design principles that make up the game turn play into learning because learning involves understanding the system and the interrelatedness of the game rules and principles (Gee, 2003; Squire, 2006). Learning in the gameplay is observed through the different interactions within the game environment and in other social contexts (Hayes & Gee, 2012; Squire, 2006; Stevens et al., 2008). Learning is not then limited to the production of a tangible artifact; it is also about making sense, interpreting, solving, recreating, readapting, and even repurposing a story, a game, a rule, or an idea. Hence, when the video game literature identifies skills like creativity, problem solving, system thinking, collaboration, and communication (i.e., 21st century skills) as enacted and enriched in the game environment (Gee, 2009; Squire, 2006, 2011; Steinkuehler & Duncan, 2010), it also suggests that these skills are learned through gameplay. Therefore, it is not a far-stretched endeavor to examine literacy practices in a board game environment.

**Board Games Designed for Content Learning**

In her study of the board game *Hivemind*, developed to help young children ages six to nine learn about honeybees’ collection of nectar, Peppler et al. (2013) found that when playing in the collaborative mode, participants were more likely to discuss the rules of the game, science content related to the game, and explain game instruction. Participants were also less likely to make negative comments to other players or lose focus during gameplay as players in the competitive mode (Peppler et al., 2013). Students playing collaboratively appeared to pay more attention to bees’ behavior in the nectar collection process than players in a competitive game.
mode. Collaborative gameplay appeared to enhance learning more than competitive gameplay (Peppler et al., 2013). However, limiting learning to the game’s learning goals reflects a narrow conception of gameplay and learning. To play a game, individuals have to learn the rules and, in the process, understand the game system (Gee, 2003; Sanford & Hopper, 2009). Consequently, I argue that all participants learned—even players who engaged in off-topic discussions in non-collaborative game mode in this study.

Board gameplay includes various activities worthy of understanding that go beyond the board and sometimes exceed computer gameplay (Carter et al., 2014). Board gameplay enables communication, negotiation, and deeper understanding among players (Eisenack, 2012). Investigating the learning effects of Keep Cool, a board game designed to stimulate interest in climate change issues, Eisenack (2012) reported participants’ ability to quickly grasp the game rules, to question the game rules, and suggest corrections or modifications of these rules as evidence of learning (Eisenack, 2012). Players gained a holistic view of climate change and adopted a common language that facilitated deeper reflections on climate change even though scientists and students were from different scientific backgrounds (Eisenack, 2012). Playing the game led participants into dialogues and collaborations as they played in groups (Eisenack, 2012). Though the game is a contemporary board game designed with a learning goal, it does show a relationship between board gameplay and learning. Furthermore, negotiation, communication, and deep learning were observed through the gameplay (Eisenack, 2012).

Horn et al. (2012) also took a different look at board gameplay. The authors used board gameplay to help elementary students understand the importance of computers. Building on the premise that learning complex systems and the rules that govern them are particularly challenging for individuals, the authors designed a board game that was similar to computational
games (Horn et al., 2012). The purpose was to use the gameplay to understand complex systems and as an introduction to agent-based modeling, which is a simplified representation of reality built on computer programs (Gilbert, 2007; Horn et al., 2012). Participants were able to adopt the turn-taking protocols they employed during board gameplay to the computational model (Horn et al., 2012). In other words, participants applied a skill learned during board gameplay to the computational environment.

Board Games and Computational Thinking

According to Berland and Lee (2011), board games—and particularly strategic board games—invite even novice players into understanding, debugging, and creating rules to direct their gameplay. In their study of Pandemic, a strategic board game, Berland and Lee (2011) observed that participants not only jointly created rules, they explained the rules to each other and collaborated to construct strategies to solve complex problems. Players engaged in complex literacy practices. According to the authors, board games are actually spaces where computational thinking, regularly linked to video games, takes place in a distributed way (Berland & Lee, 2011). Players learned and internalized the game rules, created new rules, and shared their understanding of the game during the gameplay. The study showed an overlap between computational thinking and gameplay. Interestingly, Berland and Lee (2011) concluded that modern strategic board games could be spaces for designers to cultivate computational thinking. However, such broad argument ignores non-contemporary strategic board games. Nevertheless, board games, as settings where computational thinking can be observed, make them environments that can foster learning and skills often associated with video games (Berland & Lee, 2011). With regard to collaboration, Berland and Lee (2011) added that small groups can
coordinate and develop an understanding of the game rules when playing a collaborative board game.

In spite of these findings establishing a link between board gameplay and computational thinking (Berland & Lee, 2011; Horn et al., 2012), research has not yet related board gameplay with 21st century learning. This is rather interesting, because when defining computational thinking, Wing (2006) stated that it is an essential skill for this century that should be learned by all. Computational thinking involves problem solving, system understanding, interpretation, anticipation, planning, learning, and reasoning (Wing, 2006). In other words, computational thinking is an intellectual activity that comprises problem-solving strategies to address challenges as they emerge in any contexts (Berland & Lee, 2011; Grover & Pea, 2013; Wing, 2006). Additionally, computational thinking is a problem-solving approach that embraces creativity and critical thinking to name a few (Grover & Pea, 2013). With this in mind, I argue that board games, like video games (Gee, 2008c; Gee, 2007; Squire, 2011), could be rich contexts providing skills necessary for learning and success in the 21st century. Since board game environments allow for the understanding of computational thinking and situated learning (Berland & Lee, 2011; Horn et al., 2012), it is interesting to consider computational thinking in a strategic board game like *Songo*.

Unlike Berland and Lee (2011) who explored computational thinking in *Pandemic*, Tsarava, Moeller, and Ninaus (2018) examined computational thinking in three board games that the authors intentionally designed to teach computational thinking concepts to players. The authors found that while playing these board games, participants learned computational thinking basic concepts (Tsarava et al., 2018). Though the games were designed to teach computational
thinking concepts, the study still showed that board gameplay conveys “basic concepts of computational thinking” (Tsarava et al., 2018, p. 41).

**Board Games as Space for Engaging in Social Practices**

Other studies on board gameplay have highlighted their social and interactive nature (Barbara, 2015; Horn et al., 2012). The game rules, the board, and the pieces of the game enhance interaction as players’ co-location requires players to look at both the board and at each other (Barbara, 2015). Board gameplay allows players to practice social skills and build communication skills (Barbara, 2015; Woods, 2012). Board games are unique because they bring people together, and this inherent characteristic explains why they are described as being collective instead of individual (Zagal et al., 2006; Zagal, Nussbaum, & Rosas, 2000). Board games are inherently designed for social interaction (Carter et al., 2016). For example, in a comparative study of user experience in a multiplayer board game and digital game, Barbara (2015) concluded that board games are interesting spaces to explore social interaction. Though 12 individuals participated in his study, Barbara (2015) did not share results on their user experience, but rather discussed the validity and reliability of an instrument the researcher developed for measuring user experience in digital games and board games.

Xu, Barba, Radu, Gandy, and Macintyre (2011) also reported different types of social interactions board games afford. In a study of social interactions of players in five board games, the authors found that gameplay allows players to negotiate the play and pace (Xu et al., 2011). Playing board games implies social interactions as players maneuver a physical object on the board (e.g., dice, token) or enforce the game rules such as turn taking through negotiation (Xu et al., 2011). The authors also mentioned other forms of social interactions: players’ reflection on gameplay, discussion of strategies, reaction to events or subjects around the game, jokes, and
comments on game content (Xu et al., 2011). The physical and tangible objects in board games support social gameplay (Cheung, Lee, Cheng, & Lee, 2013). In a similar vein, Collins and Griess (2011) explained that board games offer multiple opportunities for peer interactions, and as such serve as a vehicle for social and cognitive development. Board gameplay also provides a rich context for gaining the emotional and social skills essential to flourish at work and in life today (Hromek & Roffey, 2009). Investigating what they called “serious board gamers,” that is individuals who see board gameplay as a serious leisure pastime given the time and energy commitments, Rogerson and Gibbs (2018) found that sociality, intellectual challenge, variety, and materiality described players’ commitment to board gameplay. Sociality is the pleasure players take in spending time with other players, and even their families, when playing at home (Rogerson & Gibbs, 2018). The intellectual challenge, which is the act of solving a puzzle in board gameplay; the variety, which is the possibility of changing gameplay locations such as public space and homes; and the game materiality, which refers to seeing, touching, holding, and even hearing a board game all serve to explain players’ commitment to playing board games (Rogerson & Gibbs, 2018; Rogerson, Gibbs, & Smith, 2016).

Discussing the relationship between video games and learning Shaffer et al. (2005) stated that “games bring together ways of knowing, ways of doing, ways of being, and ways of caring; the situated understandings, effective social practices, powerful identities, and shared values that make someone an expert” (p. 7). Even though this understanding of learning is mostly derived from literature on video games, I argue, based on the literature reviewed this far, that this conception of learning is also true in board game settings. In addition, board games are more closely related to digital games than other non-digital games because both games greatly rely on the visual representation of the game environment (Barbara, 2015; Carter et al., 2014).
Board Games as Spaces for Multiple Practices

It is without question that board games are complex systems that require complex
thinking and reasoning from players during gameplay (Gobet et al., 2004; Horn et al., 2008). As Carter et al. (2014) pointed out, board gameplay involves complex thinking and reasoning because they are, in fact, complex systems. More importantly, several board games have inspired the design of modern digital games (Carter et al., 2014). For example, studies investigating board games such as Chess and Dominoes uncover their potential to enhance problem-solving, decision making, collaboration, and computational skills of players (Campitelli & Gobet, 2004; De Voogt, 2005; Nasir, 2005). Engaging in informal activities like playing board games opens doors to rich experiences with numbers that improve players’ numerical understanding (Ramani, Siegler, & Hitti, 2012; Siegler & Ramani, 2009).

In their article, Collins and Griess (2011) indicated that the process of designing and playing a board game called Rainforest afforded students to participate in multiple literacy practices. Indeed, participants in the study used multiple languages such as visual, linguistic, mathematical, and body to communicate and make meaning (Collins & Griess, 2011).

Discussing the diverse activities involved in board gameplay, Carter et al. (2014) revealed that playing Warhammer 40K (W40K) included multiple activities. For instance, drafting an army consists of activities such as modeling and painting characters to create an army that is aesthetically appealing, finding and choosing themes or background stories/narratives that inspire the creation of the army, and working within the constraints of time and cost to create the army. The authors also found that in the process of drafting their army lists, some players shared their army lists with friends to know how their army list could affect the Comp Scores, while others relied on the Comp Scores, that is, the composition rating of the army by other players, to
create their army (Carter et al., 2014). For the authors, *W40K* gameplay is “a collection of interlinked and associated activities that serve to occupy one’s time and thoughts pleasantly” (Carter et al., 2014, p. 122).

Rogerson, Smith, and Gibbs (2017), in their study of board gameplay, identified distinct gaze patterns occurring gameplay. For instance, repeated jumps required focusing on multiple elements of the game space including conversation with other players and short dwell times—rapid eye movement on elements on the playing area (Rogerson et al., 2017). These gaze patterns not only indicate players’ engagement with the game but also reflected activities such as “planning, analyzing and understanding the game state and other players’ motivations” (Rogerson et al., 2017, p. 522). Collaboration through adherence to prescribed and negotiated rules, distributed cognition (i.e., players’ active engagement with each other and different elements of the game to better understand the game state), and cooperation as players work together to establish and maintain the game rules as other practices were found in board gameplay (Rogerson, Gibbs, & Smith, 2018).

Nasir (2005), in her study of Dominoes gameplay among African Americans, explicated that participants used sophisticated language, practiced mathematics skills, and exhibited complex strategies of help-seeking and help-offering that made Dominoes gameplay “a rich learning environment and mirrors the intertwining of the individual and the sociocultural system in the cognitive process” (p. 30). Indeed, expert players assisted and supported novices in ways that ensure the novices the capacity to participate competently in the game (Nasir, 2005; Nasir, & de Royston, 2013). The findings also show that context—the setting where the game is being played—is connected to cognition as players draw from the cultural setting to make sense of
their actions during gameplay (Nasir, 2005). In sum, board games are consequently spaces that can enhance multiple literacy practices.

Nevertheless, these spaces are still not extensively studied for their relevance to literacy practices despite the growing interest in board gameplay among young adults today (Carter et al., 2014; Graham, 2016). The answer may be that these spaces are seen as outdated in a digital world (Carter et al., 2014). As Woods (2008) contended, the main reason for this oversight is “perhaps due to the inaccurate perception of the genre as a niche in decline” (p. 2).

**African Board Games and Learning**

As previously discussed, studies on board games do not include African board games. Games in Africa have been used for different purposes throughout history. Anthropological and archeological research point to the fact that games were—and still are—an integral part of life and living among Africans (Crist, de Voogt, & Dunn-Vaturi, 2016). Literature in the field of anthropology or archeology reveals that games were used in religious ceremonies, for divination, for recreation, and as a means to transfer and learn cultural and social norms in Africa (Crist et al., 2016; de Voogt, Dunn-Vaturi, & Eerkens, 2013; Tatira, 2014; Wanderi, 2011).

Africans also played games to teach and learn respect, maintain social harmony, and build cohesion (Mawere, 2014; Tatira, 2014). For example, Rambane and Mashige (2007) demonstrated the centrality of mathematical and scientific thought in some African societies by exploring selected African board games. The authors explicated that mathematics “has always been part of the human, political, social, educational and economic development of Africans” (p. 197).

I should mention that a variety of board games is found in Africa (Akama & Maxon, 2006; Bayeck, 2017; Wanderi, 2011). Board games refer to games with playing materials (e.g., a
board, pieces, or dice), playing rules, and an environment in which the game takes place (de Voogt, Dunn-Vaturi & Eerkens, 2013). In the 1980s and 1990s, most research on African board games was conducted by cultural anthropologists (Beart, 1995; Townshend, 1986) and more recently by historians, classical archeologists, and philologists (de Voogt, 2015; Finkel, 2007; King, 2011; Schädler, 2007). Though many African board games have disappeared, some are still popular, standing against the pressure of time; many are currently played in the United States and other parts of the world (de Voogt, 2015; De la Cruz, Cage, & Lian, 2000). These games vary in physical appearance and in rules, which are often either unrecorded or partially documented (de Voogt, Dunn-Vaturi, & Eerkens, 2013; de Voogt, 2015). This may explain cultural anthropologists’, historians’, and archeologists’ interest.

African Board Games as Cultural Practices of Mathematics

Rambane and Mashige (2007) discussed Muravharavha, also known as Morabaraba (Bayeck, 2017; Mosimege & Ismael, 2007), a three-row board game from southern Africa, played by two players with tokens called “cows”; the goal is to successfully place three tokens in a row, to demonstrate mathematics involved in the gameplay (Bayeck, 2017; Rambane & Mashige, 2007). The strategies associated with playing the game, which include avoiding to remain with only two tokens and being able to move tokens along a straight line from one corner to another without skipping a vacant corner, evidence mathematical thought (Bayeck, 2017; Rambane & Mashige, 2007).

Researchers also link Omweso, a four-row board game from Uganda to mathematics and science learning (King, 2011; Nkopodi & Mosimege, 2009; Rambane & Mashige, 2007). The game allows both players to capture seeds on the opponent’s side when the last seed of a handful falls in the player’s already occupied hole, with his opponent’s front and back hole on the same
row are not empty (Bayeck, 2017; 2018; Lubega 2014; Rambane & Mashige, 2007). Hence, board games show that scientific thoughts and mathematics are rooted in African societies, refuting the idea that “Africans had no ‘intelligible sense of numeracy’ before contact with the West” (Rambane & Mashige, 2007, p. 183).

Research on African board games often points to the mathematical potential of these games (Abah, 2018; de Voogt, 2005; Mve-Ondo, 1990; Nkopodi & Mosimege, 2009; Owusu-Mensah & Baffour, 2015). In addition to the aesthetic descriptions that studies of African board games offer (Peek & Yankah, 2004), researchers argue that African board games such as *Songo* are spaces for numerical/mathematical learning (Mizoni, 1971; Njock, 1985; Nyoni, 2014; Owusu-Mensah & Baffour, 2015; Tatira, Mutambara, & Chagwiza, 2012). Research also indicates that African board games hone strategic thinking, decision making, and problem-solving skills in players (Gobet, Voogt, & Retschitzki, 2004; Powell & Temple, 2001). So far, these studies have mostly been experimental in nature, with the goal of understanding players’ thinking processes (Gobet et al., 2004), descriptive work of ethnographers (Cole, Gay, Glick, & Sharp, 1971; Gobet et al., 2004), or work by ethnomathematicians to demonstrate that mathematical concepts are not foreign to African culture (Gerdes, 1994; Mosimege & Ismael, 2007). However, these studies do not investigate African board games in relation to literacy practices; they mostly focus on mathematical, problem solving, and strategic thinking skills (King, 2011; Nkopodi & Mosimege, 2009; Rambane & Mashige, 2007).

Similarly, board games known as *Ayo*, *Dara*, and *Awele*, other variants of African board games played by two players on a board with two rows of six holes like *Oware* (Ndukwe, Nwulu, & Damwesh, 2014), have also been reported to be learning spaces. Research shows that these games enhance strategic thinking, mathematical skills, logical skills, as well as abstract and
forward thinking (Ndukwe et al., 2014). For instance, the game Ayo was found to be useful to understand human problem-solving (Agbalajobi, Cooper, & Sonuga, 1975).

**Learning in Oware Game**

*Oware* is one of the most researched African board games. As previously stated (see Chapter One), *Oware* is the name of a two-row board game played in Ghana among the Ashanti ethnic group (Bayeck, 2017; Owusu-Mensah & Quan-Baffour, 2015). Literature shows the mathematical potential of *Oware*, demonstrating that mathematics concepts are embedded in the game (Bayeck, 2017; Owusu-Mensah & Quan-Baffour, 2015; Quaynor, 2007). In their review of *Oware* rules, Owusu-Mensah and Quan-Baffour (2015) explicated that this traditional African strategic game should be integrated in the curriculum to demystify mathematics learning among African students. *Oware* gameplay involves planning and calculations given that both players each have a turn to play.

*Oware* is a two-row board game, with 12 holes and 48 seeds/pebbles divided equally between two players (Bayeck, 2017; de Voogt, 2001; Owusu-Mensah & Quan-Baffour, 2015; Quaynor, 2007). Players move in a counterclockwise direction, consecutively dropping seeds/pebbles one-by-one in holes, with the goal of capturing 25 seeds/marbles to win the game (Bayeck, 2017; Mensah & Quan-Baffour, 2015; Quaynor, 2007). However, captures are made on the opponent’s side of the board when the last seed/pebble falls into a pit with one or two seeds/pebbles, enabling the player to also capture seeds from adjacent holes with two or three seeds/pebbles (Mensah & Quan-Baffour, 2015; Natsoulas, 1995; Quaynor, 2007).

In the process of playing, individuals learn and enhance their counting skills because the game involves mental calculation and require players to subtract, add, multiply, and strategize (Bayeck, 2017; Mensah & Quan-Baffour, 2015). For this reason, Bayeck (2017) stated that
Playing *Oware* also entails anticipating, predicting and identifying moves that can lead to victory as players take turns, and drop seeds from one hole to another. For instance, the mechanics of moving/dropping seeds and taking turns involve dealing with a level of uncertainty because a player can predict, but not with certainty, the next moves of the opponent; complexity since winning is more than just dropping seeds; and it is also about overcoming obstacles that may emerge from players’ actions/moves in the game. [...] *Oware* players engage in a problem-solving process, which denotes an understanding and identification of the challenge/problem they face during the game play. (p. 5)

In the same vein, Ndukwe, Nwulu and Damwesh (2014) argued that games like *Oware* have educational value because they require strategic thinking, they develop mathematical thinking, and they build players’ character. Powell and Temple (2001) added that African cultural values such as “sharing and saving face are manifested [through gameplay]” (p. 373). In fact, the following rules inform the practice of these cultural values: “(1) a player must seed an opposing player when the opponent has no seeds on his or her side of the board and (2) a player may not win by mercilessly capturing the seeds in all six holes at once” (Powell & Temple, 2001, p. 373). *Oware* gameplay turns them into a learning space not limited to mathematical acquisition or practice.

Quaynor (2007) went a step further to demonstrate that *Oware* is a computing instrument that has been used by Africans in their daily lives. The author argued that computing is not a foreign concept to African societies, and Africans have contributed to the development of computing worldwide. Drawing on the game rules, Quaynor (2007) contended that *Oware* is similar to modern computers because it allows just like modern computer systems the computation of “recursive functions” (p. 88), a computer science process to solving a problem dependent on a step-by-step resolution of the same problem (Arnold & Reichelt, 2013; Jantke, Fujima, Arnold & Schulz, 2012). Therefore, it is not surprising that machine-learning techniques have been used to evolve players of *Oware*-like games (Abayomi, Olugbara, & Manosh, 2013).
Interestingly, for Quaynor (2007), *Oware* game can have two or more rows of 12 or more holes, making board games such as *Songo* (two rows with 14 holes) a variant of *Oware*. This perception is not unique to Quaynor (2007); authors such as de Voogt (2012, 2014) or Gobet, de Voogt and Retschitzki (2004) hold a similar position, conceiving African board games with rows and holes as variants of the same game. In this regard, *Songo* is a variant of *Oware*. Yet, just as previously discussed, empirical studies on literacy practices in *Oware* gameplay are scant, which may be due to the fact that:

> Early literary works identified and referred to the OWARE [emphasis in the original] as a game played in the courtyard of the chief’s palace, assuming it was only a leisure-time game. Clearly, the understanding was flawed because it failed to appreciate the ability of the operators to use the board as a computing instrument. It is now known that what appeared an ordinary game was also a way of calculating the relevant economic and social metrics, depending on who was playing and for what purpose. (Quaynor, 2007, p. 1)

Current research in the computer science field explores ways to computerize games such as *Oware*, *Ayo*, and *Songo* to ensure their preservation, and propagation in the digital age (Mbarga Owona, 2004; Ndukwe et al., 2014).

**Learning and the Game of *Songo***

*Songo*, as stated in the introduction, is a game played among *Ekang* ethnic group (to which the *Ewondo* ethnic group belongs) normally played by two (Meka Obam, 2008; Mbarga Owona, 2004). *Songo* is a combination of the verb *e so* and the suffix *ngo* (Meka Obam, 2008). *E so* means either *coming from*, *getting out of*, or *bring*, with the idea of *bringing something* (depending on the intonation); and *Ngo* means *misery* (Meka Obam, 2008). *Songo* then means *escape from misery* (Meka Obam, 2008). Interestingly, the word *Songo* is also an interjection used to say *bravo* or *splendid* (Tsala, as cited in Bilongo, 1985). Men traditionally play the game,
even though currently in urban areas, women are increasingly showing interest in the game (Mbarga Owona, 2004; Meka Obam, 2008).

Empirical research on the *Songo* board game is scarce. Mizony (1971) conducted one of the first studies discussing the game; he described the game and its potential for mathematical learning. He supported this claim with a mathematical interpretation/transcription of the gameplay (Mizony, 1971). He further argued that *Songo* could be useful in the teaching of mathematics in high school and at the university level (Mizony, 1971). The understanding of many mathematical concepts could be enhanced if games such as *Songo* were used to explain them (Mizony, 1971). Even though he shows how *Songo* can potentially contribute to mathematical learning, Mizony (1975) limited the learning potential of the game to only mathematics. Furthermore, no mention was made of the players and the other skills they may acquire through *Songo* gameplay.

Njock (1985) also used *Songo* to make the argument about the mathematical heritage of Africa. Mathematics are part of African culture and should not be seen or taught as foreign (Njock, 1985). Like Mizony (1971), Njock (1987) provided a short description of the gameplay to illustrate the level of computation and complex thinking needed to play the game. Yet, the study is still descriptive, and unlike Mizony, Njock does not discuss the history of the game, nor does he use mathematical language to illustrate the mathematical aspects of *Songo*. The game is a tool he uses to prove and revive creativity and pride among Africans (Njock, 1985). In this regard, the author’s work identifies with research in the field of ethnomathematics, a field of study that looks at mathematical concepts in nonwestern contexts (Gerdes, 2005). Indeed, African board games have been cited in ethnomathematics research to evidence the existence of
mathematical knowledge and skills in Africa prior to slavery and colonization (Gerdes, 2005, 2008).

Mbarga Owona (2004), in his description of the game of Songo, expanded the work of Mizony (1971) by discussing the different rules and principles that guide the gameplay. Through the description of the game rules, Mbarga Owona (2004) presented Songo as a picture of the Ekang ethnic group’s philosophy and approach to life, and as a metaphor of their social life and order (Mbarga Owona, 2004; Meka Obam, 2008). Thus, gameplay is not just about entertainment. Players learn principles that oversee life, relationships in the society, and the importance of time and its impact on gameplay (Mbarga Owona, 2004). As the author put it: “le Songo est l’art de mastiquer le temps”—Songo is the art of chewing time (Mbarga Owona, 2004, p. 75). Meka Obam (2008) also discussed the social aspect of the game. He does show how the rules of the game reflect the society. For example, a player who captures all the seeds of his adversary without giving his opponent seven pieces breaks the principle of solidarity (Meka Obam, 2008). Breaking the principle of solidarity results in the prohibition to play the game for seven days, while the loser also partakes in the exclusion for not being able to defend himself (Meka Obam, 2008). The gameplay is therefore a representation of the real world, and through play, individuals navigate between the game world and the real world (Meka Obam, 2008).

Because of the strategies involved in the gameplay, Songo players must be strategic and use rigor, as every move has consequences (Meka Obam, 2008). Meka Obam (2008) does not contend that players learn strategic thinking or mathematical thinking through Songo gameplay. Yet, he recognized that the game is a learning environment where players escape the misery of the human condition and also learn to control their emotions since verbal and physical violence are not allowed during gameplay (Meka Obam, 2008; Ndjock, 1985). Consequently, during
gameplay, players demonstrate their patience, thinking process, and computational abilities, which are a reflection of their social status in the community (Mbarga Owona, 2004; Meka Obam, 2008). For this reason, Songo is a game historically played only by men, though in urban areas some women are found playing the game (Meka Obam, 2008). Playing Songo means predicting the hidden intentions and moves of one’s adversary in order to avoid his tricks (Meka Obam, 2008; Mve-Ondo, 1990). Interestingly, authors like Mve-Ondo (1990) have compared Songo to Chess arguing that the road to victory is more complex because moves such as Scholar mate (end the game) do not exist in Songo. While these studies provide a good background for understanding the game, they lack empirical data on Songo gameplay and on the practices that may be exhibited during gameplay.

Nevertheless, in my investigation of interactions between players and the audience of Songo, I found that players engaged in collaborative and argumentative scaffolding (Bayeck, 2018). Collaborative scaffolding refers to instances when members of the audience jointly provided help to a disadvantaged player during the gameplay, while argumentative scaffolding captures discussion between players and members of the audience that explains decisions taken (for players) or suggestions made during gameplay (Bayeck, 2018). These literacies practices provide opportunities for participants to learn in Songo gameplay (Bayeck, 2018).

**Overview of Songo Rules**

A game is often defined by its rules. According to Berland and Lee (2011), “games are systems of rules in which players operate on representation” (p. 65). Games are then different from activities such as play because of the rules, the space, and the meaning these rules take within the game space (Zimmerman, 2009). In the game literature, rules are seen as visible aspects of games, the formal aspects of the game, which are clear, precise, and unrelated to real
or social life (Jakobsson, 2007; Salen & Zimmerman, 2003). However, a growing number of studies show a relation between game rules and social life, establishing that rules in games are not always static, but also negotiated and co-constructed by players as they interact with the game in different contexts (Jakobsson, 2007; Taylor, 2011). It is from this perspective that Songo rules are discussed in this section. These rules are not static, but rather dynamic and related to the context in which the game is played. The following rules are therefore a brief overview of the rules in light of what is available in the literature on the Ewondo-Songo game.

As shown in the preface to this dissertation, Songo is made of a board with two territories known as North and South (Mbarga Owona, 2004). The game is geographically diverse, which sometimes results in different sets of rules (Mbarga Owona, 2004; Meka Obam, 2008; Mve-Ondo, 1990). Nevertheless, the rules discussed in this section are those identified in the literature as general, simplified, or beginner’s rules (Mbarga Owona, 2004; Meka Obam, 2008).

- The game is played with 70 playing pieces (i.e., pebbles/seeds/marbles), and each player starts with 35 marbles or seeds distributed in the 14 holes of each player’s territory, five in each hole/cup (Mbarga Owona, 2004; Meka Obam, 2008; Mve-Ondo, 1990).
- Also known as a “sowing and capturing” board game (Mbarga Owona, 2004), playing consists of emptying a hole and sowing/dropping, in a clockwise direction, all the pebbles one after the other in the succeeding holes (Meka Obam, 2008; Mve-Ondo, 1990).
- When a player drops a seed into an opponent’s hole containing one, two, or, three seeds, a capture can be made. In other words, captures are possible only when the total number of seeds in the adversary’s hole is between two and four seeds (Mbarga

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In this case, any preceding hole containing two, three, or four marbles on the opponent’s side is captured as well.

- Captures end when a player encounters a hole, which pebbles are not between two and four, which also means a change in players’ turn taking (Mbarga Owona, 2004).
- The player with more than 35 seeds wins the game. Specifically, victory can occur in the following conditions: when all the holes of the adversary are empty; as soon as a player gains more than 39 marbles; or when there are less than 10 seeds remaining on the board, in which case each player keeps seeds in his territory and the player with more than 35 seeds wins the game (Mbarga Owona, 2004; Mve-Ondo, 1990).

In addition to these basic rules, Songo gameplay includes what some authors call prohibitions (Mbarga Owona, 2004), restrictions (Meka Obam, 2008), or guiding principles (Meka Obam, 2008, Mve-Ondo, 1990), which reflect inherent values, principles, aspirations, and underlying foundations of life in the community (Meka Obam, 2008). The principle of solidarity is one of these rules. According to this rule, a player cannot capture all the seeds in the opponents’ territory even when it is possible (Mbarga Owona, 2004; Mve-Ondo, 1990).

Furthermore, when all the opponent’s holes are empty, the player has the obligation to feed these holes with seven pebbles or less when possible (Mbarga Owona, 2004; Meka Obam, 2008; Mve-Ondo, 1990). If the player cannot do this, the opponent with empty holes abandons the game and the game ends (Mbarga Owona, 2004; Mve-Ondo, 1990).

Besides the rule of solidarity, during gameplay (i.e., sowing), using the hole at the far left of the player’s territory to drop/sow a seed in the opponent’s side is not allowed (Mbarga Owona, 2004). In this case, a player is forced to use the only seed that remains in that hole on the extreme left of his territory, and that pebble is captured by the player (Mbarga Owona, 2004). As
Mbarga Owona (2004) pointed out, the game rules are complex and differ according to the level of expertise of players involved. However, it is worth noting that breaking the rules during gameplay is a sign of disrespect and a disruption of social norms (Meka Obam, 2008). Mve-Ondo (1990) argued that the game of *Songo* represents a complex and strategically structured system with an end goal, which implies respect of the game rules by players. As previously stated, the game is a microcosm of interactions and principles in the society (Meka Obam, 2008).

**Defining Space and Place**

There is considerable controversy about the definitions of space and place and the relationships between them. The terms space and place have different meanings in educational and social science research (Ellis & Goodyear, 2016). Space and place are notions of environments used distinctly in the literature. Space is often defined by physical boundaries such as geographical location, time, activities, or the setting where an activity takes place (Ellis & Goodyear, 2016; Hinton et al., 2014; Van Horne, Murniati, Gaffney, & Jesse, 2012). In contrast, place is seen through the subjective meaning and experience that emerge from sociocultural purposes, interactions, or relationships (Ellis & Goodyear, 2016; O’Donoghue, 2007).

Tuan (1997) was one of the first authors to distinguish between space and place. For Tuan, space is “that which allows movement [and] place is a pause [and] each pause in movement makes it possible for location to transform into place” (p. 6). From this perspective, space is more an abstract environment that becomes place as individuals experience it, live it, and attach meaning to it (Ellis & Goodyear, 2016; Mancini et al., 2009). In this regard, space is an abstract boundless setting, whereas place refers to a physical location, which existence and meaning can be reinterpreted or imagined and is related to the phenomenological experiences of individuals (Ellis & Goodyear, 2016; Sen & Silverman, 2013). In other words, place emerges
from a complex web of material/physical, social, and discourse interaction, and forms of practice that contribute to the creation of experiences, the development of subjectivity, and the construction of meaning in particular spaces (Gagnon, Jacob & McCabe, 2015; McGrath & Reavey, 2013). Place is intimately associated with people’s sense of cultural and individual identity (Lewicka, 2011; Wyse et al., 2012). In a similar vein, Temple (2018) added that reliance on people creating and experiencing a setting is needed to define a place. Place is therefore what people make of a setting, the meaning and feelings they attach to a particular environment (Lewicka, 2011; Wyse et al., 2012). A country, region, and continent at the level of identification can then function as place. In the words of Norgard and Bengtsen (2016), “space is more or less abstract… [while] place, on the other hand, emerges from human experience and connection … imbued with significance, belonging and commitment” (p. 6).

Yet, authors like Ingold (2011) oppose the concept of space and prefer the notion of place, which Ingold (2011) conceived as created, equipped, reinvented, customized, and made significant as individuals carry on with their lives. Through this prism, space is an empty concept that should not be mentioned for place is what is real to people (Ellis & Goodyear, 2016). Despite his rejection of the concept of space, Ingold (2011) viewed place as experienced and, as such, consonant with the beliefs of authors like Tuan (1997) or Norgard and Bengtsen (2016).

Kuntz and Berger (2001) have a different understanding of space: “a set of relations between individuals, groups, and material environment” (p. 245). As individuals interact with others and their physical environment, they create a space. The idea of experience underlines this conception of space. Space is not a static or just a physical environment; space is also about the interactions among the different elements that make up that space—people or material. From this perspective, space is not motionless, but active and geographically boundless (Fenwick,
Edwards, & Sawchuk, 2011; Temple, 2018). This understanding of space justifies the existence of different spaces such as virtual space, game space, and gameplay space as discussed in this study, which refer to the interactions between people and the environments they occupy. This definition aligns with Massey’s (2005) view of space as enriched with meaning, thus also lived, experienced, and real as place. Place and space are consequently not distinct because both can be experienced by people occupying the environment. Dourish (2006) outlined an interesting relationship between space and place. Space for the author is a “natural fact—a collection of properties that define the essential reality of settings of action—and place … a social product, a set of understanding that come about only after spaces have been encountered by individuals and groups” (p. 300). There is a physical aspect to space, and places are the product of individuals’ encounters with space because there is no place without space (Dourish, 2006).

Nevertheless, Robinson (2009) did state that space should not only be seen as a setting where events occur, but also as “a character in itself” that is shaping and is being shaped by other actors (Thompson, Russell, & Simmons, 2014, p. 65). This understanding of space as both a product of material and social relations and essential in influencing these interactions draws from Lefebvre (1991). Lefebvre (1991) distinguished physical space (i.e., marked space), mental space, and social space. The social space has three critical dimensions: spatial practice, which points to what is done or can be done within a physical space, and is observed by the senses (Lefebvre, 1991); the representations of space—spaces designed by policy makers, planners, or architects (Lefebvre, 1991; Thomson, Hall & Jones, 2010); and spaces of representations, which refer to the lived experiences of people, “the world as experienced by human beings through the practice and imagery of their everyday lives” (Thompson et al., 2014, p. 65). From Lefebvre’s (1991) perspective, space is not just a physical environment or a container of everyday
occurrences, but it is also an actor that participates, shapes, and is being shaped by the ongoing activities occurring in the space. Space is presented as having agency, and as Thompson et al. (2014) further expanded on Lefebvre, “space [is] emergent, not … a container or neutral backdrop against which everyday life takes place, but [it is] produced by and productive of lives, relations and actions” (p. 66).

In other words, space [as a character] experiences as much as it is experienced; it is part of the experiences of occupants, and in this regard could be associated with place when it is conceived as being experienced, emerging from complex interactions (McGrath & Reavey, 2013; Temple, 2018). For this reason, in this study, I make no distinction between space and place. I draw on Henri Lefebvre’s (1991) work to conceive space/place as both the product of material (e.g., physical location) and social relations shaped by space/place (Thompson et al., 2014). From Massey’s (2005) perspective, I embrace the idea of space/place being both lived, experienced, and, as such, related to identity because it also gives people’s sense of cultural and individual identity as people give meaning, or attribute feelings to a particular space/place. Consequently, in my study, the notion of space/place also includes a country, a region, or geographical location participants identify with or feel committed to.

**Summary**

This chapter reviewed literature on games and learning in two gaming environments: video games and board games. Moreover, the chapter gave a summary of Songo board game rules. The review of the literature reveals that research on board games and learning is growing as researchers increasingly explore board games other than Chess. The chapter also shows that board games are learning spaces, and board gameplay leads to the learning of competencies valuable for all learners. However, literature on board games does not discuss board gameplay in
relation to 21st century skills and literacies, as is the case with video game studies; nor does research explore the board gameplay of African games like *Songo*. Therefore, more needs to be known about board gameplay in relation to literacies, particularly around *Songo* gameplay. The next chapter details the research approach and data collection strategies used in this study.
CHAPTER THREE

Research Design

This chapter describes the research and analytical approaches I used in understanding and collecting data on *Songo* board gameplay in cross-cultural contexts. In seeking to explore the learning and literacies of players, I investigated *Songo* gameplay in Yaoundé, Cameroon, and New York City. Specifically, I sought to understand how culture and context shape learning and literacy practices using microethnography as an approach with thematic and interactional analysis as my analytical and interpretative strategies. Microethnography allowed for the examination of interactions in particular settings (Giddings, 2009; Streeck, 1983) while affording opportunities for analyzing moments of gameplay. Moreover, microethnography’s underlying assumption is that “cultural ethos and beliefs are reflected in selected aspects of human interaction” (Kim, 2006, p. 39). Furthermore, the combination of thematic (Braun & Clarke, 2006) and interactional (Erikson, 2006) analysis was appropriate for analyzing learning and literacy practices among players at a collective and individual level.

Combining microethnography with thematic and interactional analysis is a powerful mechanism for capturing patterns of players’ actions and interactions within a cultural context, while also providing additional data that helped build a cross-cultural interpretation and narrative of learning and literacies. Subsequently, I employed this research strategy to address the following questions:

- How do players interact with each other and the audience during the gameplay in both cultural settings?
- What practices do players think they participate in during gameplay?
• How do these practices and learning in the game pay off in the real world or non-gaming settings?

Rationale for Microethnography

Microethnography grows out of ethnography and research methods fostered in the fields of anthropology, psychology, and sociology (Sutterby, 2015). While traditional ethnography requires immersion in the setting for a long period of time (Marshall & Rossman, 2011), some authors argue that microethnography “has a smaller scope [i.e., time on the field] and focus (Kim, 2006, p. 39). Yet, the conception of microethnography as “a small scale study into a single social situation” (Gerrish & Lacey, 2010, p. 172) aligns more with the definition of ethnographic case study. Indeed, ethnographic case studies are widely used in educational research because of their “bounded nature, narrow focus, and workable time and resource demands (Beaudry & Miller, 2016, p. 76). Interestingly, Kim (2006) and Gerrish and Lacey (2010) argued that microethnography requires less time, and as such is a mini-ethnography, thus identical to the literature general understanding of ethnographic case study (Beaudry & Miller, 2016).

Nevertheless, I chose to use the term microethnography instead of ethnographic case study because of my focus on participants’ nonverbal and verbal interactions, thus reliance on videos as my primary data source. Indeed, microethnography involves ethnographic methods such as participant observation, field notes, and formal and informal interviews in the process of data collection, as well as a focus on interactional events in particular cultural settings (Pane & Rocco, 2009; Sutterby, 2015). It is therefore a form of ethnography with a much narrower focus, involving verbal and nonverbal interactions (LeBaron, 2006; Sutterby, 2015). Microethnographic research attends to the multimodal aspects of human interaction, identifying talk as situated within a material setting that comprises people’s embodied orientations and moves (Streeck et
al., 2011). Discourse patterns and interactions analysis is one of the principal uses of microethnography within the ethnographic framework (Popescu, 2010; Sutterby, 2015). Drawing on ethnographic tradition, microethnography endeavors to provide thick and rich description of human interactional activities within a particular environment (LeBaron, 2008; Streeck, Goodwin, & LeBaron, 2011). In this study, interaction refers to participants’ dialogue, body movement or orientation, gesture, and gaze.

Interestingly, microethnography helps examines verbal interactions (e.g., participants’ talk) and nonverbal interactions (e.g., embodied behaviors in relation to orientation or movement), while recognizing the influence of context on interactions (LeBaron, 2008; Sutterby, 2015). This research approach is therefore ideal for this study since it includes a focus on language and communication, and it draws on conversational analysis as a way to look at participants’ sense making in communication interactions (Wetherell, 2006). Microethnography interprets interactions within specific contexts (context analysis), looks at interactions from a cultural perspective (ethnography of communication), and analyzes how people present themselves or perform during everyday conversations (Bloome, Carter, Christian, Otto, & Shuart-Faris, 2005; Sutterby, 2015). As previously stated, microethnography is derived from ethnography, and its methods are drawn from the fields of anthropology, psychology, and sociology (Saracho, 2015). In microethnography, video data is the primary source of data, given that is concerned with the interactions within a particular setting (LeBaron, 2006; Sutterby, 2015). Other sources of data can include observations and interviews, which can provide a macro-micro view of activities and practices within the game environment (LeBaron, 2006). In this study, I combine video data with interviews and observations to address my research questions.
Moreover, the combination of video recordings with other data sources, such as observation and interviews to provide a “variety of macro-and micro-views of practices” (LeBaron, 2008, p. 3120), facilitates the triangulation of data as well as the identification of patterns and themes across different sources of data. In addition, microethnography’s reliance on video recordings affords a microanalysis of interactional events, thus the interpretation of physical actions along with dialogue, the analysis of movements, gestures, and body language within cultural contexts (Baker, Green, & Skukauskaite, 2008). It lends itself to interactional and thematic analysis. With the combination of ethnographic methods such as interviews, field notes, observations, and the microanalysis of video data (Pane & Rocco, 2009), microethnographic research has thematic and interactional analysis embedded within. This approach allows the researcher to focus on not only patterns and themes across data, but also on nuances and/or differences across cultural contexts. In this study, I aimed to discern the literacy practices and learning that occurred in the naturalistic interactions players engaged in during Songo gameplay in particular cultural contexts, and microethnography is appropriate to support the purpose of this study.

**Context of the Study**

The current study was conducted in two gaming communities located in Yaoundé, Cameroon, and New York City, United States. Yaoundé and New York City are two distinct cultural contexts, with Yaoundé being collectivist and New York City individualist (Hofstede, 2001). Rogoff’s (2003) description of cultural community also adds to my understanding of cultural context, which I define as an environment where people have common traditions and/or understandings that transcend ethnic groups, ethnic origin, or nationality. Hence, New York City and Yaoundé are different cultural contexts because of the common understandings and/or
traditions that players from distinct ethnic origins have in both contexts. In other words, players knew the tacit/unwritten rules of both contexts. Consequently, players in New York City were expected to understand and display attitudes or practices that reflect traits of an individualistic culture, while players in Yaoundé were expected to portray traits of a collectivistic culture.

New York City Cultural Context

New York City is a pluralistic society that is multiethnic and multilingual; it is home to approximately 800 languages (Roberts, 2010). English is the primary language of communication, but only 51% of New Yorkers speak English at home, while 49% use other languages from around the world (García, 2010; Venugopal, 2012). This multilingualism is largely due to immigration from parts of the world such as Europe, Caribbean islands, Africa, and Latin America (Block, 2009; The Newest New Yorkers, 2013). The various languages appear to coexist in the city.

The city was purposely selected because it had the largest and most diverse set of Songo-like game players in the United States. For instance, people across New York City get together to play various versions of Songo (O. Cullins, personal communication, March 15, 2017). In addition, given its ethnic diversity, as shown in the first chapter, and the percentage of African immigrants (four percent), which is similar to percentage of African immigrants nationwide (The Newest New Yorkers, 2013), players of Songo were more likely to be found in New York City.

Yaoundé, Cameroon, Cultural Context

Just like New York City, Yaoundé is a multiethnic and multilingual city, located in the French-speaking part of Cameroon. Besides the local languages spoken by different ethnic groups, and the two ex-colonial languages—English and French—French is the language for most communication among people (Atindogbé & Bélinga b’Eno, 2014; Nkwain, 2014). From
the interactions between local and ex-colonial languages emerges various languages such as a pidgin-English peculiar to Cameroon (Nkwain, 2014; Achimbe, 2014). I expand on multilingualism in the next chapter.

In Yaoundé, the game is extremely popular and is part of social life among adults throughout the city (Durang, 2002; Ngono, 1984). In Cameroon, *Songo* is known to be the game of the Beti/Fang ethnic group, among whom the *Ewondos* are the natives of the city of Yaoundé, making it easy to find a community of players. Given their cultural and ethnic backgrounds, New York City and Yaoundé were appropriate contexts for finding players and collecting data on *Songo* gameplay. Yet, for the purpose of this inquiry, I focused on a gaming community in the Bronx, New York City, and a community in Elig-Essono, Yaoundé.

In addition to the cultural context, the space (i.e., physical location) or place (i.e., physical location with different meaning for participants) of the gameplay is also important in highlighting the cross-cultural nature and complex practices taking place in both gaming sites. There are different conceptions of space and place in the literature, but in this study, I draw on Henri Lefebvre’s (1991) work to conceive space and place as both the product of material (e.g., physical location) and social relations also shaped by space and place (Thompson, Russell, & Simmons, 2014). For this reason, at the beginning of my analysis, I focus on the space and place where the gameplay takes place, define both concepts, and give key details that situate and shape space and place meaning within the social relations and practices of players. However, in the following paragraphs I provide a brief description of each research site.

**Research Sites**

**The Bronx, New York City.** The gameplay takes place at the corner of 165th street and Sherman Avenue. The Bronx is one of New York City’s five boroughs, and is, according to the
United States Census Bureau (2016), the only borough dominated by people from Hispanic or Latino origin (56%). Whites and Blacks or African Americans make up the rest of the population (Census Bureau, 2016). In the Bronx, the gameplay takes place at the corner of 165th street and Sherman Avenue, right next to a fast food franchise run by an immigrant from African origin (see Figure 13). Players gathered on weekends to play the game during the summer. There were other places in the city where players gathered, but the Bronx was more accessible to the researcher, and players at this site strongly advised against visiting other communities, which they felt had a lot of drinking going on during gameplay.

\textit{Figure 13. Research site in the Bronx, New York City where players gather}

\textbf{Yaoundé, Elig-Esson.} Located at the center of Yaoundé, Elig-Esson is one of the neighborhoods in the city. Elig-Esson is home to diverse ethnic groups like Béti, Bamiléké, Haoussa, Douala, and Mbamois living in harmony. Historically, the Ewondos made up the majority of the population of Elig-Esson, yet migrations have changed the ethnic profile of Elig-Esson, and the Ewondos today compete with other ethnic groups (Bopda, 2007; Onguéné
Essono, 2016). Elig-Essono is also the center of some cultural attractions in the city such as the Cameroonian Cultural Center, the Centre International d’Artisanat du Cameroun [Cameroon International Center for Craft], and the Musée Ethnographique des Peuples de la Fôret [Ethnographic Museum of the People of the Forest]. Players gather every day of the week, in the afternoons to play the game outside, next to Pharmacie le Mfoundi and the Musée Ethnographique des Peuples de la Fôret (see Figure 14).

![Figure 14. Research site in Elig-Essono, Yaoundé (adapted from Google Maps)](image)

**Gaining Access and Recruitment Process**

Entering a setting to carry out fieldwork is a challenging process in any qualitative research. Hammersley and Atkinson (2007) explained that achieving access depends not only on theoretical understanding, often disguised as ‘native wit’, but also the discovery of obstacles to access, and perhaps of effective means of overcoming them, itself provides insights into the social organization of the setting or the orientations of the people being researched. (p. 41)
The researcher had no prior connection with the gaming communities under study. From an insider/outsider perspective (Merriam et al., 2001), in Yaoundé, Cameroon, I could be considered an “insider” because of my familiarity and understanding of the culture. An insider, in qualitative research, refers to an individual that shares characteristics, roles, experiences, or other commonalities with participants (Dwyer & Buckle, 2009; Wiederhold, 2015). Yet, as a female and student in the United States researching a game played by men, I was, in this game environment, sometimes more of an “outsider” than an “insider.” An outsider is an individual who shares no similar experience or membership to the group (Mannay, 2010; Wiederhold, 2015). *Songo* in Cameroon is played exclusively by men, and participants assumed I did not know much about the game. This assumption was influenced my interactions with participants and collection of data.

In New York City, as an international student and a woman, I was obviously an “outsider,” though studying in the United States granted me the position of “partial insider.” By “partial insider,” I mean players assumed I knew the game and did not need some details given my African origin. This assumed knowledge from the part of participants influenced my interactions with participants. Yet, paradoxically, contrary to my initial assumptions, my “outsider” status was an asset in both gaming contexts because it allowed me to ask for further explanations. These positionalities also informed the strategies I used to gain access to both research sites and participants, two distinct strategies, shaped by the context and culture. I discuss my positionality later in this chapter.

*Elig-Essono, Yaoundé.* In Yaoundé, Cameroon, I got in touch with my informant, whom I referred to as *Mon Père* (i.e., *My father*, as a cultural sign of respect) through a U.S.-based researcher with excellent ties in Cameroon. My informant had great knowledge of *Songo* game,
as a player and also as an organizer of *Songo* tournaments. Upon my arrival in Cameroon, we
met at a restaurant to discuss my research, and he suggested clubs to visit. During this encounter,
he called the leader of the Elig-Essonco club and scheduled a meeting with him the following day.
The following day, *Mon Père* took me to the leader of the club, introduced me to him, and then
explained my research the following way:

```
Bonjour Président, voici l’étudiante donc je te parlais; c’est l’étudiante de Prof aux Etats Unis; elle est intéressée au jeu de *Songo* pour sa recherche de doctorat, et veut savoir comment ça se joue; voilà pourquoi je l’ai amenée”
```

*[Hello President, here is the student I spoke to you about; it’s Prof’s student in the United States; she is interested in *Songo* game for her doctoral research, and wants to know how it is played; that’s why I brought her].*

Traditionally, ethnographic research calls for an informant to gain entrance into a
particular setting of which the researcher may be considered an outsider, such as the *Songo*
gaming community (Hammersley & Atkinson, 2010; O’Reilly, 2005). Given that
microethnography draws on ethnographic methods (Pane & Rocco, 2009; Sutterby, 2015), using
an informant was critical to gaining entry into both gaming communities. Having my informant
introduce me and explain my research was critical and in alignment with cultural protocols. *Mon Père* is known and respected by the leader of this club, who seemed to be his age-mate as well.

Such an introduction, culturally, meant that I had already been vetted by *Mon Père*, and being introduced by him implied being highly recommended. I was presented by an “elder,” that is one known and respected in this community, which automatically gave me access to the community.
The club leader, in response said: “Oh ma fille tu es la bienvenue, sois libre; viens quand tu veux” *[Oh my daughter you are welcome, feel free, come when you want]. The leader then introduced me to other players, and in his own words summarized my research:

```
Vous connaissez notre frère ci; voici une étudiante qu’il nous amène; elle vient des Etats-Unis; elle fait sa recherche sur le *Songo*, et viendra ici filmer comment on joue
```
As can be noted, the club leader repeated the same cultural protocol, and the club leader’s support was sufficient to carry out my study without having to renegotiate access throughout my fieldwork. It became the players’ responsibility to talk about my research to players not present on that day. Indeed, it is a cultural understanding that once an “elder” or a leader has introduced me and given me access to this environment, that participants would convey that access to other participants or members of the community.

**Bronx, New York City.** In New York City, I met with my informant, Mr. O (a pseudonym), a well-known player of various African board games among the African Diaspora in New York City, who also maintains a good network of African board game players in New York City. I got in touch with Mr. O through the Warri club website he manages. Warri is the name used for the Songo version of the game in the Caribbean. After two emails and a series of phone conversations explaining my research to Mr. O, we finally found a convenient time to meet. During our first meeting at a restaurant in New York City, I expounded more on my research, and he decided to use his listserv to recruit players. Mr. O asked me to write an email he later sent out to his network of players. The email read as follows:

Dear Warri Player(s),

My name is Rebecca Bayeck, a student at Penn State University interested in Warri game and its players. I would like to watch you players, learn more about your love for the game, and the strategy you use. I believe there is so much you can share with the rest of the world and different gaming community. Your help with this research will be greatly appreciated and will go a long way to not only help me complete my studies, but also a way for you to share your knowledge. Please feel free to contact me @email, or @Phone number, or Mr. O who is helping me with this research as well.
The first email yielded no response, and 13 weeks later, Mr. O sent another email request to one of the players he knew in the Bronx. After three weeks of silence, he emailed the Bronx location to me and encouraged me to visit the site. On my first visit to the site, I met four players with whom I discussed my study. Given that many players were not around, they invited me the following weekend. I left my contact information with three players and obtained their permission to call them during the week to know when the group was meeting and whether it was appropriate to visit. The second and third visits that followed helped me to know a bit more about the group and to learn that they mostly met on weekends. I was also given the phone contacts of two of the best players, one of which, they told me, was able to give me reliable information on when the players were meeting. After a phone conversation with this reliable source, called Delva in this study, I was invited to visit the site the fourth time to talk more about my study with him. During my fourth visit, I was then allowed to start my data collection. My various introductions to players in New York City was a variation of the following script:

My name is Rebecca Bayeck, I am a student at Penn State University. I am conducting a study on Warri, and I am interested in how it is played, and in what players do during the game. I would like to watch you play, interview you, and also video record your gameplay, will that be ok with you?

Negotiating entry in both research sites was certainly shaped by the cultural contexts. In New York City, my informant from a distance directed me to the site, but I had to renegotiate entry with each player through several introductions to players I met at the different visits or via phone conversation. Here I could not completely depend on players or on my informant to negotiate entry, which contrasts with my experience in Elig-Esson, Yaoundé, reflecting the cultural differences in the two research sites. Negotiating access in New York City reflects, to some extent, the predominant individualism of the American culture. In individualistic cultures such as America (Hofstede, 2005), individuals mostly view themselves as autonomous and not as
“interpersonal beings, intertwined with one another in social webs” as in collectivist cultures (Machery, 2010, p. 70). This perception of self explains why in the Bronx, New York City, I needed to introduce and explain my research to each participant. However, in Yaoundé, my introduction by the key informant was enough to gain access to the research site and participants, and the participants’ responsibility to pass information about my research to others. As Hammersley and Atkinson (2007) rightly pointed out, the process of gaining access provides insights into the “orientations of people being researched” in both settings (p. 41).

**Sampling Strategy**

In this study, I used a combination of convenience and snowball sampling to identify participants for my study (Creswell, 2007; Creswell & Plano Clark, 2011). Hence, I recruited participants based on participants’ knowledge and experience with the game to get “information-rich cases” (Creswell & Plano Clark, 2011) but also based on their accessibility and availability at the time of data collection. Information-rich cases were also players identified by others as good at the game and recommended for interviews. For example, while observing the gameplay, I could overhear them talk about other players as being really good at the game; on some occasions, other players recommended participants.

**Participants in the Study**

Participants in this study were from two gaming communities; all were adult men, between 30 and 55 years of age, with different occupations (see Table 1). The exact age of participants is not given in this study because of the respective cultural contexts in which the study was conducted. In Cameroon for example, it is disrespectful and culturally inappropriate for a younger individual to ask an adult about his or her age. Hence, I did not include questions about age in my conversations with participants in either site for consistency. However, some
participants in New York City spontaneously showed their identification cards and gave me their chronological age.

Throughout my field research, I visited three gaming communities in Yaoundé, Cameroon, interviewing 16 players. My key informant (Mon Père) introduced me to two groups of players in the neighborhoods of Elig-Essonono and Nsam, while a player in Elig-Essonono led me to a community of players in the neighborhood of Nsoa. In New York City, I only visited players in the Bronx, and I was able to interview four players out of the six who constantly played during the weekends. Although the Bronx players knew another gaming community in the city, they all thought it was not safe for a woman to visit this community of players.

I selected the community of Elig-Essonono players based on the common factor of diversity this community shares with players in the Bronx (see Table 1). The group of Elig-Essonono was made of different ethnic groups within Cameroon, and in the Bronx, the group represented different countries of the African diaspora (Antigua and Ghana). I anticipated that ethnic diversity could contribute to the understanding of the practices players engaged in both cultural contexts, both at an individual and at a group level.

Furthermore, I selected participants from both communities based on the richness of the data they provided during the different interviews. Hence, of the five players in the Bronx, three are included in this study; out of eight participants in Elig-Essonono, I focus on four players. I should mention that other players participated in the interview process, but the profiles of these participants, which I refer to as “self-selected or improvised interviewees,” were not included. I discuss this concept further in the section below on interviewing. I used pseudonyms in this study to preserved participants’ identity.
Table 1

Summary of Participants Description

<table>
<thead>
<tr>
<th>Participants</th>
<th>Cultural Ethnic Background</th>
<th>Age Range</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vince</td>
<td>Beti</td>
<td>30-55</td>
<td>Registered Nurse</td>
</tr>
<tr>
<td>Jean</td>
<td>Bamoun</td>
<td>30-55</td>
<td>Bar Director</td>
</tr>
<tr>
<td>Nicolas</td>
<td>Beti</td>
<td>30-55</td>
<td>Priest</td>
</tr>
<tr>
<td>Caulet</td>
<td>Beti</td>
<td>30-55</td>
<td>Carpenter</td>
</tr>
<tr>
<td>Adman</td>
<td>Antigua</td>
<td>30-55</td>
<td>Carpenter</td>
</tr>
<tr>
<td>Delva</td>
<td>Antiguan</td>
<td>30-55</td>
<td>Carpenter</td>
</tr>
<tr>
<td>DePaulo</td>
<td>Ghanaian</td>
<td>30-55</td>
<td>Registered Nurse</td>
</tr>
</tbody>
</table>

**Elig-Esson, Yaoundé, Cameroon**

Vince was a registered nurse and a real estate agent. He was married with children and had been playing *Songo* for more than 20 years. He knew many groups of *Songo* players in the city of Yaoundé, and his competences at the game were established and well known beyond the community of players in Elig-Esson. Unlike other participants, Vince had played with other competitive groups in the city of Yaoundé, and on an irregular basis, he was still frequenting these gaming communities. He was one of the participants who personally knew *Maître* and *El Gaucho*, two of the best *Songo* players in the city. These best players were known by all participants in this study, but by claiming to know them personally, Vince meant he had they phone numbers and could call both to schedule a match between them for me to observe the best players. To evidence his personal connection with these famous players, Vince organized a meeting between *Maître* and *El Gaucho* to allow me observed some of the best players in the city but also in the central region of Africa. Even though *El Gaucho* could not make the meeting on the set date and time because of an emergency, Vince introduced me to *Maître* who played for
few minutes against him. Through Vince, I was also introduced to the gaming community of Nsoa, a neighborhood in the city of Yaoundé.

Among players, Vince was known as Numéro 1, which literally means Number one. This gaming name was given to Vince by players in Fouda, another neighborhood in the city of Yaoundé, because for more than a decade Vince remained the player with the most wins. His game name, although attributed by players in Fouda, was also used by players in Elig-Essono. Vince had a gaming reputation that ranked him among the best players in Elig-Essono and in other gaming communities such as Nsoa. Like other participants in this study, Songo gameplay is part of Vince’s social life, and interestingly he met and made all his friends at the game and organized other life’s activities such as meetings to discuss business deals with clients at the game environment. In describing the importance of Songo gameplay in his life, he stated that:

ma femme elle a déjà tout fait, elle a déjà bavardé, tu passes ton temps à jouer au Songo; je lui dis que non, le Songo c'est là où j'ai eu tous mes amis, j'ai eu tous mes amis au Songo, toutes mes activités tournent autour du Songo

[my wife has done everything, she has already talked, you spend your time playing Songo; I tell her no, Songo is where I made all my friends, I got all friends at Songo, all my activities revolve around.]

Jean

Jean is the director of a Snack, which in Cameroon is the place where people visit to eat, drink and socialize. It is a combination of a bar and restaurant, with the difference that prices in Sancks are often higher than in restaurants or bars. Just like Vince, Jean has been playing Songo for more than 20 years. Jean was named Fédéral by players in Elig-Essono because of his cultural ethnic background. Originally a Bamoun from the city of Foumban, which is known for its museum of traditional arts and culture as well as its soccer team Fédéral, Jean’s game name pointed to his ethnic cultural background and not to his gaming competences. Married and a father, Jean had a brother who was also good at the game, who often came to Elig-Essono to
play. Nevertheless, Jean was the best among players in Elig-Esson because of the number of his wins in the game.

Growing up with Ewondo and Eton in a neighborhood in Yaoundé, Jean understood and could speak Ewondo, which is the language spoken by the Ewondo ethnic group, whose version of the game he played. The status of best player and the recognition by other players made Jean feel very special as he often emphasized the fact that he was the best player even though he was not Ewondo by birth. This factor made Jean connect his game performance to his intellectual abilities during our discussions about the game.

Nicolas

Nicolas was a priest, who has been playing the game for more than a decade. Nicolas also engaged in other income-producing activities he did not want to disclose during the interview, and rather referred to these activities as “affaires” [businesses]. When asked about his occupation, he said: “je ne te donne pas ma profession, je te l’ai dit, mais c’est l’une des choses que je fais, mais je suis Para” [I will not disclose my occupation to you, I told you, but it is one of the things that I do, but I am a Priest]. In the gaming community, he was called Para, which in the Ewondo language means the Priest, a direct reference to his religious occupation. Songo gameplay was also part of Nicolas’s social life, even though he did explain that in his high school years he often played the game to help him solve challenging mathematical problems he confronted in his class assignments.

Nicolas is a native of Elig-Esson, who had great and intimate knowledge of the history of Songo, in terms of its importance in the Ewondo society and the practices that were part of the gameplay in the past. Nicolas’s grandfather was a great and renowned Songo gamer. Opponents came from different towns to challenge him, and during the interview, Nicolas
recalled that playing in the past included bets: “les paris à l’époque c’étaient des gueules, des engueulades … ça n’a pas commencé aujourd’hui maintenant, les engueulades c’était que bon si je te tape je prends ta femme” \([\text{in the past bets were brags, braggings ... it did not start today, now, brags were like if I beat you I take your wife}].\) The cultural understanding of taking an opponent’s wife is taking a player’s glory because the wife is the glory of a man. Through gameplay, Nicolas’s grandfather acquired fame. Nicolas was counted among the top players in Elig-Essono, and his family background, particularly being the grandson of a famous player, made him feel special and gave him insights into the game that other participants did not have.

**Caulet**

Caulet is a carpenter counted among the best players in the Elig-Essono community. He has been playing for more than 15 years and was called *Boil Ibang*, a game name in Ewondo language that literally means *Rotten Seed*. The name *Boil Ibang* was coined by Caulet to describe his gameplay strategy, which he explained consisted in always allowing the opponent to capture seeds that could not lead to a game win, the *Boil Ibang* \([\text{rotten seed}]\). Just like Nicolas and other participants from Elig-Essono, Caulet knew that this game was first played by Ewondo chiefs or kings.

Caulet learned how to play *Songo* with the help of his cousin, at a younger age. He learned alongside his nephew, called *Man* by players, who is also ranked among the best players in the Elig-Essono community. A father and married man, Caulet is one of the participants who openly expressed concerns about the game’s potential disappearance because of the disinterest of a younger generation in a game that did not have any monetary compensation. Caulet was also one of the participants who expressed his excitement about this study, which he felt was a signal that there were still young people who were interested in *Songo*. Like the other study
participants, Caulet knew about *Songo* and its distribution across the central region of Africa, and he was also aware of the different versions of the game present in west and central Africa.

**Adman**

Adman has been playing *Warri* for more than 40 years; he started playing in Antigua before he migrated to the United States more than 20 years ago. Antigua is an island in the Caribbean, which—together with the island of Barbuda—form the nation of Antigua and Barbuda in the Caribbean (Mehring, 2008). He was ranked among the best among players in the Bronx. He was a construction worker and father of a daughter, who bought a *Warri* board game during a trip in Ghana (West Africa). His religious devotion earned him the name of *Reverend* among gameplayers in the Bronx. Adman’s religious convictions were known by all players, and as a Seventh Day Adventist and usher on weekends, he did not play from sundown Fridays to sunset on Saturdays to keep the day of the Sabbath holy.

Adman was also called *Nicky Backa* by players in the community who contended that *Nicky Backa* often spoke of his love for the New York City basketball team the Knicks. Yet, according to Adman, he was called *Nicky Backa* in Antigua because he always put on big pants as a child to play with other children when his parents hid his clothes to prevent him from going out. When he arrived in the United States, people who knew him in Antigua kept calling him *Nicky Backa*, whenever they met with him, which resulted in the adoption of this name by players in the Bronx. Adman was the only participant with two game names used interchangeably, one attributed by the Bronx players and *Nicky Backa* was employed to refer to Adman in the Bronx gaming community. Adman was a father, but he never made mention of a wife. He was considered one of the oldest players and was the only participant who used his trips
to Antigua every year to keep up with the game trends, learn new gameplay strategies, and in a way reinvent himself.

**Delva**

Delva has been playing *Warri* for more than 40 years and started playing in Antigua, his country of origin before migrating to the United States more than a decade ago. A carpenter, compared to other study participants, Delva lived miles away from the Bronx, but he came almost every weekend to play against other *Warri* players. Delva was well respected by players in the Bronx community, and his presence at the gameplay location was often an implicit invitation to other good players to come and play against him, while other individuals just came to watch him play. He was married and reference to his wife was often made by other members of the community. Delva was also in charge of the group board game, which he kept in a nearby store owned by an African immigrant. For this reason, he was the player to call to know when to visit the community for data collection. Just like Adman, he was also able to trace the origin of the game to slaves who according to the story his grandfather told him came mostly from Ghana.

Unlike other participants in this study, Delva did not have a game name, and his real name was the one used by all players in the community. Delva was well informed about *Warri* players in the city of New York, knowledge he used to persuade me not to visit another gaming community that he believed was not safe for a lady, supporting his arguments with detailed facts that other players later confirmed.

**DePaulo**

DePaulo is originally from Kumasi, Ghana in West Africa. DePaulo was a nurse who has lived in the United States for more than a decade; he is married and a father to four children. DePaulo started playing the game in Ghana as he watched his father play against his friend
around the age of 10 years. As the son of a professional player of the game *Oware*, a similar
game in Ghana, DePaulo believed it was as natural for him to play as it was natural for sons of
professional soccer players to play soccer. DePaulo recalled sitting by the side of his father when
he was playing. At the ages of 15 and 16, he played against elders in his community and won
against them. Traditionally, the games are separated by age in Ghana. When he was questioned
because he was playing against adults and winning, the fact that he was the son of a famous
player settled it. DePaulo said about the other players: “they started mentioning my dad’s name,
don’t you know Akosagie, son; so, when they mentioned my father’s name, when my father’s
name is mentioned, they know that oh, it’s okay.”

Unlike other participants, DePaulo had good knowledge of the historical background of
the game. He could, for example, identify the gameplay style used in the Bronx, as *Abapa*, a
style used by adults in Ghana. DePaulo could also, from the name *Warri*, make the connection
with *Oware*, the game named after a great king in Kumasi known as *Opuku Oware*. DePaulo
believed *Warri*, which is used by players in the Bronx to designate the game, derived from
*Oware*. His belief was also supported by players in the community who told him that slaves from
Ghana brought the game to Antigua. In addition, DePaulo was also the only participant to
explain that historically, *Oware* was the game of kings and queens in Ghana.

DePaulo joined this gaming community two years ago when, because of the proximity of
his apartment, on regular basis, he observed these Caribbean individuals play a game he knew in
Ghana, and surprisingly realized that their gameplay was not different from the gameplay in
Ghana. DePaulo had not found a group to play with since his arrival in the United States, until he
discovered and joined this community in the Bronx. As the only African in the community,
DePaulo was sometimes referred to as *The African* by other players or called *Number One*
because of the number of his victories in the game. Interestingly, he knew that a game similar to *Warri* was also played in Cameroon. Besides being considered one of the best players, DePaulo understood the English spoken by the Antiguan players during the game.

**Data Collection**

The data were collected over a period of four months (May to September 2017). Players in the Bronx played only at this location: They played outside in the summer and mostly on weekends, in the early afternoons, when they were for the most part off work, or working fewer hours. This meant that I visited the group on weekends only. Interestingly, when I started my data collection in the Bronx, many players had travelled back “home” to Antigua for the carnival. I learned from players that the 2017 carnival was much anticipated, and many had travelled to celebrate with family and friends. In other words, some members of the gaming community were still in Antigua when I started visiting the research site. This delayed my data collection and inadvertently reduced the number of players who participated in this study. For instance, Delva, one of the best players in charge of the board game had also travelled; however, upon his return into the country, I was able to start and complete my data collection with the players I had available.

Contrary to the Bronx, players in Elig-Essono met throughout the year, every weekday after work (around 4:00 p.m.), and early in the afternoon on weekends. Though there were days when few players gathered, gameplay took place every single day during my field research. This gave me the opportunity to meet more participants in Elig-Essono than in the Bronx. It should be noted that some players did not want to participate in the study for personal reasons, and as such their gameplay was not video recorded.
This study combined semi-structured interviews with observations and video recordings of gameplay. In addition to providing a way to triangulate my data, these collection techniques lend themselves well to microethnographic research. Hence, video recordings were useful in capturing body language in interactional events, while my field notes helped complement the details of various interactions I observed (Sutterby, 2015). Interviews uncovered practices players think they participated in and the meaning or significance they were giving to their participation and practice during gameplay.

I used GoPro cameras to video record the gameplay since I had to collect data outside, in naturalistic settings. GoPro cameras are lightweight, which made it convenient for me to hold the camera in my hands for several hours or use a wooden stick as tripod. I had to change my positions either to adjust to the shifting spatial arrangement caused by the audience and players’ interactions or to capture data that would help address my research questions. My research interest, as well as the changing dynamics on the research sites (e.g., players or audience body positioning/orientation), influenced what I recorded in videos. Discussing video data collection, Goldman (2007) rightly said that it is a personal experience, since the camera lens and what it records are affected by the views of the researcher, that is, what the researcher sees or captures. This was certainly true in my fieldwork, in addition to the impact of external factors such as participants’ movements on the research sites. Nevertheless, GoPro cameras allowed me easily move around or reposition myself to get a better angle when needed.

Field notes from my observations record my involvement as participant-observer in these settings and details about the physical environment. I also included in my field notes any information I thought was influential during my data collection like who was standing by, discussing, or left during the gameplay. Moreover, field notes were written to serve as an archive
of my impressions, feelings, thoughts, and reactions to what I observed during my fieldwork. As such, my field notes were a form of reflective research journal founded on my observations, which were useful in the data analysis phase. I consistently took notes during and after observations, and these notes were used with other data sources to generate findings and to write narrative descriptions of events (O’Reilly, 2005; Pane & Rocco, 2009). For instance, prior to video recording gameplay on both sites, I visited the research sites and started taking notes of the different events and interactions I observed among players or between players and the researcher. When I started video recording the gameplay, field notes were written after the observations.

Finally, I used semi-structured interviews as an additional source of data to help explain some interactive events, identify practices, and customs that were part of the local culture, in order to shed light on interaction patterns (Erickson, 1992; Sutterby, 2015). The interview questions were open-ended to allow participants to talk about gameplay in terms of its meaning in their lives, its value, and the features that made the gameplay unique for each of them. For example, I asked varied questions to capture participants’ gameplay experience (e.g., for how long have you been playing, or how did you learn to play?) and to get them to talk about the process of becoming a good player, which was helpful in discerning the learning process. The interviews were conversational and occurred in the research settings during gameplay. Onsite interviews added a different dynamic to the interview process because the gameplay fueled and nourished the interviews. For instance, on multiple occasions, participants used a specific interactive event of the ongoing gameplay to fuel their narratives, explain a point their trying to make, draw my attention to interactions they felt I needed to understand better because of their uniqueness, or demonstrate game practices. Onsite interviews were therefore beneficial because they provided me with the opportunity to ask for clarification on practices or actions that had
local meaning, while enriching my understanding of the gameplay and meaning making in both local contexts. Yet, this also meant that the interviews were sometimes interrupted by the actions in the gameplay.

**The Interviewing**

As previously stated, my interviews took place onsite, where participants gathered to play in both contexts. At the time of the interviews, participants had either already played the game or were waiting for their turn to play. Hence, these semi-structured interviews were not formal, “planned events that take place away from the research scene for the explicit purpose of gathering information from an informant” (Hatch, 2002, p. 94). Interviewing participants on the research scene was more convenient for me because of participants’ availability: Some lived a distance away yet spent long hours playing or watching others play at the research sites. Thus, I conducted ethnographic interviews. Ethnographic interviews can take “the shape of opportunistic chats, questions that arise on the spur of the moment, and all sorts of ways of asking questions and learning about people (O’Reilly, 2005, p. 5). Furthermore, the cultural contexts in which this research took place also helped shape the interviews process.

In Elig-Essono, the interview of each participant mentioned in this study turned into a group conversation, that is, an interview that two or three other individuals joined and participated in by adding useful information to the questions I asked to the selected participants. This participation in the interviews was improvised and not requested by the researcher as other players watching or playing the game freely jumped into the conversation to clarify a statement or add more information. Therefore, I included the information these “self-selected or improvised interviewees,” as I called them here, provided to the responses of the “selected interviewee.” This type of interaction during communication is specific to Cameroon, where it is
common to have people participate in conversations they are not specifically invited to join. This cultural way of communicating explains the presence of self-selected participants who richly contributed to my interviews with the selected participants in each interview in Elig-Esson. These interactions were not expected, but when they occurred during the interviews, I integrated the other participants in the conversation by asking questions sometimes directed to what they said earlier. However, it should be noted that interviews in Elig-Esson were not focus group interviews, where a researcher plans to interview groups of participants instead of one participant (Hatch & Coleman-King, 2015); in this context, it was rather a cultural way of interacting.

In the Bronx, the interviewing process followed a different dynamic. A similar interaction during the interview occurred once. For instance, of the three one-on-one interviews analyzed in this study, only one player joined the selected interviewee and added rich data to the conversation as well. Interestingly, during the conversation he was expressly asked by the selected participant to shut up, which never happened during my interviews with players in Elig-Esson. This is a cultural difference, indicative of western culture where it is considered impolite to jump into another person’s conversation or intervene. Similar to photobombing, which according to the Collins English Dictionary means intruding into “the background of a photograph without the subject’s knowledge” in today’s digital culture and society, “conversation bombing” was not tolerated in the Bronx. Given the rich information the “self-selected or improvised interviewees” provided, and considering my interest in the interactions and practices players participate in during gameplay, I included this information in the analysis of the interview data.
Data Analysis

In microethnography, as in other qualitative research approaches, data analysis is an iterative process that starts during fieldwork (Creswell, 2009; Marshall & Rossman, 2011; Sutterby, 2015). My data analysis began during my fieldwork as I reflected upon my observations and interviews, making connections to theories, raising questions, and identifying emerging themes. Upon completion of my fieldwork, I used different strategies to analyze my data. In the following paragraphs, I discuss with more details how I analyzed the different types of data I collected. However, before addressing the data analysis process, I describe below the process I followed to prepare my data for analysis.

Data Preparation

The data were collected in two sites, which involved language differences. Hence, all the interviews and video recordings of the gameplay from Yaoundé, Elig-Essono were first transcribed in French, then translated from French to English by the researcher prior to data analysis. The translated data were then reviewed by another French-speaking scholar (a process I discuss in the section on triangulation of data). With the data collected in the Bronx, only the recordings of the gameplay were translated because participants used a language known as Antiguan Creole or Pidgin English (which I discuss further in the following chapter) for their verbal interactions during gameplay. I organized viewing sessions with participants who were part of the study, and a participant who was not part of the study translated selected videos gameplay from Antiguan Creole or Pidgin English. I discuss the viewing process of videos with participants from both research sites in my section on interactional analysis.

Monad (2006) argued that transcription is a selective process influenced by the researcher’s analytical interests, as the transcriber finds ways to capture and represent the
multiple interactions recorded. Nevertheless, in this study, I adopted conventional approaches to transcription. For the transcriptions of the verbal interactions, I drew on Jefferson’s (2004) transcription conventions that focus on the sequential characteristics of talk and on Ma’s (2017) approach to transcribing non-verbal interactions. Both conventions were modified to fit the purposes of this particular study. Hence, turns at talk were demonstrated by using participants’ names, while nonverbal elements like body movement, gaze, or gesture were italicized and put in parenthesis. When a moment in the transcript corresponded to a video frame, it was indicated by <Figure #>. Nonverbal actions occurring concurrently were italicized and put in parenthesis next to participants involved. Overlapping talk was indicated by equal signs (=) next to pseudonyms of the participants, whereas the overlapping of nonverbal and verbal actions was signal with (⇔). I indicated laughter with (haha), and I put brackets around the name of an individual (e.g., [to Jean]) when a statement during the interaction is directed to a specific individual(s). Finally, situated and context-based translations from one language to another were italicized and put in brackets.

Analysis Process of Field Notes and Interview Data

The video-recorded interviews were first transcribed with Otranscribe, a web-based transcription tool before the analysis in V-Note. In the process of transcribing the interviews, I was also taking notes and connecting my notes to the corpus of my data. These notes became extremely useful when I started the analysis of gameplay on both settings and considered similarities and differences. The transcribed interviews and field notes were analyzed inductively to identify key themes in each data set using thematic analysis (Braun & Clarke, 2006). Field notes were a great source of data that helped write “thick description” (Geertz, 1973) and uncover patterns in the ways of interacting during the gameplay.
Thematic analysis (TA) is a flexible approach to data analysis that is free from theory and epistemology (Braun & Clarke, 2006). In this regard, TA works with any research approach and purposes to identify, analyze, and report patterns within data (Braun & Clarke, 2006). As previously mentioned, I used TA to identify patterns in the interview data and the collection of field notes. The following shows how I used TA to make sense of the data.

**Familiarization with the data.** The process of transcription continued my familiarization with data, which I read and re-read to further immerse myself in the data. During the transcription, guided by my theoretical framework and my research questions, I started taking notes of words or events that addressed my research questions; this continued with much intensity later after the transcriptions were completed. An example is a word like “songologue,” a combination of *Songo* and logos, used to mean expert in the game of *Songo*. In other words, I actively engaged with the data instead of reading data passively, asking the meaning of words in the data (Braun & Clarke, 2013). This time, I started taking notes of things within the data that were relevant to my research question (Braun & Clarke, 2013). Hence, I took notes of words and phrases related to players’ interactions with each other and with the audience; I also noted practices players described they engage in during gameplay and on how these practices help them in other settings. I had to go beyond the surface meaning and critically read words (Braun & Clarke, 2013).

**Generating initial codes.** Building on the notes I took, I started pinpointing data related to my research questions (Braun & Clarke, 2006, 2013). I employed open coding, and this process was primarily driven by the data (Braun & Clarke, 2013). However, as Braun and Clarke (2006) stated: “data are not coded in an epistemological [and theoretical] vacuum” (p. 12).
Consequently, my coding of the data was also informed by sociocultural perspectives on learning and literacy.

**Searching for themes.** In this phase, I clustered the identified codes into candidate themes (Braun & Clarke, 2006). I engaged in a simultaneous comparison of codes in order to group them into themes that give a full description of the questions I was trying to answer. Here, I considered all the codes I found and the data related to each code with the intent of finding similarity and overlapping among codes. My research questions and my theoretical framework, that is sociocultural perspective on learning and literacy combined with situated learning and legitimate peripheral participation, influenced my clustering or categorization of codes into themes. For example, the theme “developing as a player” draws on legitimate peripheral participation process of developing or moving from the periphery to the center, that is, from novice to expert (Lave & Wenger, 1991).

**Reviewing themes.** I later revisited and refined my themes to make sure they were related to my research questions and captured the dataset or reflected the “spirit of the data” (Braun & Clarke, 2013, p. 234). I approached this phase with the metaphor of “pregnancy” in mind. My themes should be pregnant, that is, contain sufficient data to support each one. When reviewing my themes, I considered this metaphor to let go of themes that were not “pregnant” or could not be supported by enough data. The process led me to revisit the codes and themes.

**Defining and naming themes.** Because of the recursive nature of the process, in this phase I was able to further refine my themes, and I defined the themes in terms of stating what was unique and important about each theme (Braun & Clarke, 2013). This was important in discerning how different—yet related—they were to help build a constructive story around the
practices and learning occurring in both settings. I should mention that throughout this process, the research questions and theoretical perspectives influenced the analysis process.

**Analysis Process of Video Recordings of Gameplay**

Video recordings of the gameplay were transcribed and analyzed using V-note. In order to identify the types of interactions and practices players participate in during gameplay, I borrowed Erickson’s (2006) approach to video data analysis, to microanalyze videos of gameplay particularly focusing on dialogue/talk, body movement/orientation, gesture, and gaze. Erickson’s (2006) video analysis is consistent with microethnographic analysis of video data because of the moment-by-moment analysis of interactions (Sutterby, 2015), but it was modified to meet the needs of this study.

Therefore, I started reviewing all the videos on gameplay (approximately 50 hours) from both research sites (the Bronx and Elig-Essono). During this initial viewing, I took field notes, just as I did during interview transcriptions, of events that show interactions (i.e., dialogue, body movement, gesture, and gaze). I did not replay or stop the videos in this phase; I used this initial viewing to immerse myself in the data and select the video recordings that were to be included in the analysis. I should mention that the GoPro cameras employed automatically divided hours of video gameplay into segments of approximately 18 minutes. Hence, 12 videos of approximately 18 minutes each (six per research site) were first selected as containing rich data, consequently salient events that addressed my research questions.

The 12 videos were then reviewed again in their entirety, this time stopping, and replaying them, when necessary, at major sections to note in my field notes the timeline of the occurrence of a major shift in participants’ body movement, gesture, gaze, or speaking activities (Erickson, 2006). In the process, I expanded my field notes by writing more detailed analytical
memos, while selecting strips of the videos that were significant displays of different forms of interactions. The strips of videos were taken from eight videos (four per site) for a viewing session with participants in this study. I should indicate that players in the Bronx, New York City, spoke Antiguan Creole or Pidgin English when playing, while participants in Cameroon spoke French and other languages when playing the game.

Erickson (2006) stated that viewing sessions are other sources of data because the sessions are helpful in getting participants to “remember what he or she was thinking and feeling during the event” (p. 185). However, in this study, the viewing sessions served two purposes as one of the participants watched the videos to translate the verbal interactions into English and concurrently provided the implicit meaning of some nonverbal interactions within the context of the game. I also had another viewing session with a participant who was not part of the original players in this study, but she shared, with participants, an understanding of Antiguan broken English because she was from Antigua and a player as well. Similar viewing sessions where conducted with a participant of Elig-Essono, Yaoundé, who in this case provided hidden meaning of verbal and nonverbal interactions. The viewing sessions also gave the researcher the opportunity to crosscheck her interpretation of the interactions and practices with participants. In this regard, viewing sessions were a form of member checking because these sessions added to the rigor and authenticity of the study (Harper & Cole, 2012; Harvey, 2015).

The viewing sessions led to the transcription and analysis of gameplay instances through the generation of codes (Erikson, 2006). In the smaller units of data selected, I particularly examined the way players interacted, observing their body movements, gestures, gaze, and verbal expressions. To ensure that the instances coded are patterns of interactions, I looked across the entire corpus of video recordings, using my field notes as source to make the
connections (Erickson, 2006; Sutterby, 2015). Patterns of typical and atypical cases of interactions were also identified in this process and discussed especially when they occurred in any of the research sites. For example, atypical cases were informative in showing either nuances or differences in the form of learning and/or practices that took place during gameplay in New York City and Yaoundé. Hence, video strips were inductively coded, though the process was influenced by my knowledge of the literature and my theoretical framework. The field notes helped me write detailed narrative descriptions, as I focused on salient video strips that show evidence of a particular phenomenon. In addition, I watched two more videos from each site and coded them until I reached data saturation and could not find new codes or themes (Fusch & Ness, 2015).

**Researcher Positionality**

Our backgrounds and experiences position us as either insiders or outsiders in relation to the experiences of others (Merriam et al., 2001). Merriam et al. (2001) explained that positionality is “determined by where one stands in relation to ‘the other’” (p. 411), and the position of insider and outsider can shift. The authors acknowledge that the relationship between both positions is complex, and boundaries are not that clearly defined (Merriam et al., 2001). While an insider position assumes an inherent advantage in the understanding of the culture because of similar cultural background with participants, the outsider position assumes misinterpretation (Bourke, 2014). Yet, the outsider has the advantage of being sensitive to phenomena that the insider tends to take for granted (Bourke, 2014; Merriam et al., 2001). Given my background as one who grew up in Cameroon and who could culturally identify with participants, I would be considered an insider in the context of Cameroon and an outsider in the United States. However, my experience with data collection showed that it was not such a clear
delineation. Dwyer and Buckle (2009) argued that qualitative researchers occupy the space in-between, where the researcher is an insider-outsider. Merriam et al. (2001) further explained that a researcher in the course of a study experiences “moments of being both insider and outsider, but these positions are relative to the cultural values and norms of both the researcher and the participants” (pp. 415-416).

**Elig-Essono, Yaoundé.** In Cameroon, my cultural background facilitated my rapport with participants. Participants treated me as a member of the community. While observing the gameplay, I was often invited to make comments, and I participated by teasing players. My multilingual ability in French and many other local languages supported participants’ view of me as a member of the community, even though they knew I was not a *Songo* player. My participation in these gameplay activities provided a means for understanding the practices and created a strong bond between participants and the researcher. In this regard, I was more an insider on the insider-outsider spectrum.

However, my identity as a woman made me an outsider in the gameplay environment in Yaoundé, Cameroon. Though I was exposed to *Songo* gameplay while growing, because I watched adult men play the game throughout the city and in rural areas of the country, I was still not able to understand the situated meaning of some words or practices. *Songo* is a game played by men, and as a woman, I was de facto an outsider. My position of outsider within the gaming environment was also perceived by participants. These were surprised that a woman would be interested in the game and expressed their astonishment by saying that it was uncommon for a woman to be interested in the game. Hence, participants saw it as a duty to explain carefully the game rules and unique practices to me. During gameplay, for example, participants often asked whether I understood what happened, thus giving me the opportunity to ask more questions. The
outsider position created the opportunity to learn more about the game and to gain insights into the cultural and hidden meaning of some practices.

My gender identity also shaped my relationship with participants. For example, I was always referred to as “ma fille” [my daughter] by participants in Yaoundé. Calling me “Ma fille” meant that I was under these players’ protection and care. It was my acceptance in this space, where I was obviously an “outsider” because of my gender. A way to be more familial, thus “bridging the [outsider] ‘strangerness’ gap” (Nkwain, 2014, p. 203). “Ma fille” also meant that I was perceived as the youngest among players, and given that age in Cameroon is valued and carries a lot of respect, “ma fille” constantly reminded me of the respect I had to show as I interacted with players, while feeling welcome and accepted. Discussing Africans’ attitude toward age, Mbele (2005) stated that “being old, older than someone else, or the oldest in a group, carries status and commands respect” (p. 46). Terms such as “ma fille” in this context, established a sense of belonging, while revealing the relation of power that existed between participants and the researcher. Yet, the status of “ma fille” allowed me to call upon any player for clarification, to be patiently showed the game intricacies, and to be introduced to renowned Songo players in the city of Yaoundé.

My understanding of the culture also made me never address my participants by their real names, but rather used address terms such as “mon père” [my father] or their game names when interacting with them. I should indicate that “ma fille” and “mon père” are address terms borrowed from indigenous languages, which served to reduce the distance between participants and the researcher and made each participant in the interaction feel like a family relation (Anchimbe, 2008; Nkwain, 2014). Not addressing my participants by their real names was in
alignment with the culture where using people’s names is considered insolent and offensive (Kouega, 2006, Anchimbe, 2008; Nkwain, 2014).

**The Bronx, New York City.** In New York City, my educational background mediated my interactions with participants, which was not the case in Yaoundé. Prior to starting the data collection, I assumed that my non-American and international status made me an outsider in this gaming environment. Yet, my educational background determined my positionality. I was perceived as the researcher from Penn State University interested in the board game, thus an outsider. More than once Delva wondered why the game would be of interest to researchers at my university. During my observations, they often asked me whether my advisor was going to be satisfied with what I collected. This awareness of my educational background and the need for quality work may have been one of the reasons participants provided help in translating the recorded gameplay and even explained some players’ moves during gameplay. Players were also stunned that I was able to find their gaming group, but when I mentioned Mr. O, my informant, Delva said he understood because Mr. O was well known and did help people researching board games.

My status of outsider in this gaming environment was also felt in my inability to speak the Antiguan broken English, which prompted me to ask questions that an insider may not ask. For example, I wondered about some gestures and the language players employed during gameplay. Participants explained what they meant to me because they saw me as a foreign to the language and to the gameplay.

Interestingly, my gender and African identities also shaped my rapport with participants. Participants often referred to me as “sister,” while I used their real names or game names to address them. With the exception of DePaulo, the player from Ghana, West Africa, who called
me “my sister” while I used “Bros” to address him, all participants preferred “sister.” The kin term “sister” created the bond between participants and the researcher, because it showed my adoption into this gaming community as well as my connectedness to participants. I was an African woman, researching a game with African origin. Consequently, they perceived me as an insider and expected me to know how the game was played. For instance, I had to ask about the gameplay rules to receive an explanation from the Antiguan participants. Kinship terms such as sister are used by African Americans as metaphors to show connectedness and equity during interactions (Foster, 1991; Ladson-Billings, 2009), and in this context it served a similar purpose. Nevertheless, my participants’ ethnic background may also explicate the address term. In the Caribbean cultural context, calling one sister may indicate one’s positionality toward the hearer (e.g., equal) and a sign of respect (Mühleisen, 2011; Muehleisen & Migge, 2005). Because of my gender and ethnic identity, I was in this gaming environment in-between, both an outsider-insider (Dwyer & Buckle, 2009).

It is important to mention that my identities as female and African influenced my interactions with the player from Ghana who used “my sister” anytime he referred to me during our different interactions. “My sister” emphasized my peculiar connection to him as one born in Africa just like him in this gaming environment. I was not just his sister in relation to the larger African diaspora community, as I was to participants from Antigua. And for this reason, I also called him “Bros,” which is a shortened form of brother often used among West Africans when age and status is not critical (Nkwain, 2014). Yet, these identities also positioned me as an outsider in this gaming environment because DePaulo knew that generally in Africa, this game is played by men. This may explain why during his interview he explained the game rules and
insisted that I watched the gameplay multiple times since generally in Africa this game is played by men.

Riessman (2008) argued that researchers “wear their identities like tortoise shells” (p. 139). In the context of this study, I wore multiple identities enhanced and revealed partly because of the cross-cultural nature of this research. These identities shaped my interactions with players, positioned me as an insider-outsider (in between), while revealing the complex power dynamics at play in both research sites. The complex power dynamics displayed through the different ways players chose to refer to me in both contexts was shaped by both the cultural contexts, and cultural backgrounds of players.

**Presentation of Findings**

I adopted an inductive approach to my analysis of the data. Following the thematic and interactional approach to analysis, I allowed my codes to emerge from the data. Yet, while going through my data, I realized that some of the practices I identified were similar to concepts already discussed in the literature. In other words, I did not approach my data analysis as a “blank slate” (Urquhart & Fernández, 2013). My familiarity with the literature and my theoretical framework helped enhance my sensitivity, while allowing me to look at the data anew and set aside my preconceptions. For instance, scaffolding, distributed scaffolding, and embodied cognition were some concepts found in the literature that also appeared as I coded my data. My understanding of the literature in this case was helpful in identifying these practices in my data, but it also offered me the tool to recognize the nuances of these practices in data. I employed an inductive approach to generate codes and themes from the data, but my knowledge of the literature was useful in relating my themes with the general body of literature on a particular phenomenon. Therefore, in the presentation of my findings, I introduce these concepts
as discussed in the literature, then present evidence from my data that indicate how the concept is enacted in my study. For concepts that were specific to this research, but that also appeared to build on or expand a concept in the literature (e.g., distributed embodied cognition, audience-initiated collaboration), I applied a similar process. Yet, in my analysis, I did not set out to identify specific literacy practices, or to validate a specific theory, though my knowledge of the literature allowed me to quickly recognize practices already mentioned in the literature. For this reason, my approach to data analysis could be assimilated to a blending of deductive and inductive approach to data analysis. However, a researcher is not a “blank slate” who collects data without first looking at the literature (Andrew, 2006; Urquhart & Fernández, 2013). Consequently, my knowledge of the literature enhanced my theoretical sensitivity and permitted me to set aside preconceptions to enable findings to emerge from the data. I go into more details in the following chapters as I start by discussing space/place and cultural context as both concepts explained interactions, the gaming community structures, and game aesthetics. I later address literacies and learning by situating my findings within the space/place and cultural contexts.

I should add that Songo gameplay is extremely embodied, and involves thinking and collaboration, which generate complex and interesting interactions between players, and players and the audience as shown in Figure 15.
Consequently, in my analysis, I focus on interactions at different levels by zooming on the intercommunications between players, then on players and audience interactions as they think, collaborate, and recruit their bodies to produce and communicate meaning during gameplay in both settings.
CHAPTER FOUR

Findings

The previous chapter discussed this study design and provided details on both research sites to highlight the peculiarities of each setting (e.g., linguistic, demographic, and historic). In this chapter, I start discussing my findings with regard to the influence of space/place on interactions in my study and later elaborate on the term cultural context and its shaping of both the gaming communities structure and participants’ knowledge about the game. I should state that the concepts of space and place emerged from my data analysis as being interrelated, which required a discussion in my literature review, and their definition in this study.

As previously stated, space/place frames people’s social practices (Wilson & Cervero, 2003) and shapes interactions among people (Barron, 2006; Ma, 2017), as people live space/place by attributing emotional, cultural, or historical meaning to it (Middleton, 2014; Lewicka, 2011; Wyse et al., 2012). For this reason, in the following sections, I focus on the space/place where the gameplay occurs and give key details about the space/place that could explain its choice, its meaning for players, and how it shapes the social relations and practices of players. I develop these ideas to show the importance of the space/place in framing participants’ interactions and practices. Hence, I start this section with details on the gameplay sites to help the reader understand the cultural nuances and variances found in the interactions among participants, variances in the game aesthetics, and variances in the gaming communities’ organization. Therefore, I discuss the neighborhoods with regard to the history of population settlements, describe the space/place where the gameplay occurs, outline my rationale for choosing these groups of players, and summarize the characteristics of each group.
**Space/Place Shapes Interactions**

Individuals occupying an environment interact with that setting (Barron & Bell, 2015; Rafflo, 2011). Settings matter because they inform experiences, activities, and even structure human interactions (Ciolfi & Bannon, 2003; Erickson, 2000). An environment may support or trigger individual behaviors (Ciolfi & Bannon, 2005) because it conveys certain meaning, and people invest meanings, understandings, and memories in the settings they occupy (Erikson, 1993, 2000).

**The Importance of the Gameplay Space/place**

When I initiated this investigation, I planned to compare two gaming communities in Yaoundé with two in New York City. However, in New York City, participants in my study prevented me from visiting another gaming community, a space/place they thought was not safe and healthy for a female. When I tried to find out more about the place participants often told me: “it is indoors, it is kind of a euuh tough area; so, it won’t be … a lot of smoking going on there.” Three separate times I asked, and they got more emphatic each time. I chose to listen to them. For this reason, I only visited one gaming community in New York City, while in Yaoundé, I visited three communities. Participants’ objections to my visit to another gaming community does highlight how participants perceived me. I was a female researcher, collecting data on a game predominantly played by men, who could be in danger in some space/place. Yet, beyond my gender, in my field notes, I also noted that participants saw me as a “sister.” They wanted, in their own way, to protect and guide in a city where “sister” was a stranger. Perceived as “a sister,” I was somewhat an insider because participants made me part of the community as they extended their protective hand and kinship. I argue that space/place influenced my data collection process in New York City. In the following section, I elaborate more on the
spaces/places of my study by providing background information relevant to better understand participants’ interactions.

**Yaoundé, Elig-Essonono.** As previously mentioned, *Songo* is known to be a Fang/Beti ethnic group game (Mbarga Owona, 2004; Ondo, 1990), popular in Cameroon, and particularly in Yaoundé. The Ewondos, who belong to the large Fang/Beti ethnic group, are the founders and first dwellers of the city of Yaoundé, which explains the popularity of *Songo* in the city. According to my participants, there is a *Songo* group in every neighborhood of the city.

However, for this study, I focus on the gaming community of Elig-Essonono because of its ethnic diversity, which to some extent makes it similar to, yet different from, the group of players in the Bronx, New York City.

**Elig-Essonono Historical Background**

Elig-Essonono was named after Essono Balla Joseph, a patriarch who was born in 1881 and died in 1951 (Ngongo, 2006). According to Ngongo (2006), the word Elig-Essonono refers to the physical location or material possession/heritage of Essono. In Elig-Essonono, participants in this study meet at a place called “Pharmacie Le Mfoudi” [Pharmacy Mfoudi], next to “Le Musée Ethnographique des Peuples de la Forêt” [Ethnographic Museum of the People of the Forest] (see Figures 17 and 18). The pharmacy is owned by the daughter of André Fouda, the first Cameroonian native elected as mayor of Yaoundé, under the French ruling of the country in 1956 (Enyegue, 2008). Interestingly, André Fouda’s daughter also founded the Museum of the People of the Forest as a way to tell and preserve the history and way of life of the Beti/Fang ethnic group. The museum displays several artifacts that give a glimpse into the way of life and technology of the Beti before Europeans’ exploration and colonization of the country.
**Bronx, 165th and Sherman Ave.** In the Bronx, the gameplay takes place at the corner of 165th street and Sherman Avenue, right next to a fast food franchise run by an immigrant of African origin (see Figure 19 and 20). A combination of African, Caribbean, and Hispanic-owned shops is found on streets next and/or opposite the gameplay space/place. These shops give any visitor in the area a glimpse of the ethnic demographics of 165th street and Sherman Avenue. The history of migration in the Bronx indicates that the first immigrants were Europeans from Dutch, German, or Swedish origins (Ultan & Hermalyn, 2000). The borough derived its name from Jonas Bronck, a Swedish sea captain who created one of the first settlements in 1639 (Ultan, 1994). Bronck settled with Danish, Dutch, and German servants, and during the English rule, Bronx inhabitants were in their majority either Dutch, English, or English descent (Ultan & Hermalyn, 2000). The ethnic representation has changed over time (see Figure 16). In my conversations with players, I learned that many Caribbean immigrants lived on the street adjacent to 165th and Sherman Avenue (i.e., the gameplay place), and many Black migrants from West Africa lived on the opposite street.

**Historical background of Bronx.** When examining immigrants’ settlement in New York City, data show that the Bronx has experienced a growth of 22% over the last decade (Lobo & Salvo, 2013). According to Lobo and Salvo (2013), the Bronx is home to 15% of immigrants in New York City, with a disproportionate representation of immigrants from Latin America and Africa (Figure 16). Africans make over one tenth of the foreign born, Latin Americans over one-half of the Bronx immigrants, while Asian and Europeans make up eight percent (Lobo & Salvo, 2013). Interestingly, immigrants from nonhispanic Caribbean make up one-fifth of all Bronx immigrants (Lobo & Salvo, 2013).
In the Eastern part of the Bronx, where players congregate, Jamaicans are the majority immigrant group, followed by immigrants from the Dominican Republic, Guyana, Dominica, and Ghana (Lobo & Salvo, 2013). No other immigrant group makes more than nine percent in the eastern part of the Bronx where Jamaican presence is prominent (Lobo & Salvo, 2013). Playing at the corner of 165th and Sherman Avenue, certainly recreates a home experience for participants who are either from Antigua in the Caribbean or from Ghana in West Africa. This environment also connects players with the larger Caribbean and African community in the area. During gameplay, it was common to have people from different countries in the Caribbean and Africa stopped by to observe or greet players. As noted in the second chapter, this board game is played in many countries in the Caribbean and Africa. This meant that greeters and observers knew the game and how to play it. Indeed, players told me that many people from the Caribbean and Africa came to watch them play. The gameplay space/place provides an opportunity for people from different occupations and ethnicity to interact.
Interactions in the Gameplay Space/Place

As I stated, interactions in my study include dialogue, body movement or orientation, gesture, and gaze. In this section, I discuss how space/place shapes interactions among participants.

Yaoundé, Elig-Essono. *La Mère*, as she is called and referred to by members of this gaming community, is so addressed because she makes this space available for the gaming group (see Figure 17), in addition to the financial supports she provides when she identifies a need. *La Mère* is a French word for mother, and in the Cameroonian context—particularly in the French speaking part of Cameroon—calling one *La Mère* is actually a way to show respect and to honor a woman who has positively impacted a community or a group. Though the word literally means “mother”; in this space, it is a way to respectfully address a woman whose impact on the gaming group, the Beti ethnic group, and the nation at large is notable. For example, during my first visit with this group, *Président* (the group leader) did not hesitate to tell me about her in the course of our conversation:

> comme tu viens là, il faut savoir que nous on a notre mère ici; c’est elle qui nous donne cet espace; certaines des chaises et mêmes tableaux c’est elle qui a acheté; on est libre de venir ici et jouer quand on veut; on ne paie pas l’électricité; elle a donné les consignes aux filles de la pharmacie; je vais lui parler de toi et voir si elle peut te rencontrer. La Mère est très simple, elle sera très contente de te parler, mais je vais d’abord lui dire

*None of the players refers to La Mère using her official name, which highlights the effect of culture on the way people interact (Nkwain, 2014) and the effect of space on the social interactions among people (Thompson, Russell, & Simmons, 2014). While the use of kinship*
terms such as *La Mère* in Cameroon purposes to strengthen cohesion between interactants (Mba, 2008), space/place also informed its use given that culturally *La Mère* is also used to acknowledge the good deeds or positive impact (she provided the gameplay place) of a woman in a community, setting, or the society at large. As one of the players, Féderal, added during our conversation: “c’est vraiment la mère ici, elle fait beaucoup pour le club…"¹ c’est notre mère, on ne s’amuse pas avec elle … l’endroit ci, le musée là, c’est elle” [*she is really the mother here, she does a lot for the club (i.e., gaming group) ... she is our mother, we don’t joke with her... this place, that museum, it’s her*]. Not joking with her means she is esteemed and given the culturally appropriate respect suited to anyone in authority. With this statement, Féderal captures players’ perception of *La Mère* with regard to her impact on the gaming community and on the society at large with the creation of the museum, thus the name *La Mère*. As Nkwain (2014) argued, factors such as age, social status, gender, and social achievement “play into the choice of address terms or strategies used by interlocutors in specific communicative contexts [space/place and] … these factors play substantial roles in determining what is considered polite and respectful and what is not” (p. 190). In addition, the name *La Mère*, in this space/place, captures the gender, age, social achievement, and respect members of the community extend to this individual.

A pharmacist by profession, *La Mère*—whose first name was not disclosed to me and I never asked because it is not culturally appropriate for a younger person to ask an elder about his/her name since elders are never addressed by their names—returned after working in France, years ago to start the museum, which is a labor of love. Space/place framing of social relations is also evidenced in Président desire to have me meet *La Mère* during my research, and have time to discuss with her “...je vais lui parler de toi et voir si elle peut te rencontrer. *La Mère* est très

¹ The dots are used to indicate the speaker’s pauses during speech.
simple, elle sera très contente de te parler, mais je vais d’abord lui dire” [I will tell her about you, and see whether she can meet with you. La Mère is very simple, she will be very happy to talk with you, but I will first her know]. This meant that Président was going to tell La Mère about me and my study, and because this space is still La Mère’s space, it was important that I meet with the woman whose support made gaming here, and indirectly my research, possible.

Introducing me to La Mère is also in alignment with the cultural interactions protocol, the enactment of which is enabled by this space/place. In Cameroon, it is a custom to respect people because of their age, position, wealth, titles, or accomplishments by bringing, for example, visitors like myself in this space, to greet them (Farenkia, 2014; Mbaku 2005). La Mère in this space is an elder because of her age and accomplishments, which made my encounter with her appropriate and significant culturally. It was therefore a privilege to be introduced to La Mère because it evidenced my acceptance by members of this gaming community. In Cameroon, it is a common practice to introduce a visitor, or a newcomer into a community to the leader or the eldest person of that community. This introduction is done as a way to announce the visitor, pay homage to the leader/elder, and for the visitor to receive approval and blessings from the leader/elder for a successful stay in the community (Anchimbe, 2011; Farenkia, 2014).

A meeting between La Mère, my informant, and I was then organized by Président few days later. Accompanied by Président, who introduced my informant and I to La Mère, and following the cultural practice that does not allow a young person to ask or speak in the midst of elders without being given express permission through a question for example (Mbaku, 2005; Mbele, 2005), my informant explained my research and the purpose of our visit. I wanted to meet with her after learning about her support for the group and her work with the preservation of Fang/Beti culture. The meeting took place in the museum courtyard where we all sat, and after
inquiring about our ethnic origins and welfare, *La Mère* talked about *Songo* as the game of people of the forest, played in every country in Africa where there are people of the forest\(^2\):

> Le Nigeria a aussi sa version du jeu; ils peuvent jouer autrement, mais c’est le même jeu; c’est un jeu des peuples de la forêt; les Etons, les Bulu, les Ewondos ont leur part, mais ce qu’ils jouent ici c’est le *Songo* Ewondo

*Nigeria has his version of the game, they may play differently, but it is the same game; it is the game of the people of the forest; Eton, Bulu, Ewondo have their version, but here they are playing the Ewondo people’s Songo*

She then showed us “la case à palabre” [*the house of gathering*] reconstituted in the museum courtyard, where she said the fathers played after a day of work, and where issues of marriage and others where resolved while playing *Songo*. Thus, “la case à palabre” was central in the Fang/Beti communal life, which connects the game of *Songo* to the everyday life of the Fang/Beti people. The game is part of the cultural heritage she wants to preserve, and as she explained “ce que tu vois là ma fille c’est un travail de plus de trente ans [*what you see here my daughter is a work of more than thirty years*].” Besides her age, for members of this gaming community, she was also *La Mère* because of her work toward the preservation of the Beti culture. For example, *La Mère* supports the club by providing a space where individuals can perpetuate the long Beti tradition of *Songo* gameplay and keep the multiple *Songo* boards. In addition, she sometimes buys additional chairs for players when needed (Président, personal communication, June 03, 2017). For *La Mère*, the museum demonstrates her love for the Beti/Fang culture, and her own way of recreating in the 21st century a space/place where players can reconnect to the historical roots of the game.

Playing at Elig-Essono, next to the museum is certainly a unique and authentic experience for players as they often reminded me in our conversations that: “ici c’est le musée,

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\(^2\) People in Africa whose environment is dominated by the forest
c’est comme ça qu’on jouait traditionnellement” [here is the museum, this is how they played traditionally]. The museum surely adds a unique feeling to the gameplay; it encourages players to hold to the original way of playing the game and actually feel their gameplay was different from other gaming communities in the city of Yaoundé. A museum is a holding place; it anchors history and certainly gives players a feeling of pride. I should mention that all the artifacts/items in the museum are from La Mère’s private collection:

ce sont mes propres fonds que j’ai utilisé pour acquérir tout ce que tu vois dans ce musée, et tu peux voir ici l’organisation et la richesse de la société traditionnelle Beti [I used my personal funds to acquire all the artifacts you see in this museum, and here you can see the organization and wealth of the traditional Beti society] (La Mère, personal conversation, June 15, 2017).

This space/place was surely “lived” by players who attributed emotional, historical, and cultural meaning to it (Middleton, 2017, p. 414; Middleton & McKinley, 2010). As a result, this space/place definitely frames the interactions among players during gameplay, as well as between La Mère and players. For example, in this space/place, La Mère was never called by her first name, and issues that affected the gaming community activities were mentioned to her such as my visit for some sort of approval.

Figure 17. Entry to the Ethnographic Museum of the People of the Forest
Figure 18. Gameplay space/place opposite the Ethnographic Museum of the People of the Forest

**Bronx, 165th and Sherman Ave.** This space/place seems to inform the interactions among players. At my first visit, I was immediately told about an African who plays the game and lives nearby and about the African-shop owner, who provides the space for players to keep the game board, called here *Warri.* Once I introduced myself and the purpose of my visit to some of the players present, the next question was to know continent of origin and country of origin. “You are an African,” Letus, one of the oldest players with regard to age, rhetorically asked me. “There are many Africans here; one of the best players here is an African,” he added. When I asked about the “African” country of origin, Letus did not know, but few minutes later, he pointed at an individual across the street “that’s the African, you are lucky today; he is really good at the game.” As the “African” came closer, Letus greeted him loudly “the African, here is your sister.” The “African” halted to greet me, and in the course of our conversation, I learned he was from Ghana, a country known to have its version of *Songo*, called *Oware* (Bayeck, 2017; Owusu-Mensah & Baffour, 2015).
Being at the intersection of different ethnic groups shapes the social relations among players in this space/place. For instance, when asked how often he played, the “African” answered “I play with these guys whenever they are here; they are from the Caribbean.” The “African” first identified the other players as Caribbean, and it is only later that he referred to them as Antiguans. However, the “Caribbean” players at our first encounter told me that most players there were from Antigua, with the exception of the “African,” and insisted on the difference between Antiguans and other Caribbean. For instance, when describing himself, one of the players stated “Antigua, a Caribbean island, it is an English speaking euhh country.” Preference for geographic/regional identification of players highlights the influence of space/place on players’ interactions. Furthermore, at multiple occasions in any game opposing the “African” to an Antiguan player, other players in the audience will jointly and loudly call him the “African.” Interestingly, “African” was also one of the game names they used to designate the player from Africa. Though the “Caribbean” players often called themselves Antiguans, it should be noted that Antigua is the largest island of the country of Antigua and Barbuda. This space/place anchored participants’ sense of identity around their home country.

Using geographical origin made it relatively easier for players in this space/place to associate players with the larger African or Caribbean community, given that at this location there are immigrants from various parts of the world. These geographic labels also made me understand that these players migrated from different countries and saw each other as either African or Caribbean-born, which separates them from the larger African American community (Mwakigagile, 2007; Showers, 2015). Players preferred their ethnic identity, which is the assimilation to a group “embedded in notions of kinship, culture, [geographic backgrounds] and shared history” (Valdez & Golash-Boza, 2017, p. 2184). At 165th and Sherman Ave.,
immigrants from multiple ethnic groups interact, which may create the need to ethnically self-identify and to view others through their ethnic identities. This place/space frames players’ social interactions and practices (i.e., how they choose to interact with each other) as reported by research on space/place (Barron, 2006; Ma, 2017; Middleton, 2014).

Research on racial and ethnic identity among immigrants also indicates that ethnic identification is influenced by space/place as immigrants attempt to create through it a sense of belonging and a positive perception of the group against the dominant culture (Mwakigagile, 2007; Showers, 2015; Valdez & Golash-Boza, 2017). This may explain the following statement by one of the participants with regard to being Antiguan: “because we born in this island and it is small, we get neglected, we get neglected because we come from Antigua … population extremely small, they look at me like you guys [meaning you Antiguans].” Identifying as Antiguan helped players set themselves apart from the large Caribbean community in the Bronx, 165th and Sherman Avenue. This setting certainly allowed players to affirm their identities given that most members of the gaming community lived in the neighborhood.

Figure 19. Gameplay place/space, 165th Street and Sherman Avenue
At this location, the community also finds a space provided by another African shop owner—originally from Nigeria—where to keep the board game. The shop owner is not a player, but does love watching people, as he explained during my conversation with him. Even though most players live in the neighborhood, having a space to store the game turns this corner into a central space, where individuals just gathered to play. Playing here at the intersection of African and Caribbean immigrants, and particularly Antiguans, who call the game *Warri*, surely shaped the gameplay in terms of interactions among players, and even practices. Unlike, Yaoundé, Elig-Essono, there was no *La Mère*-like relationship or figure at 165th and Sherman Avenue.

![Image](image.jpg)

*Figure 20.* Gameplay place/space and surrounding shops at 165th St. and Sherman Ave.

The gameplay space/place matters as it shapes the interactions among players in the Bronx, and between players and *La Mère* in Elig-Essono. Players in both research settings interacted differently based on the emotions, and/or the meaning the space triggered, and/or the meaning players gave to these places (Ciolfi & Bannon, 2005; Middleton, 2014). Playing by the museum for players in Elig-Essono meant playing *Songo* as it has historically been played that is
as it should be played. This space/place gave players a sense of pride because history is anchored in the museum, which is also a place holding the memory of a people, and in this space/place the history and memory of the Fang/Beti people. The same applies for players in the Bronx, for whom the ethnic diversity at this location made them emphasize and claim their origins in their interactions and use players’ place of origin as one of the means to identify members of the community. Players at 165th street and Sherman Avenue were proud of their ethnic identities (Antiguan and African identity), and as such preferred to refer to each other as African, or Antiguan/Caribbean. The gameplay space/place informs players’ ways of seeing self, others, their gameplay, as well as their ways of interacting (Nasir, Rosebery, Warren, & Lee, 2006).

**Space/place Informs Knowledge about the Game and Its Aesthetics**

As previously mentioned in my discussion on space and place, I argue that a country, region, or a geographical location can act as space/place because space/place is associated with identity, and participants’ identification with a geographical location, meaning in this study space/place. The geographical location of participants in this study appears to inform their historical knowledge of the game origin, and the game aesthetics.

**Knowledge of Game Origins**

As mentioned in the second chapter, *Songo* is a board game played across continents, and countries under different names. Participants in both contexts played a version of the game they linked to their country’s (i.e., space/place) culture and/or history.

**Elig-Esson, Yaoundé.** In Cameroon, the game was called *Songo*, and it was for the players the game of the Bantu ethnic group, particularly of the Fang/Beti ethnic group. The Fang/Beti ethnic group is found in Cameroon, Gabon, and Equatorial Guinea, countries where
the game is also played (Mbarga Owona, 2004; Meka Obam, 2008). Nicolas, explaining the origins of the game, stated:

il est beaucoup plus Bantou et on ne le retrouve pratiquement que dans quatre pays de la sous-région de l’Afrique centrale …ça veut dire que vous avez le Cameroun, le Gabon, la Guinée, une partie du Congo.

[it is mostly Bantu and it is practically only found in four countries of the Central Africa sub-region ... it means that you have Cameroon, Gabon, Guinea, and part of Congo].

The game is therefore part of the Fang/Beti culture, an expression of this ethnic group’s identity and social life. This aligns with Ondo (1990) and Mbarga Owona (2004) who argued that Songo is from the Ekang culture, which represents populations known under the name of Beti, Bulu, and/or Fang. These populations are present in Cameroon, Congo Brazzavile, Gabon, and Equatorial Guinea (Mbarga Owona, 2004; Ondo, 1990). As participants later added, Songo is identified with the Beti/Fang ethnic group, and it was first played by leaders of the Ewondo³ ethnic group: “ce sont les chefs Ewondo qui ont commencé à jouer ça” [Ewondo chiefs were the ones who started playing it].

Nevertheless, participants do acknowledge that the game is played in other countries in Africa under different names. For instance, Caulet specified “on joue ça au Congo Kinshasa⁴, ils appellent ça le Koula, nous on appelle ça ici que le Songo” [they play it in Congo Kinshasa, they call it Koula; we call it here Songo]. Participants knew Songo was played in other countries in central Africa, even though they unwaveringly connected the game to the Beti/Fang culture. In his book on Songo, Mbarga Owona (2004) further explained that variants of the game exist, depending on the geographic location of the gameplay. The multiple versions of the game reveal

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³ Sub-group ethnic group of the Fang/Beti ethnic group
⁴ Democratic Republic of Congo
the distribution, adaptation, and adoption of this Beti/Fang game. Participants’ understanding of the Beti/Fang origin of the game is well captured in Vince’s following statement:

c’est un jeu qui a été conçue par euuu, les peuple de forêt … du Sud, du Centre, et de l’Est Cameroun beaucoup plus et même dans les zones de l’Afrique centrale telle que le Gabon, la Guinée équatoriale beaucoup plus. Donc c’est les peuples de ces régions du Sud Cameroun, de l’Est Cameroun, et du Centre du Cameroun qui ont conçu ce jeu, [it is a game that was designed by euuu, people of the forest… of the South, Center, and East Cameroon mostly, and even from parts of Central Africa such as Gabon, Equatorial Guinea. Thus, the people of these regions of South Cameroon, East Cameroon, and Center of Cameroon are the ones who conceived this game.]

Participants’ connection of Songo origin to the Beti/Fang ethnic group seems to evidence the relationship between knowledge and the geographical location. Given participants’ environment (Central Africa, Yaoundé, Elig Essono), it is easy to make the connection between Songo and the Beti/Fang culture. Situated learning theory suggests that knowledge is situated in experiences that is participants, culture, and physical environment (Durning & Artino, 2011; Korthagen, 2010; Lave & Wenger, 1991). Lave (1988) argued that knowledge is shared among people and the physical environment. Hence, from a situated learning perspective, what people know is dependent on the physical environment where they interact. However, this study also suggests that participants’ geographical environment shaped their knowledge about the origins of Songo. Participants in this study were geographically located in Central Africa, surrounded by countries like Gabon, and Equatorial Guinea. Thus, knowledge here is geographically situated as participants link Songo to the Beti/Fang people and to the identity of this ethnic group, which lives in Central Africa and, mainly in Cameroon, Gabon, and Equatorial Guinea (Mbarga Owona, 2004; Shoup, 2011).

Bronx, 165th and Sherman Ave. Contrary to players in Elig-Esson, participants in the Bronx associated the game with the arrival of slaves from Ghana to Antigua. Unlike participants in Elig-Esson who did not discuss the game name when addressing the origin of the game,
participants in the Bronx used the game name (Warri) to elaborate on the game’s origin.

Speaking about Warri, Delva said the following:

I guess that's the name that the slaves brought to Antigua. I think it originated from Ghana, you see the thing about it is that what I understand is that the slaves that came to Antigua most of them came from Ghana, a lot of them came from Ghana

In this excerpt, Delva, through the game name Warri, is employed as a springboard to link the game to the history of Antigua (i.e., slavery) and to Ghana in West Africa. The game connection to Antigua history and Ghana was also supported by Adman, who recalled his grandfather telling him that slaves brought the game to Antigua from Ghana. The Ghanaian root of the game was also supported by DePaulo (Ghanaian immigrant) for whom Warri was an alteration of the game name in Ghana (Oware). This connection to slavery and West Africa is confirmed by researchers who have documented the distribution of Warri in the Caribbean (Bowen, 2004; Chamberlin, 1984; de Voogt, 2001). Stoffle and Baro (2016) argued that “people in the Caribbean often attribute the game’s origins to the West Africans who were brought against their will to work on colonial slave plantations” (p. 146). Jones (1993) went a step further to explicate that Warri is derived from the Ijo language spoken in the Western part of Africa (Alagoa, Tamuno, & Clark-Bekederemo, 2009). At this juncture, it is important to state that in Ghana, Oware is the game name in Ashanti, one of the languages of the Akan people in West Africa (Crist, de Voogt, & Dunn-Vaturi, 2016; Shoup, 2011).

Yet, this connection to Antigua’s slave history, made participants believe that Antigua was the only island in the Caribbean where the game was played. When asked whether the game was played in other Caribbean islands, Delva said:

the funny thing is Antigua is the only island in the Caribbean that plays this game… the Barbadian, I have never heard anyone from, anyone except who is from Antigua playing Warri. I have been to Trinidad, Barbados, couple of islands in the Caribbean, I have heard stories about Warri, but I have never heard any other island associated with playing
Warri. So, as I said slaves from Antigua came from Ghana, Ghana is where the game originated, the game is from Ghana, and Antigua is the only island in the Caribbean like I said.

All participants in the Bronx shared Delva’s opinion even though this observation is not supported by literature. Literature on Warri indicates that the game is played across the Caribbean, in islands such as St Lucia, Grenada, Haiti, Suriname, Barbados, Dominica, and the Bahamas (Bowen, 2004; Sundaresan, 2017). For instance, Stoffle and Baro (2016) noted that Warri was known by every West African slave brought into any Caribbean plantation, and its gameplay allowed “for new forms of creole social organization" among enslaved men of African ancestry in the Caribbean” (p. 143). Consequently, Warri is played across the Caribbean, even though Antigua remains the island where the gameplay is at its best (Bowen, 2004). It is, therefore, not surprising that players in the Bronx contend that Antigua is the only island where the game is played. The link between Antigua and Warri is so obvious for participants that they often mentioned the quality of players in Antigua as well as the popularity of the game in the island as a proof that Warri was only played in Antigua. The following exchange between Delva and Nicky (self-selected participant) during the interview at the research site, over the presence of the game in other islands in the Caribbean, evidences that view:

Excerpt 4.1

Researcher: I thought the Barbados plays it too
Delva: no, I don’t think Barbados play it
Researcher: so is it very popular in Antigua or how is it?
Delva: extremely popular, extremely popular, I was down a couple of days ago, it is a big thing down there the … some of the best players in the world are from Antigua
Nicky: some play whatever … best players are from Antigua [Inaudible]
Delva: = are from Antigua

5 Changed from “organisation” in the article to “organization” to adjust to the American English standard followed in this dissertation.
Nicky’s gaze shifted at this point from me toward the group of other Antiguans who were engaged with the gameplay.

Nicky: because we born in this island and it is small, we get neglected, we get neglected because we come from Antigua, population extremely small, they look at me like you guys (that is you Antiguans)

Warri certainly sets Antigua and its population apart since it is played in various rum shops, and the National Warri Festival is held yearly in October (Kras, 2008). Furthermore, in other Caribbean islands such as the Barbados for example, researchers noticed a decline in Warri gameplay (de Voogt, 1997a; Jones, 1993).

Like players in Elig-Essono, Bronx players’ knowledge of the origin of the game is informed by the geographical location that also draws uniquely on the history of Antigua. Knowledge in this case is geographically situated, which nuances situated learning perspective on knowledge being situated in the context that is physical environment where the activity—gameplay—is taking place (Durning & Artino, 2011; Lave & Wenger, 1991). What participants know about the game appears geographically contingent.

Significance of Warri in Antigua

Participants in the Bronx were mostly from the Caribbean, with the exception of one player who was from Ghana, Africa as previously stated. The Caribbean players claimed the Antiguan identity and took pride in knowing that Warri was only played in Antigua. Though participants identify themselves as Antiguans, there is no country known as Antigua in the Caribbean. Antigua (see Figure 21) is one of the two islands that make the nation of Antigua and Barbuda in the Caribbean. A former British colony, the island gained its independence in 1981, even though Queen Elizabeth II is still constitutionally the titular head of the island (Mehring, 2008). Antigua is the most populated of both islands with a population of approximately 90,000, and mostly Black (Potter, Chenoweth, & Day, 2017). Prior to British occupation, the Arawak
people lived on both islands, until the British settled in the 1632 (Turner, 2008). Sugar plantations using African slaves appeared in the 1650s in Antigua (Potter, Chenoweth, & Day, 2017; Turner, 2008). Research states that these African slaves came mostly from West Africa, and brought with them male entertaining activities such as Warri, which they employed to reconstruct critical African male group activities and resist enslavement in plantations (Ballester, 2014; Stoffle & Baro, 2016).

Currently, in every city and neighborhood in Antigua, Warri clubs are found, and the game is mostly played outside (Harrigan, personal communication, January 15, 2018). Street corners, bus stations, market places, and other bustling areas also served as gameplay space/places (Bowen, 2004). According to Sundaresan (2017), Warri is the preferred national game of Antiguans, and it is understandable that Antiguan players emphasized their Antiguan identity during my interactions with them. When it comes to world competitions, Antigua has produced some of the best Warri players in the world since the game became part of the Mind Sports Olympiad organization based in London, England (Bowen, 2004; Kras, 2008). To some extent, these participants create an “Antiguan social space” as they play this national “home game” in the Bronx.
Space/place and Game Aesthetics

This study also reveals differences in the appearance of the board games; appearance I call here game aesthetics. I draw on the historical perspective of aesthetics and build on traditional perception of aesthetics in game studies, which refer game aesthetics to the sensory content of the game that is how it looks or sounds (Bateman, 2014; Niedenthal, 2009) to address aesthetics in my study. I therefore define game aesthetics as the board game appearance, the way it looks or presents itself to players and others around. Consequently, I limit my discussion to how Songo and Warri look, without getting into the aesthetics that may result from players’ interactions with these board games (de Voogt, 1997b), for example, or from players’ motivation or experience with the game as sometimes discussed in the literature (Bateman, 2015, 2016; Niedenthal, 2009). Furthermore, Burgin’s (2010) concept of situational aesthetics was also instrumental in explaining the aesthetical differences of both board games. According to Burgin (2010), “any object formed is largely contingent upon details of the situation for which it is designed; through attention to time, objects formed are intentionally located partly in real,
exterior space and partly in psychological, interior space” (p. 7). Thus, the aesthetics of a game are dependent upon the context in which they are designed.

**Elig-Essonô, Yaoundé.** *Songo* in Yaoundé is a wooden-long board in a rectangular form, with 14 holes, and two large holes on both side of the board (Figure 22). *Songo* as previously discussed (see Chapter 2) is played with 70 seeds that are distributed equally between two players at the beginning of the game (Mbarga Owona, 2004; Meka Obam, 2008). The purpose of the game is to capture 40 seeds/pebbles, and a player can only capture two, three, or four seeds from holes on the side of his opponent. When asked why *Songo* has 14 holes and not 12, for instance, participants always talked about the game being conceived and handed down to this generation by past generations. For instance, Nicolas, speaking to the number of holes on *Songo* board, said: “quatorze cases° c’est sa particularité, c’est comme ça qu’il est conçu, et chacun des deux adversaires a sept cases” [fourteen houses that is its peculiarity, that is how it’s been designed, and each player has seven houses].

Participants in Elig-Essonô could not explain the rationale behind the number of holes (14) on the board, instead of 12 or 10. However, studies of similar African board games such as Ayo—from the Yoruba ethnic group in Nigeria—indicate that the number of holes and even seeds is linked to a system of divination (Ôkéwânde, 2017). The game aesthetics (holes and seeds) connects religious values with the game—the society (Ôkéwânde, 2017). Board games were one way Africans communicated their philosophies (Ôkéwânde, 2017). A similar conclusion can be made about *Songo*’s aesthetics as Cega (2015) explicated that in the past, playing *Songo* was a religious and spiritual approach to life and living that taught players and the society a particular philosophy of life. Meka Obam (2008) also alluded to the spiritual

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° Literally means “houses” in English. House is preferred to holes when translating because the game is a sowing game that simulates sowing as well as harvesting, which require the storing of food in houses.
underpinning of the game when he explains that the word *Songo* means “escape from misery,” and through gameplay players engage into a spiritual exercise that allows them escape to the miseries of life and become better men.

![Songo board game](image)

*Figure 22. Songo board game*

**Bronx, 165th and Sherman Ave.** As previously mentioned, *Warri* (Figure 23) is the game name used by participants in the Bronx, which is also the name used in the Caribbean islands (Stoffle & Baro, 2016; Kras, 2008). Like *Songo*, *Warri* is a long-rectangular board made of wood with 12 holes, or *warris* as players call them here, and 48 seeds also referred to as *warris* by players. The game is played in an anticlockwise direction, and the purpose is to capture 25 seeds/warris, each player being able only to capture two or three seeds/warris on the opponent’s side of the board. Like participants in Elig-Essono, participants in the Bronx do not ascribe any meaning or interpretation to the number of holes or seeds. For example, during the interview, when I told Delva about a similar game with 14 holes and 70 seeds, he answered “but I guess you can probably do it, but, but, but we, that’s how we learned it.” In other words, participants did not conceive the game, and its aesthetics were rather passed down to them.
Even though participants could not explain the game aesthetics, the variation in both games aligns with literature on African mancala-like board games, or sowing games, which explain the aesthetical differences only in terms of variations of the same game (de Voogt, 2017; Ondo, 1990; Owona, 2004). However, I argue that these aesthetic variations may be due to the space/place in which these games were created. Drawing on Burgin’s (2010) situational aesthetics concept, I contend that the aesthetics are dependent on the space/place (i.e., Antigua, in the Caribbean, and Cameroon, in West Africa). For instance, slaves who were taken away from a known culture and environment to new environments where they had to adjust, and make sense of their new experiences, brought Warri to the Caribbean (Handler, 2009; Stoffle & Baro, 2016). It is therefore understandable that the board game recreated in new settings such as Antigua differs from the game conceived in Cameroon. Binsbergen (1997) pointed to this fact when he wrote that because of migrations and movement in space, board games allow for local adaptation. The idea of local adaption lends well with Burgin’s (2010) situational aesthetics because the object formed, in this case Warri, is “largely contingent upon details of the situation for which it is designed” (p. 7). Talking about the history of Warri gameplay by slaves in the Caribbean, Stoffle, and Baro (2016) explained that it was a form of resistance given that slaves were not allowed to participate in activities related to their culture, or place of origin. Yet, Warri gameplay did provide a social space, where slaves could connect with their cultures (Stoffle, 2014; Stoffle & Baro, 2016). This contingent situation, I argue, can explain the aesthetics
difference between Warri and Songo. Moreover, studies of African board games also discuss aesthetics in the sense of crafted work produced by an artist or a carpenter (de Voogt, 2001). Given that African board games are often made of wood, they are, from a historical art perspective, objects of art excellent for museums (Bayeck, 2017; de Voogt, 1997b, 2001). Aesthetics in these studies referred to the artistic characteristics an artist/carpenter could have given to the game or to the gradual changing shape the board takes as a result of multiple moves made by players over the years (de Voogt, 1997b). The focus is on the visual appearance of these African board games.

Nevertheless, researchers such as Townshend (1979) stated that the variants of mancala game are sustained by migration. In addition to migrations and movement in space as a possible explanation for the aesthetics variances, sociocultural theory may offer some insights. From a sociocultural theory perspective, physical artifacts can be modified from one generation to another to meet the communicative or psychological needs of each generation in the material or physical environment (Lantoff, 2006; Prior, 2006). Sociocultural theory does not discuss aesthetics in the modification of culturally inherited artifacts (Lantoff, 2006; Prior, 2006) and mostly focuses on changes as they relate to communicative and psychological needs, yet I argue that geographical location (i.e., material environment in this case) may explain the aesthetics differences between Songo and Warri. African slaves in the Caribbean, and particularly in Antigua, altered Warri to meet the communicative and psychological needs that their new geographical locations generated. Sociocultural theory concepts of artifact modification can then be extended to understand aesthetics differences in Songo and Warri. In other words, physical artifacts such as Songo and Warri can be modified from one geographic location to another. It can then be argued that African slaves in Antigua adapted the board game to the new
sociocultural and material environment, while for players in Cameroon, the game remained the same given that the sociocultural and material environment did not significantly change.

I should state that when it comes to aesthetics, the field of game studies provides a pluralistic and polysemous definition of aesthetics, and discusses this concept in relation to video games. Thus, aesthetics includes aspects such as the game appearance, sound, music, player’s judgement or attitudes toward the game, the goals, challenges, rules, obstacles, game mechanics, and interactions with the game (Bateman, 2015; Bateman, 2016; Dickey, 2015; Niedenthal, 2009; Upton, 2015). For instance, some researchers define aesthetics in terms of the emotions video create in players as they engage with the game (Deen, 2011, Dickey, 2015). From this view, aesthetics is about the emotional experiences that arise from players’ interactions with the video game. Others assimilate aesthetics to art that is the creation of an artistic product just like paintings, when explaining aesthetics in video games (Koster, 2014; Sharp, 2015). In this sense, aesthetics in games allow players to experience the work of art in the video game (Sharp, 2015; Sicart, 2008). Furthermore, in game research, aesthetics is also about play, the game being a means through which the player interacts with the designer, interaction initiated by the game designer (Sharp, 2015; Wilson & Sicart, 2010). This understanding of aesthetics in video games assimilates design to aesthetics by highlighting the interaction between the player and the designer of the game. Larsen (2016) took the divergence on aesthetics in game research further, by defining aesthetics as: “as situational everyday experiences arising from interactive activity in which game objects and their behaviors create emotional responses in players through play” (p. 45). Aesthetics is then the intersection between the objects, characters for example, and the emotional responses related to players’ interactions with the video games (Larsen, 2016).
Cultural Context Shapes Gaming Communities’ Formation and Structure

The formation and structure of both gaming communities (Elig-Essono and the Bronx) followed different processes and were informed by the cultural contexts. My definition of cultural context focuses on country and/or region, and not on a peculiar space/place, which in this study is a microcosm of the cultural context. I adopt a broader understanding of cultural context, building on prior work on cross-cultural research that included nations or regions (Hofstede, 2001; Merçon-Vargas, Poelker & Tudge, 2018; Minkov & Hofstede, 2012). Consequently, when talking about cultural context, I consider practices, values, interactions, and actions transmitted across generations that are shared and are meaningful at a national or regional level across ethnic groups.

Yaoundé, Elig-Essono. The gaming community/group in Elig-Essono, also called Le Club de Mfoundi, was started by an Elig-Essono born Songo player called Nkodo, who more than 16 years ago, met La Mère to ask for the current gameplay space/place. Nkodo then invited other friends, who lived in the neighborhood. The group that started out as the gathering of three friends, increased in number over the years, with players from different neighborhoods joining the community. As the group increased, the founder of this community discerned the need for other rules that will govern this gaming community. Discussing the process that led to the establishment of written rules, one of the participants (the current group leader) said the following:

Parce qu’on jouait d’abord dans une situation d’amis, de petits copains; on n’avait aucune règle hors le le règlement du Songo, il n’y avait aucune autre règle, tu mènes ta vie tel que tu veux, quand tu viens au Songo on remplit seulement directement le Songo, si tu as quoi à faire, on à rien à foutre de tout ça. Bon, il a vu que non, ce n’était pas très bien, il faut qu’on s’assiste aussi, il faut qu’on s’assiste, quand quelqu’un a beaucoup plus un malheur ; qu’on soit auprès de lui, donc il a tout fait, et c’est là où on lui dit que bon comme tu as tout organisé comme ça c’est même d’abord toi-même le président.
Because we first played as friends, friends; we had no rules outside the rules of Songo, there was no other rule; you live your life as you want, when you come to Songo we only fill Songo directly, if you had something going on, we had nothing to do with all that. Well, he saw that no, it was not very good, we must support each other too, we must support each other, much more in case someone has a misfortune; we ought to stand by him; so he had it all done [setting of these rules], and that’s was when we told him that since you organized everything like that you are even the very first president.

The group’s growth led to the establishment of rules that structured the community and its membership. For instance, members had a monthly contribution of 500 FCFA, approximately one dollar, and were also expected to donate towards events that affected the lives of any group member. Interestingly, stopping players from playing Songo was a strategy employed by the current leader of the group to have members keep up with their monthly contributions. Yet, participants view their donations toward events affecting members of the club as a way to show solidarity, a way to live as a family. Speaking to the meaning of the players’ donations, Guyman (one of the self-selected participants), stated:

et puis on vit ici, et puis on vit ici comme en famille. S’il a un problème je l’aide, s’il a une difficulté je lui porte secours, le Songo c’est comme une forme de solidarité entre les gens, c’est une solidarité des gens, on vit en famille. S’il a deuil, on se déplace pour aller au village, s’il a problème, si sa femme accouche, on peut l’épaüler

[and we live here, and we live here like in a family. If he has a problem, I help him, if he has a difficulty I assist him, Songo is a form of solidarity among people, it is a solidarity of people, we live as family. If he is mourning, we go to the village, if he has a problem, if his wife gives birth, we can assist him]

The system of assistance through donations is in keeping with the cultural norms that govern relationships as well as associative live in Yaoundé, and Cameroon in general. Here, Le Club de Mfoundi draws on the communal spirit of the Cameroonian culture, which does not limit brotherhood, or family, to blood relations, but includes friends, and it values assisting people even if help is not explicitly solicited (Mbaku, 2005; Nkwain, 2014). Hence, players’

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7 Franc CFA is the official currency of Cameroon, and other French speaking countries in West and Central Africa.
contributions toward any events affecting any member of the community. Even with the demands of the modern society, Mbaku (2005) stated that “the culture of community, sharing, philanthropy, and togetherness” remains strong among citizens of the country (p. 165). Therefore, the cultural context, which is a “stable and dynamic norms, values, and behaviors associated with the community or societal environments in which [an event or activity] occurs” (Radomski, 2008, p. 285) informed the gaming community growth. Furthermore, from a sociocultural perspective, cultural context is understood as practices, activities, and interactions occurring in settings where individuals found themselves (Lantoff, 2006; Mercer & Howe, 2012). Such understanding implies that cultural context can refer to a region, a country, or a classroom. For Kittler, Rygl and Mackinnon (2011), context “describes preprogrammed, rather culture-specific cues that only need minor activation (through) information to establish meaning” (p. 67). For this reason, financial contributions made sense to players in Elig-Essono.

**Elig-Essono Gaming Community Organization**

Besides financial contributions, the community has a structure similar to the organization of other cultural and religious associations in Cameroon (Lynch & Fouda, 2017; Nyamnjoh & Rowlands, 1998). The community has a board (see Figure 24) which consists of honorific presidents (La Mère, her brother, and the past president), a president, vice president, secretary, treasurer, two auditors, two chargé de discipline (i.e., an individual in charge of discipline in the community), a steward (in charge of the boards), and two technical directors who take care of the community daily gameplay activities.

The honorary presidents are voted for life and have more authority than the president as their voices and opinions are of great influence because they act as advisors to the group. I should mention that the position of honorary president was created to honor La Mère for her
support to this community, and her role in preserving the Fang/Beti culture as previously mentioned. La Mère, as an honorary president, for example, was consulted and informed about any event or issue affecting the community (e.g., disputes among members, deaths, births, competitions, or visits like mine). La Mère’s brother was an honorary president because he was an indigenous of Elig-Esso, besides being the brother of La Mère. The president called and presided over meetings and watched over the overall welfare of the group. The current president was appointed by members during a general assembly when players noticed his leadership abilities. The secretary kept records for the group, while the treasurer was in charge of the group finances (e.g., members’ financial contributions).

Figure 24. Organization Chart of Elig-Esso gaming community

The chargé de discipline ensured that the rules stated by the community were respected by all players. For example, a player was not allowed to interrupt the course of a game. When
such occurred, the player was fined and forbidden from playing until he paid the fine. In its structure (e.g., the position and role of honorary president), *Le Club de Mfoundi* reflects the culture that honors and values the elderly, while drawing on formal group organization identical to other associations in Cameroon. In Cameroon, old age implies wisdom and commands respect (Mbaku, 2005; Mbele, 2005), which explains why the honorary position was created for *La Mère* and why she was often consulted. The structure of this community goes further to evidence the influence of the cultural context, which I define as ways of interacting, being, and using tools that have meaning and significance in a particular setting (i.e., country or region) and are shared by a community or a group of people. I therefore look at cultural context from a national or regional perspective, which differs from authors such as Bandura (2002). My understanding of culture builds on Gee’s (2008a) situated/sociocultural perspective. The author sheds more light by defining culture as “ways of acting, interacting, valuing and using language, objects and tools” (p. 100). While the emphasis in situated/sociocultural perspective is often on a setting when it comes to addressing cultural context, in this study, I focus on a region or country. In other words, cultural context represents a system of shared meaning, values, practices, and actions—transmitted across generations—that have meaning, a history, and significance in a community of people (Nasir, 2005; Sawyer, 2017; Saxe & de Kirby, 2014).

In their conception of situated learning, Lave and Wenger (1991) explained learning as involvement in a community of practice. According to Lave and Wenger (1991), a community of practice:

[does not] imply necessarily co-presence, a well-defined identifiable group, or socially visible boundaries. It does imply participation in an activity system about which participants share understandings concerning what they are doing and what that means in their lives and for their communities. (p. 98)
Communities of practice are characterized by the common interest that links people together through the joint activities in which members engage, and the collective stories, tools, and resources from which the group can pull (Lowitt, Hickey, Ganpat & Phillip, 2015; Wenger-Trayner, Fenton-O’Creevy, Hutchinson, Kubiak & Wenger-Trayner, 2015; Wenger, 2006). Eckert and McDonell-Ginett (1992) further added that a community of practice “is an aggregate of people who come together around mutual engagement in an endeavor. . . . practices emerge in the course of this mutual endeavor” (p. 464). Hence, a community is characterized by the practices or “ways of doing things grounded in and shared by a community” (Eckert & Wenger, 2005, p. 583). Consequently, a community is “a persistent, sustained social network of individuals who share and develop an overlapping knowledge base, set of beliefs, values, history and experiences focused on a common practice and/or mutual enterprise” (Barab, MaKinster & Scheckler, 2004, p. 41). In this regard, the group of Elig-Essono is a community of practice because through mutual engagement, members interact, creating rules of relationships that mirror these interactions (Lowitt et al., 2015; Wenger, 2006). However, structure in a community of practice is loose, open, with no static or rigid organization (Eberle, Stegmann & Fischer, 2014; Lee & Shaari, 2012). In fact, in the formation of a community of practice, “a linear stratification with a well-defined top and bottom” (Eckert & Wenger, 2005, p. 582), does not exist because the structure is always changing; practices are constantly shared, developed, negotiated, and emergent among members (Eberle et al., 2014; Meyerhoff & Strycharz, 2013). Hence, when it comes to the structure of a community of practice, the literature mostly limits its discussion to structure of participation in relation to newcomers and experts through the lenses of LPP (Eberle et al., 2014; Meyerhoff & Strycharz, 2013). Yet, for the gaming community of Elig-Essono, a hierarchical structure exists and is part of the community formation.
Bronx, 165th and Sherman Ave. The Bronx gaming community was started by four members of the community who, in their search for employment upon their arrival in the United States, decided to find a space/place where they can start playing Warri. Adman speaks to the group beginnings in the following words:

when I come I didn’t see a lot of people that play the game, but after a while we go by a certain spot where we go look for work, we meet up there, a lot of different people came and we start hangout there and so, and the game just started, people that can play the game come, we get a board and we start playing after that.

Just like Elig-Esson, the group was started by players, with the exception that in the Bronx, it was a group of friends, Antigua-born Warri players who immigrated to the United States. The group was not started by a single individual, but a group of friends, who decided to meet when free to play Warri at a place where they were hanging out while looking for work. Participants knew each other in Antigua as Warri players, and while in New York City they decided to continue playing the game. And for more than 10 years, participants have gathered to play Warri.

Even though most players live in the neighborhood, members are coming from other boroughs of New York City and from the neighboring state of New Jersey.

With regard to structure, the gaming community in the Bronx was not organized as the group in Elig-Esson. The community did not have a president or a secretary, yet players often made mention of levels of expertise in terms of first, second, and third best players. The first best player (Delva) owned the Warri game played in this space/place. His aptitude at the game gave him recognition among his peers, as he was the one who could give reliable information on when players gathered to play, and he was the person I was always directed to for questions related to gameplay days. In that effect, he was some sort of group leader, not in a structured way since each member of the community functioned independently from him, and only his competence made him standout. This sort of loose and open organization, mostly based on individual’s
competence, is likely a reflection of the American cultural context. In individualistic cultures such as the United States, people view themselves as independent from others, and personal attributes are emphasized instead of cultural roles or norms (Hofstede, 2001; Triandis, 2007; Shin, Dovidio, & Napier, 2013).

The individualism of the American culture may also explain the absence of a support system like donations toward events affecting any member of the community as was the case among Elig-Essono players. Members seemed more concerned with the gameplay than events affecting members’ personal lives. Describing relationship among members of the community, Delva said: “so we’ve known each other for a while, we have a good relationship so we come here to relax, enjoy each other company.” In the same vein, DePaulo added that friendship was formed “because so many come here to play, others come to watch so, when you come we are sharing jokes, cracking, you see, you feel happy so it helps in the social life it helps.” The independence among members fits the cultural context of the American culture that encourages personal privacy, personal freedom, and autonomy (Machery, 2010; Oyserman, Coon, & Kemmelmeier, 2002). All players were free adults, who maintained their privacy and valued self-sufficiency. In this regard, the gaming community of the Bronx fits into the construct of community of practice as defined in the literature with no existing structure or hierarchy in its formation (Eberle et al., 2014; Meyerhoff & Strycharz, 2013).

Nevertheless, as Antiguans living in the United States, some gameplay principles were identical to rules applied during gameplay in Antigua, where most of them started playing the game. For instance, a player only touched the Warris (seeds) to make a move, and holding the Warris without playing (making a move) ends the game for the player who breaks the rule.
Replicating procedures applied in Antigua does illustrate players’ cultural identity influence on gameplay at 165th and Sherman Ave.

The culturally informed organization of both gaming communities reveals that context influences the structures these communities adopted. To understand human actions, sociocultural theory explains that context should be taken into consideration. Human actions do not occur in a vacuum but are shaped by the cultural context in which they take place (Lantoff, 2006; Prior, 2006). Yet, actions from a sociocultural perspective are mostly understood in relation to interactions between people, or between individuals and their environment, or tools (Crowley et al., 2014; Korhonen, 2010). I do extend actions to include the process of organizing a community, which in sociocultural theory can also be seen as social practices or cultural activities members of a community (i.e., inhabitants of Yaoundé and New York City) engage in, that is, their way of relating to each other in groups. Both gaming communities show that cultural contexts shape group structure. The cultural context framing of group organization is even more evident with players in the Bronx. Though made of immigrants from predominantly collectivist cultures such as Antigua and Ghana, the Bronx community did not have a collectivistic organizational orientation as the Elig-Esson group. Playing Warri was the purpose of their gatherings and not participating in the lives of individual members as it is often the case of immigrants from collectivist cultures (Chioneso, 2008; Muruthi, Bermúdez, Bush, McCoy & Stinson, 2016).

The space/place of the gameplay was critical in modelling complex practices and interactions occurring in both research sites, while revealing and highlighting the cross-cultural nature of these interactions. The findings indicate that space/place shapes players’ interactions in Elig-Esson and the Bronx, informs what participants know about the game, and shapes the
game aesthetics. Indeed, the geographical environment with which players identified influenced participants’ knowledge about the game origins and its appearance. Furthermore, the relationship between the cultural context and the gaming community contributed to the organization of each community.

**The Process of Interviewing**

From the interview process, which I discussed in the previous chapter as one of my data collection techniques, emerged a type of group interviews I termed “conversation/interview bombing” and of participants I called “self-selected or improvised interviewees” in Elig-Essono, Yaoundé. I discuss these concepts in the next paragraphs.

**Conversation/Interview Bombing**

Conversation/interview bombing draws from the concept of photobombing. In digital imaging vernacular, photobombing is the alteration of an image through a transgressive entity (Fletcher & Greenhill, 2010; Ibrahim, 2017). Conversation/interview bombing describes interviews that turned into group interviews because of members of the community who engaged in unplanned participation in an interview set for a single individual. Conversation/interview bombing is not the same as focus group interviews because they are not planned, and participation is rather a reflection of the cultural context, that is, the cultural way of interacting. In other words, conversation/interview bombing is the act of breaking down or transgressing the norms and conventions of interviews as defined by the literature in order to share information and enrich the interview.

For example, in Cameroon, the transmission of knowledge, values, and information is seen as a communal or collective effort and responsibility (Keller & Otto, 2009; Nsameng, 1992; Poeze, Dankyi, & Mazzucato, 2017). For this reason, people tend to intervene, participate,
or join in conversations not particularly directed to them. This collective mindset and communal approach to everyday activity is reflected in the interviews I conducted. Hence, individual semi-structured interviews turned into group interviews as other players participated to share information and answer questions previously directed to a single individual.

Furthermore, conversation/interview bombing is about particular practices individuals engage in during in situ interviews. This form of practice observed during the interviews in Yaoundé is therefore distinct from ethnographic interviews because it is about a practice, a form of interaction that occurs during an interview. However, conversation/interview bombing can fall under, and is even related to, ethnographic interviews because the practice happens during in situ interviews that were less formal and after I had established a relationship with members of the gaming community (Atkinson, Coffey, Delamont, Lofland, & Lofland, 2007; Munz, 2017; Spradley, 2016). Moreover, during the interviews, I also sought, as in ethnographic interviews, to elicit the context, knowledge, and common assumption upon which answers were based, without depending on my prior assumptions or views of Songo gameplay (Atkinson, 2017; Spradley, 2016). Consequently, conversation/interview bombing is a form of interaction characterized by an impromptu participation of other individuals in a normal one-on-one, in situ interview. I should state that conversation/interview bombing mostly happened in Elig-Essono and was not encouraged by participants in the Bronx as discussed in the following paragraphs.

**Bronx, 165th and Sherman Ave.** Though interviews were in situ, participants in the Bronx did not intervene in my conversation or interviews with other players. They considered that my questions were directed to the individual I was interviewing and did not contribute answers to the questions asked. In fact, attempts to contribute to the interview was rebuffed by other participants. For instance, during my interview with Delva, a participant, Nicky, joined the
conversation, but was prevented from further participation by Delva as I asked for more clarity regarding the gameplay rules.

**Excerpt 4.1**

Delva: we normally play the best of six in other words, on the sixth game whoever first reaches …six games, wins six games but sometimes, your opponent, you just have the advantage you just have this particular mode on that day when you can just win six straight games and you leave the opponent really aching. But, the objective is to play six games, win six games

Researcher: ok, got you so now. So it can be six to zero or it can be what?

Delva: yes, six to zero

Nicky: = yes, six to zero. See this guy here he let me down so many times he usually played one of the best. I nearly died when he gave up, when it was in Poland *(pointing at Adman)*

Delva: [to Nicky] you talk too much. Don’t answer the question

D: [to Researcher] go ahead Becky

Adman: [to Nicky] one at the time

Delva: [to Nicky] don't *(with his finger directed toward Nicky as a way to asked him to not say more)*

As the excerpt shows, conversation/interview bombing was not encouraged in the Bronx, and this only happened during my interview with Delva. This phenomenon was stopped by words statements such as “one at the time,” “don’t say a word,” and hand gestures meaning “shut up” to prevent other members of the community from participating in the interview. For participants in this cultural context, interviewing a player meant that other players did not have to contribute because it was this particular player’s understanding, experience, and knowledge that was sought.

**Elig-Essonó, Yaoundé.** Conversation/interview bombing was freely practiced and encouraged among interviewees in Elig-Essonó. The excerpt below is an illustration.

**Excerpt 4.2**

Researcher: pourquoi est-ce qu’il n’y a pas de femmes qui jouent, qui soit même spectatrices?

*[why don’t we have women who play, who are even spectators?]*
Vince: c’est déjà une culture, donc une culture
[it is already a culture, so a culture]

Body: c’est parce que les femmes n’apprennent pas, c’est un jeu d’apprentissage; moi je

suis un Bamiléké, je joue au Songo, est-ce que chez les Bami il y a le Songo?
[it is because women don’t learn, it is a game of apprenticeship; me, I am a Bamiléké, I

play Songo, is there Songo among Bami?]

Vince: non
[no]

Body: voilà, et je suis arrivé et j’ai regardé comment on joue; le problème c’est de
regarder comment on joue, et que si tu veux apprendre tu commences aussi à voir
comment on bouffe les pions; qu’est-ce que, comment le mécanisme du jeu se passe, tu
apprends aussi c’est un truc qui est mathématique. Tu réfléchis, c’est la même chose
comme le damier
[for instance, I came and watched how they play, the problem is to watch how they play,
and if you want to learn you also start to see how they capture seeds/pebbles, what is,
how the game is played, the mechanism of the game, you also learn, it is something that
is mathematical. You think, it is similar to draught]

Pierro: mais ma sœur, tu ne nous filmes pas aussi
[but my sister you do not videorecord us also]

Body: haha, est la même chose comme le damier, comme les échecs, comme le cherchez
le mot; comme tu joues là, tu cherches à ce que l’adversaire ne te bouffes pas, me voici
en train de battre les Béti là, les Ewondo, les Etons, est ce que je connais le Songo, le
Songo n’existe pas au pays Bamiléké, mais je les écrase ici chaque jour
[haha, it is the same thing as draught, as chess, as Word Search; as you play here, you
try to make sure that your opponent does not capture you, here I am beating these Bétis,
Ewondos, Etons, do I know I Songo, Songo does not exist among Bamiléké, but I crush
them here every day]

Vince: je vous diriez donc la petite histoire, ce Monsieur vient d’apprendre à jouer
[I will then tell you the little story, this man just learned how to play]

Body: voilà
[there you go]

Vince: pour son âge, il vient d’apprendre à jouer
[for his age, he just learned how to play]

Body: voilà
[there you go]

Pierro: il ne connaissait pas jouer
[he didn’t know how to play]

Vince: il a un potentiel d’apprentissage très élevé parce qu’il commence déjà à battre
ceux qui ont peut-être plus de 15 ans d’expérience
[he has a very high learning potential because he is already beating those who may be
have more than 15 years of experience]
In this communal culture, I contend that conversation/interview bombing mirrors ways of interacting in Yaoundé. Indeed, from this cultural context emerges a form of group interview that could be mistaken for focus group interviews. For this reason, it is critical for researchers not to superimpose their individual understanding and idiosyncratic interpretation on a phenomenon their encounter.

**Self-selected or Improvised Interviewee**

The concept of self-selected or improvised interviewees emerges from conservation/interview bombing phenomenon. It refers to participants who took part in the interviews without being invited to participate. Self-selected/improvised interviewees joined the interview and added to the data by complementing, clarifying, or refuting the answers of the player I selected for the study. I should state that I had more self-selected/improvised interviewees in Elig-Essono than I had in the Bronx (where there was only one self-selected/improvised interviewee).

**Elig-Essono, Yaoundé.** In the excerpt below, Pierro is the self-selected/improvised interviewee who intervened in my interview with Vince and added to the conversation by further explaining what Vince meant by *Songo* preventing a player from going astray.

*Excerpt 4.3*

Researcher: qu’est-ce que le Songo vous apporte alors?

*[what does *Songo* brings to you then?]*

Vince: mais le *Songo* m’empêche de faire n’importe quoi. Vous savez un joueur de *Songo*, vous ne pouvez pas jouer au *Songo* et vous retrouver dans le bar. Oui, c’est à dire qu’il faut du temps vous voyez, vous voyez quand vous venez ici, ceux qui jouent prennent tout leur temps, ils ont leur temps, quand vous avez fini votre journée, quand vous n’avez plus rien à faire, ou alors quand vous trouvez un espace, pour un bon joueur, il faut trouver du temps pour jouer, donc ça vous empêche de vous égarer dans tous les sens

*[but, *Songo* prevents me from doing just anything. You know as a *Songo* player, you cannot play *Songo* and find yourself in a bar. yes, it means that you need time you see; you see when you come here, those who play take all their time, they spend their time;*]*
when you are done for the day, when you have nothing else to do, or when you have some free time. For a good player, you need to find time to play, so it prevents you from going astray]

Pierro: de chercher les femmes [from going after women]

**Bronx, 165th and Sherman Ave.** In the interview with Delva, Ricky often intervened to complement what Delva said. The excerpt below captures a moment in the interview when Ricky intervened.

Researcher: so what do you gain, benefit from playing this game?
Delva: as I said earlier it helps you to relax, yeah, it helps you to relax. This is the only game I am playing right, I am not playing any kind of physical sport like athletics, basketball, whatever
Nicky: he is not even probably very sure the only thing he can play is Warri
D: so this the only game that I am playing right now, so it helps to relax after work like Saturday
Nicky: tell the lady the right thing, sometimes you go home, an hour, it doesn’t matter all your problems, you leave the house you come here, you held the board and you play a little game to get focused so when you go back now you are more calm and you can go and say honey I love and kiss

Though I found self-selected/improvised interviewees in both settings, the phenomenon was more prevalent in Elig-Esson than it was in the Bronx. For instance, at different moments in the interview, Delva told Ricky “you talk too much” or “don’t answer the question” to show his annoyance and silence Ricky, who finally halted his participation. Such comments were not observed in Elig-Esson context, where all participants seemed to enjoy self-selected/improvised interviewees’ participation. It is my contention that cultural norms of communication in both contexts (communal in Elig-Esson and individualistic in the Bronx) influenced the interviews.

**The Influence of the Researcher Identity**

In her discussion of narrative analysis, Riessman (2005) noted that “research settings and relationships constrain what can be narrated and shape the way a particular story develops” (p. 4). I appropriate this statement to argue that my identity as a female researcher, with an African
cultural background, studying in the United States at a top-tier institution informed and sometime constrained my relationship with participants and my data collection.

**Bronx, 165th and Sherman Ave.** The intersection of these different identities for example constrained my collection of data to one gaming community in the New York City because participants believed the other site was not conducive for women, and encouraged me not visit another gaming community. Regarding the other gaming site, Delva said, “it is indoors, it is kind of a tough area, so it won’t be, a lot of smoking going on there.” Participants perceived me as a female, an identity that seemed more salient when it came to visiting the other gaming community space/place. Interestingly, my African background implied knowledge of the game and its play. This assumed knowledge certainly made participants not to share some information they assumed I knew based on my cultural background, but also prompted me to ask more questions.

On the other hand, my identity as a researcher from a top-tier university often pushed participants to ask whether I was satisfied with my data or whether my advisor was pleased with my field research. For example, when distracted by the game during the interview, players would say, “I am sorry, sorry.” Participants made themselves available, and I noticed a desire to give me the help I needed to understand, for example, the language spoken during the gameplay. However, helping translate interactions during gameplay cannot be only attributed to my researcher identity. I argue that the intersection of African, female, and researcher identity contributed to participants’ willingness to spent hours viewing the video recordings with me and clarify actions during gameplay.

**Elig-Essono, Yaoundé.** In Elig-Essono, I observed that my female identity signaled ignorance about the game, and for this reason, participants showed excitement and pleasure
explaining the game and its play to me. Interestingly, because of my cultural background, participants assumed I knew how to interact in this setting and understood the language spoken during gameplay. Though I knew how to interact, I still needed assistance from participants to understand the gameplay language. Consequently, I had to ask on multiple occasions the meaning of a word or a gesture. Finally, as a researcher from the United States, it was critical for players that I took appropriate and accurate notes. I noticed this during interviews, for instance when other players asked my interviewee:

Caulet: [to Nicolas] est-ce que tu lui as dit que c’est un jeu traditionnel
[did you tell her that it is a traditional game]
Nicolas: [to Caulet] oui je lui ai dit que c’est un jeu traditionnel
[yes, I told her that it is a traditional game]

Nevertheless, I cannot claim that my researcher identity was the only contributing factor in the example above; my female identity surely played a role as well. My identities intersected and shaped the way I collected data and the information participants shared with me in both contexts. My identity (ies) constrained—but also assisted—me in my research, in my interpretation, and understanding of the phenomenon I studied.

**Summary**

In this chapter, I have discussed the complex interplay of space/place and cultural context and how both influence participants’ gameplay, interactions, and community organization in both settings. For instance, space/place affected participants’ perception of their gameplay as shown with players in Elig-Essono who described their gameplay as authentic, while players in the Bronx employed gameplay rules employed in Antigua, the country of origin of most participants in this study. The interplay of culture and space/place also informed interactions among players, between players, and with outsiders like the researcher. Perception of self and others was then informed by the space/place as players claimed their Antiguan or African
identity, choose different address names such as *La Mère* (players in Elig-Essono referring to the woman who provided the space for the gameplay), or the African (the Bronx players identification of the only African player in the community).

This chapter also reveals how geographical context informs knowledge, that is, what participants know about the game and its origin, and the variances in the game aesthetics. Moreover, geographical location is added to sociocultural theory to explicate the aesthetics differences of *Songo* and *Warri* games. Given that sociocultural theory sustains that inherited artifacts such as *Songo* and *Warri* can be modified from one generation to another to meet communicative and/or psychologic needs within a specific cultural context, geographical location can also lead to modification of artifacts. Finally, geographic location appears to shape knowledge, which in situated learning is located in the culture and physical environment where people interact. Knowledge, this chapter shows, is also geographically situated, and within the situated learning framework, geographical environment or location should be included to understand knowledge, that is, what people know about a specific topic. With regard to data collection, this chapter reveals forms of interviews framed by the cultural context and expounds on the identity(ies) of the researcher and demonstrates how in each cultural context these identity(ies) shift to influence data collection and analysis.
CHAPTER FIVE

Multiple Literacies Through Gameplay Interactions

This chapter focuses on the different literacy practices occurring during gameplay through the interactions between players, and between players and the audience, in light of the cultural context. Indeed, players-audience interactions resulted in literacies informed by both cultural contexts either because these literacies were slightly different (e.g., collaborative criticism) or because they were only exhibited in one cultural setting (e.g., player-initiated collaboration). Similarly, player-to-player interactions yield culturally shaped literacies (e.g., computational thinking, embodied cognition). The influence of culture in framing literacy practices during gameplay is evidenced in the next section.

Forms of Interactions During Gameplay

Interactions among players during gameplay in both settings (Elig-Essono and Bronx) were similar, yet slightly different given the cultural context. Participants engage in various activities that either demonstrated their level of expertise in the game, which was enacted differently based on the cultural context. In the next section, I begin by discussing the interactions between players and the audience, and then continue with the forms of interactions between players in each cultural context.

Players-Audience Interactions

Collaborative Criticism

Collaborative criticism in Warri and Songo gameplay is an activity that engages both the audience and players (Excerpt 5.1). Players with different level of expertise in the game collaboratively criticize another player to push him to reflect on his actions during the game as will be shown in the following paragraphs. This literacy practice is particular to this study,
because criticism as discussed by Miyake (1986, 2009) is done by a single individual, while in *Warri* and *Songo* gameplay, criticism is a collaborative. However, this peculiar literacy practice draws from the concept of criticism in the literature (Miyake, 1986, 2009).

**Bronx, 165th and Sherman Ave.** The excerpt below, which is the transcription of an episode of the gameplay between two players (Deal and Delva), evidences collaborative criticism during gameplay. Delva is the best player in the Bronx because of the number of his game wins. He had won more games than any other player in the Bronx community at 165th Street and Sherman Avenue, which makes members of the community recognized him as the best player. Delva is such a fan of *Warri* that he does not play any other physical sport but *Warri*, and players jokingly claim that *Warri* is the only game Delva can play. Delva’s status of best player also implied that many wanted to play against him and beat him at the game. His presence at 165th street and Sherman Avenue attracted some of the best players. Deal, in the ranking of players, was the second best player in the community; he holds the second place because of his wins against other players in the Bronx community. I should mention that the rank of players was identified after a competition players in the Bronx organized, and this ranking has remained the same among players. Interestingly, Deal was one of the players who came to play at 165th Street and Sherman Avenue because Delva was around. An ongoing rivalry and competition existed between both players, who played against each other at every opportunity to determine who was or has become the better of the two.

In this episode of the gameplay, three additional players are present (see Figure 24), and as the audience participate in the game through their comments. And as will be noted in the course of this study, the audience plays an active role in *Warri* gameplay. In this scene, Delva and Deal have already played five games against each other, and Delva is leading five to naught.
At this juncture, I should mention that in *Warri* gameplay in the Bronx, players have to play six games against each other, which means that a player with the most victories out of the six wins the game made of six games. Consequently, for a player to be replaced by another, thus to end the game between both players, the round of six games have to be completed to determine the winner. Because the player with the most victories wins the game or the match, for good players, the goal is to win the opponent with a six nil, which is a great humiliation for a *Warri* player. For this reason, every *Warri* player does his best to avoid such defeat or humiliation, as well as every player aims to achieve such victory because it is a matter of honor, of one’s identity as *Warri* player. Talking about the six games principle, Delma says:

> we normally play the best of six in other words, on the sixth game whoever first reaches euh six games, wins six games but sometimes, your opponent, you just have the advantage you just have this particular mode on that day when you can just win six straight games and you leave the opponent really aching, but the objective is to play six games, win six games.

According to participants, this game principle (playing six times against the same opponent) follows the Antiguan way of playing *Warri*. Applying game principles from Antigua in the Bronx, New York City is not surprising because most participants in this study were originally from Antigua.

*Figure 25. Scene of sixth game between Delva and Deal*
Delva and Deal are on the sixth game in their match against each other (see Figure 25). Hastac, Adman, and DePaulo are the other players watching the gameplay. It should be noted that all participants in this scene show a great interest in the gameplay. As previously mentioned, before the episode begun, Delva has just won the fifth game, and Deal has only one chance left to win at least one game against Delva. Delva, in his turn, moved two seeds from the second hole on his left, and dropped them consecutively in the following holes, turning the fourth hole starting on his left into a hole with more than 10 warris/seeds. This episode opens at Deal’s turn to play (see Figure 26).

A: After taking a couple of minutes, Deal plays by dropping the seed on the fourth hole starting on his left into the fifth hole on his left. With this addition, or move, the fifth hole has now more than seven warris/seeds.

B: Delva follows, and at his turn moves the warri/seed in the third hole on his left, and drops in the following hole that already had between 10 and 12 warris/seeds.

C: Deal moves the two seeds in the third hole on his left, and drops them in the following holes. The last warri/seed falls into the hole with more than seven warris/seeds. The fifth hole from his left now has between eight and 10 warris/seeds.

D: Delva decides to play the single warri/seed in the second hole on his right, and drops it in the next hole with approximately six warris/seeds.
E: Deal moves the single warri/seed from the fourth hole on his right, and drops it into the fifth hole, which has at this point between 10 and 12 warris/seeds.

F: Delva reacts immediately, playing the fourth hole on his left that has between 16 warris/seeds. Delva drops each seed in the consecutive holes. The 16 warris/seeds allowed him to go around the board twice, and to capture six warris/seeds on Deal’s side.

Figure 26. Delva and Deal halfway into their sixth game.

The excerpt (Excerpt 5.1) is a transcription of participants’ reactions to Deal’s move (Figure 26, E) which allowed Delva to make the move that will make him capture six seeds on Deal’s side (Figure 26, F).

Excerpt 5.1

Hastac: you are not playing Warri Deal
[you are not making the right move there Deal]
Deal: it’s a 15 in it
[it’s 15 warris/seeds in the hole]
Hastac: right, you are not playing good there, you are not playing good, you did not play good, you are not playing good
[Really, you did not make the right move there, you are not playing well, you did not play well, you are not playing well]
Delva: Becky, Becky (laughter) oh my God (gets up from his seat to hug a member of the audience)
Hastac: you are playing no Warri … Flung that house, flung that house
[you are not playing well ... you should have played that hole, you should have played that hole]
Adman: = he was not looking into the house, you no look into the house
[he did not count the seeds/warris in the hole, you did count the seeds/warris in the hole]
Hastac: you are playing no Warri
[you are not playing well]
Adman: yea, you are not counting
[yes, you are not counting the seeds/warris]
Hastac: you are sleep
As can be seen in the excerpt, players collaboratively criticized Deal for the wrong move he made that led to Delva’s capture. It created an opportunity for Deal to provide an explanation for his mistake to the other participants: “I thought it was 15, 15, 16.” Deal miscounted the number of seeds/warris in the hole Delva played from (Figure 26, F). His miscalculation and explanation also engender a series of collaborative criticism from the audience that turned into a situated learning moment for Deal. Indeed, while criticizing his wrong move with comments such as “you are playing no Warri [you are not playing well]” or “he was not looking into the house, you no look into the house [he did not count the seeds/warris in the hole, you did count the seeds/warris in the hole],” participants also suggested the move he should have made. Hence comments like “Flung that house, flung that house [you should have played that hole, you should have played that hole] or “you should have blocked it.” Participants all agreed to the fact that Deal made a wrong move and to the move he should have made. They collaborate to criticize Deal’s move and to make him understand what he should have done. Collaborative criticism was
practiced by other expert Warri players to a player at the same level during gameplay. It also shows how engage and participant is the audience in Warri gameplay.

Interestingly, Miyake (2009) argued that during interactions, criticism occurs often when people have a different interpretation of a given situation, different focus, or level of understanding or expertise because what may be obvious to one interactant may not be self-evident to the other. Criticism serves as a means to check the validity of an assertion, causing interactants to reflect on their understanding or action and to keep searching for better explanations (Miyake, 1986, 2009). Often individuals with an attenuated understanding of the game criticize the people with more understanding because they did not understand a process or mechanism, while criticism from individuals with more understanding are rare (Miyake, 1986). Nevertheless, criticism pushes the other person with more understanding to search for better mechanism or explanation of their actions (Miyake, 2009). As shown in the excerpt above, players participants had a different understanding of the situation, yet criticism was done collaboratively.

Yaoundé, Elig-Essono. Players in Elig-Essono, like in the Bronx, engage in collaborative criticism with the exception that collaborative criticism here is done by expert players who collaboratively criticize players with limited game expertise. Expertise is established by the number of victories of a player, and in Elig-Essono, players are ranked in terms of first, second, third, and fourth division. The first division is made of expert players, the second of advanced players, the third of intermediate, and the fourth of beginners. The concept of division here is borrowed from soccer, which is the national sport in Cameroon. For instance, the community has a process that helps determine the level of expertise of any player who wants to join the community. The newcomer has to express the desire to play against other members of
the Elig-Esson community before being put to test against a player who is often from the third division. The outcome of this game test ascertains the division of the newcomer. This process is important because in Elig-Esson only players with the same level of expertise can play against each other.

Here, I offer a descriptive summary of the events that precede collaborative criticism among players in Elig-Esson in this episode. Two players, Anang and Pierro (Figure 27) from the second division are engaged in their first game against each other. Both players are surrounded by players mainly from the first division—Caulet, Vince, and Jean—with the exception of Ayos (Figure 27). At this juncture, it is critical to clarify that in Elig-Esson, one has to play twice against his opponent to win the game, and the player with the most wins out of the two games defeats his opponent. In other words, victory is determined out of a series of two consecutive games against the same opponent. This game principle is different from the one used in the Bronx, where victory is conceded after six consecutive games against the opponent. In this episode, Anang is leading with the number of seeds captured (approximately 27 seeds), while Pierro has around 20 seeds. As previously discussed (see chapter three), in Songo, each player starts with 35 seeds, and the player with 40 seeds wins a game.
Pierro and Anang have just captured two seeds on each other’s side, and the scene starts at Pierro’s turn (Figure 28). At his turn, Pierro moves seeds from the third hole on his right, and spreads them consecutively into the following holes. Anang then plays the seed in the first hole on his right. Excerpt 5.2 begins with expert players’ (first division) reaction to Pierro’s move as he picks seeds in the sixth hole on his right (Figure 28, C), and prepares to spread these seeds.

Excerpt 5.2

Caulet: bouffer, bouffer, qu’est-ce que tu fais là?
[make a capture, make a capture, what are you doing there?\(^9\)]

Vince: = bouffer, bouffer (Vince draws closer to the board and looks over)
[make a capture, make a capture]

Caulet: = c’est quoi là?
[What is that?]

Vince: il faut bouffer encore … il ne connait pas 4x4 …. c’est ça
[you should make another capture...he doesn’t know 4x4... that is it]

Caulet: il te restait trois pions là-bas
[you had three seeds remaining]

Ayos : = tu ne lui donnais pas les pions
[you should not have given him seeds/pebbles]

Caulet : = tu ne lui donnais rien
[you should not have given him any seeds/pebbles]

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\(^8\) Songo is played in a clockwise direction unlike Warri which is played in a anticlockwise direction

\(^9\) Translations are situated and contextualized.
A: Pierro moves four seeds from the third hole on his right, and spread them consecutively in the following holes

B: Anang plays the seed in the first hole on his right

C: Pierro picks seeds in the sixth hole on his right

Figure 28. Pierro and Anang moves prior to the exchange

This collective criticism forces Pierro to change his move, drop the seeds he picked in the sixth hole on his right, and play instead seeds from the third hole on his right. While criticizing Pierro, the expert players also gave hints that helped Pierro figure out the best seeds to distribute, which were seeds from the third row on his right because distributing these seeds were putting him at an advantageous position. Playing these seeds also ensured that his next move allowed him to capture three seeds at once, instead of two if he had played seeds from the sixth hole. Collaborative criticism led to Pierro’s conceptual change because he was able to quickly reflect on his action with the assistance of peers and change his game move.

As in the case of Bronx players, criticism in both settings is collaborative, yet molded by the cultural context. For instance, players in the Bronx collaboratively criticized each other
irrespective of players’ expertise (Excerpt 5.1), while in Elig-Esson collaborative criticism was done by players with the same or superior level of expertise. In other words, a player from the third division (i.e., intermediate) could criticize players from the same division but could not criticize players from the second (i.e., advanced) or first division (i.e., expert players). For this reason, Caulet, Ayos, and Vince could jointly criticize Pierro, whereas in the Bronx, players with any expertise could engage in collaborative criticism. This nuance in collaborative criticism is elucidated by the cultural contexts. In predominantly individualistic cultures such as the United States, people tend to perceive themselves as equal and to endorse greater expressivity (Jack, Caldara, & Schyns, 2012). In this cultural context, the right to expression is neither dependent on age nor on expertise because individuals are encouraged to form and voice their opinions early in their lives (Jack et al., 2012; Kim & Johnson, 2013; Yaman, Mesman, van IJzendoorn, Bakermans-Kranenburg, & Linting, 2010). However, the norms of collectivistic cultures such as Cameroon—respect for hierarchy, or as in this case expertise—are embedded in the culture and influence behavior and action (Jack et al., 2012; Kim & Johnson, 2013; Na, Kosinski, & Stillwell, 2015; Yaman et al., 2010). Therefore, it is not surprising that players with the same expertise engage in collective criticism during gameplay in Elig-Esson.

**Embodied Cognition**

During gameplay, members of the audience in both settings embodied their reasoning as their interacted with players through hand gesture, gaze, and body orientation/movement. I discussed embodied cognition as displayed by participants in both settings as another literacy practice participants engaged in during gameplay. The concept of embodied cognition stems from the understanding that thinking is not an abstract activity occurring in the mind only. Thinking is embodied because
the body functions as a central [place] for making and displaying meaning in unfolding activity and for structuring other participants’ actions and reasoning… through gestures, talk, touch, prosody, gaze, body posture, tool use, and others. (Azevedo & Mann, 2018, p. 97)

**Bronx, 165th and Sherman Ave.** In the excerpt below, I present an interaction between Hastac and Deal, in a game that opposes Hastac to Delva. As a member of the audience, Deal expresses his frustration over a move made by Hastac, which he perceives will prevent Hastac from capturing more seeds in the next moves.

*Excerpt 5. 3*

Hastac: to Delva] now you play *(after he plays the first hole on his right, and makes a capture)*

Delva: *(plays the third hole on his left)*

Hastac: *(plays the fourth hole on his right)*

Deal: [to Hastac] you counter the man … that’s a shot *(hand pointing at the third hole)* *(You should have played this hole, that’s a capture)* (see Figure 29)

Hastac: [to Deal] no let me play, all me have to do is play, all me have to do is play

*[No, let me play, all I have to do is to play, all I have to do is to play]*

(Figure 29. Embodied cognition between audience and players)

In the act of leaning and pointing at a specific hole on the game board, Deal indicates which hole could have yielded greater capture, and given Hastac an advantage over Delva. Deal’s thinking is also expressed through his body orientation and hand gesture (Figure 29).
Embodied cognition also implies that learning and knowledge occurs in the action and perception that are manifested through the body in diverse physical, material, and or social environments (Azevedo & Mann, 2018; Lee, 2015). Bodies are spaces that display and produce meaning and actions relevant to a specific setting (Goodwin, 2011; Hall & Nemirovsky, 2012; Hall & Stevens, 2016). In sum, the body is “a public resource for thinking, learning and joint activity” (Stevens, 2012, p. 338). Hence, people’s gestures, body posture, touch, talk, tool, object, or gaze reveal their thinking, their learning, as well as the action they jointly engage in to produce or display meaning in a particular context. As Hall and Nemirovsky (2012) put it:

human thinking and learning [should be seen as] intimately tied not only to the body, but to a body that interacts with other and is active in social and cultural settings already rich with mediating artifacts that afford particular kinds of joint activity. (pp. 213-214)

Embodied cognition points to the body as a locus for understanding thinking, learning in a particular setting with a mutual, and shared objective—e.g., understanding a concept—that involves a collective effort (Azevedo, 2013; Azevedo & Mann, 2018; Stevens, 2012). Embodied cognition evidences the connection between thought and action (Hutchins, 2010). Cognition is distributed through the interacting situation, which includes mind, body, and environment (Hutchins, 1995). Indeed, in his seminal work on pilots, Hutchins (1995) shows that cognitive activities are also enacted by groups of individuals. Information flows from one brain to another, causing cognition to be distributed, as process individuals process information jointly to accomplish a task (Hutchins, 1995, 2010).

Yaoundé, Elig-Esson. As in the Bronx, at Elig-Esson, players embodied their interactions with players. The excerpt below shows an example of an embodied interaction between Pierro and Caulet, as Pierro reacts on a move completed by Caulet, a move he thinks
showed a lack of strategy. This game opposes Jean to Caulet, and the extract opens up at Caulet’s turn:

**Excerpt 5.4**

Caulet: *(Plays the fourth hole on his right)*  
Jean: *(plays the third hole on his right)*  
Caulet: non, prends ça *(moves the seeds in the third hole on his right)*  
* [no, capture this]  
Jean: je prends … les pions comme ça mon ami *(plays the first hole on his left, and captures seeds in two consecutive holes)*  
* [I take … seeds/pebbles like this my friend]  
Caulet: *(counts the seeds/pebbles in the third hole on his right)*  
Pierro: comment tu peux donner tous les pions comme ça Caulet, il t’a gagné *(leans over with left hand on Caulet’s shoulder, and right hand fingers together and bent)*  
* <Figure 30>  
* [How can you give all the seeds/pebbles this way Caulet, he’s won against you]*

*Figure 30. Embodied cognition*

In this cultural context, the gesture of touching Caulet’s shoulder is a way of calling his attention, while holding fingers together speaks to quantity, size, and in this case number of seeds/pebbles. Pierro through this gesture embodies his thinking, while addressing Caulet: “comment tu peux donner tous les pions comme ça Caulet, il t’a gagné *[How can you give all the seeds/pebbles this way Caulet, he’s won against you]*.” These interactions do demonstrate that
cognition is illustrated in the body’s dynamic engagement the physical, and cultural world (Hutchins & Johnson, 2009).

**Distributed Embodied Cognition**

The concept of distributed embodied cognition is a notion I introduce to explain a distinct practice displayed by participants in this study. Unlike embodied cognition, distributed embodied cognition does emphasize concurrent embodied cognition with mutual/shared objective among participants in an interaction, where the collective effort is not aimed at a similar end goal, shared interest, or objective (e.g., solving a problem). In other words, participants’ embodied mutual interest in an object for example is different given the reason and/or their individual interest. However, I draw on embodied cognition to discuss distributed embodied cognition as a perspective that highlights the distinct interests of players in this study as they display their learning and thinking through their bodies.

Simply put, participants used their bodies simultaneously to make sense of an object of mutual interest, yet with opposite end goal or individual interest. Consequently, distributed embodied cognition refers to instances where participants concurrently embodied their thinking or learning on a mutual object with distinct concerns. If the notion of distribution is inherent to embodied cognition metaphor, it is tacit. However, the term distributed embodied cognition makes these considerations explicit, given that embodied cognition in its use can focus on a single individual during interaction, or to a group of individuals working together to achieve the same task or goal (Hutchins, 1995). Distributed embodied cognition here points to an alternative way of looking at embodied cognition as engaging individuals with different interests, who spontaneously and in a particular situation recruit different parts of their bodies to express their thinking.
**Bronx, 165th and Sherman Ave.** The figure below illustrates distributed embodied cognition as it occurred during gameplay among participants in the Bronx. Participating in this episode are four individuals—two players and two spectators (Figure 31, A). Hastac and Delva are on their sixth game, with Delva leading with one game. Delva had three games, and Hastac two games, and with the sixth game Hastac had the chance to make the game end with a draw by winning this sixth game, and causing the replacement of both players. The scene below starts after Delva’s capture of seven seeds/warris, and Hastac moving the seed/warri in the third hole on his left. Then Delva reacts by playing the seeds/warris in the third hole on his right. At this juncture, it is Hastac’s turn to play, and both players lean toward the board, gazing at the last hole on the right of Delva (Figure 31, B). Yet, the audience appears to gaze simultaneously at the same hole as they all use gaze to count the number of warris/seeds and then anticipate the move that could be advantageous to each of the player as shown in Excerpt 5.5.

![A: Setting of the sixth game between Delva and Hastac](image1)

**B: Both players and spectators gaze simultaneously at a specific hole on the board**

*Figure 31. Sixth game between Delva and Hastac*
As they simultaneously embodied their cognition (Figure 31, B), drawn to an object of mutual interest (the seeds/warris in the hole), participants also embodied their thinking and action through talk (Excerpt 5.5).

Excerpt 5.5

Delva: 6, 9, 17 ((Delva leans toward the board, and gazes at the hole))
Hastac: ((leans over the board, and gazes at the same hole)) < Figure 31, B>
Roger: 17 ((gazes at the same hole)) < Figure 31, B>.
Delva: = 17 (still gazing at the seeds/warris in the same hole) < Figure 31, B>
Roger: haha Mr. Deal (addresses Delva’s advantageous position, takes his eyes off the board and looks at Deal)
Deal: he has no shot (talking about Delva) [he can’t make a capture]

Excerpt 5.5 evidences distributed embodied thinking as participants all together gaze at the object of mutual interest, yet with distinct purposes because each player is interested in finding ways to win against his opponent. This may explain Delva’s repeated count of the seeds/warris in the hole as Hastac also gazes at the same seeds/warris thinking of his next move. Deal and Roger’s distinct interest in this distributed embodied cognition is also manifested when Roger, laughing, calls on Deal to draw his attention to Delva’s advantageous position. Deal’s reply: “he has no shot [he can’t make a capture]” indicates the opposing concerns Deal and Roger had while collectively gazing at the same object (seeds in the hole).

Yaoundé, Elig-Essono. Distributed embodied cognition was not a practice unique to participants in the Bronx, New York City. Similar interaction between players and the audience occurred with a slight variation in Elig-Essono. Here, the practice was often accompanied with guidance or help, provided to the player who was struggling or hesitant on the move he could make to win or counter the opponent at a moment in the game. Distributed embodied cognition in this context was coupled with scaffolding. For instance, in Figure 32, Pierro is to make a
move, but he does not seem to know which hole to play from to win over Anang. Anang just
played the seven seeds in the first hole on his right, and it was now, and on his turn Pierro seems
hesitant, appears to take more time than needed to make the obvious move that will end the game
and give him victory over Anang. At this moment, the audience and players jointly gazed at a
particular hole on the board, and through talk, body orientation, and gesture display their
thinking and reasoning (Excerpt 5.6)

*Excerpt 5.6*

Jean: Pardon met moi les pions … tu as gagné non (gazes at a hole on the board)
[Please play the seeds…you have won right] <Figure 32, A>
Jean: Mets là-bas (points with his finger at the third hole on the left of Pierro)
[Drop it there] <Figure 32, B>
Vince: met ça là (leans over and with his finger identifies the third hole)
[Play these ones] <Figure 32, C>

*Figure 32. Distributed embodied cognition*
The distributed embodied cognition (Figure 32, A) was coupled with explicit scaffolding (Figure 32, B, C) that helped Pierro play the appropriate seed at that moment. Just like in the Bronx, all participants in this event had an object of mutual interest, the seeds in the third hole on the left of Pierro, (Figure 32, A) but different concerns. For instance, though Anang jointly gazes at the same hole with the other interactants, his interest differs from Pierro’s interest in the game.

The cultural context certainly informs this practice given that in Cameroon for example, helping an individual who is struggling or facing a difficult time is a cultural expectation (Anchimbe, 2011; Farenkia, 2014). This cultural expectation filters through participants’ practices in this case, as it does among the community in the Bronx, where distributed embodied cognition centered on participants displaying their thinking through their bodies without explicitly helping any of the players. In a cultural context that values independence and greater reliance on self (Hofstede, 2001; Triandis, 2007), it is understandable that participants in the Bronx did not explicitly scaffold or guide players. Situated learning theory highlights the situatedness of distributed embodied cognition within the wider cultural setting in which it occurs that is Cameroon and the United States (Bell, Maeng & Binns, 2013; Brahms, 2017). The practice is embedded within the social and cultural context in which it takes place (Brown, Collins & Duguid, 1989; Lave & Wenger, 1991).

**Form of Distributed Computational Thinking**

Contrary to the Bronx, playing in Elig-Esson involved in frequent crosstalk and collaborative sense making of actions, rules, and plans between players and the audience, which involved complex mathematical reasoning similar to distributed computational thinking as discussed by Berland and Lee, (2012). I should note that distributed computational thinking is a
practice I observed only in Elig-Esson, as players and members in the audience collaborated to plan together.

**Yaoundé, Elig-Esson.** In the following segment, describing a moment in the second game in Elig-Esson between Jean and Caulet, players and the audience collaboratively make sense of actions and participate in the development of strategy. As shown in Excerpt 5.7, the audience (Presido, Ayos, and Pierro) collaborates with players to make sense of actions and plan together. This transcript starts at Jean’s turn to play, and at this instant in the game Jean has the opportunity to gain an advantageous position over Caulet if he makes the right moves. Ayos, Presido, and Jean collaborate to have Jean gain an edge over Caulet at this time in the game.

*Excerpt 5.7*

Ayos: [to Jean] tu dois seulement enlever un pion … il a déjà cinq *(pointing at the board)*
[you should only remove one seed...he already has five seeds]*

Presido: c’est ce qu’il faut, c’est 14 *(counts seeds on the board with his finger)*
[that is what is needed, it’s 14 seeds]*

Jean: c’est 14 non?
[it’s 14 seeds right ?]*

Presido: c’est 14
[it’s 14]*

Caulet: *(counts seeds in his hand)*

Ayos: [to Jean] tu peux aller comme ça *(touches the third hole on the left of Jean)*
[you can play like this]*

Caulet: ⇔ *(recounts seeds in his hand)*

Presido: [to Jean] non ne va pas là-bas, s’il va comme ça Caulet va plier et lancer
[no do not go there, if he plays like that Caulet will play the fourth hole on his right and reposition himself]*

Jean : je vais jouer, qu’il plie donc, on va voir *(plays the third hole on his right)*
[I will play, let him play, we will see]*

Caulet: *(plays the fourth hole on his right)*

Presido : [to Jean] c’est tout ce il va jouer, comme ça, ça lui donnes cinq pions, c’est comme ça,
[that’s all he will play, this way it gives him five seeds that’s how it is]*

Jean: = qu’il plie
[let him play that hole]*

Presido : [to Jean] sinon il aurait mouillé, c’est comme ça
[otherwise he would have failed woefully, that how it is]
Jean: = qu’il plie, qu’il plie (plays the fourth hole on his right)
[let him play that hole, let him play that hole]
Caulet: (touches the first hole on his right)
Presido: _initializer: [to Jean] s’il part là-bas, tu vas lui donner (points at Jean’s side of the board)
[if he plays that hole, you will beat him]
Jean: partout je le finis (plays the first hole on his right)
[any hole he plays I beat him]

The audience collaborates during gameplay with players to make sense of the opponent’s actions, as shown in Presido’s comments to Jean: “c’est tout ce il va jouer, comme ça, ça lui donnes cinq pions, c’est comme ça [that’s all he will play, so it gives him five seeds that’s how it is],” and collaborate with players to develop strategies. Ayos: [to Jean] tu dois seulement enlever un pion … il a déjà cinq [you should only remove one seed...he already has five seeds].” Ayos and Presido actively collaborate with Jean to interpret Caulet’s actions and articulate strategies that could lead to Jean’s victory.

Interestingly, distributed computational thinking in Elig-Esso was different from Berland and Lee’s (2012) study. According to literature, distributed computational thinking describes instances where multiple individuals (at least three) with different knowledge resources participate in strategy formation, emergencies, or planning of actions (Berland & Lee, 2012; National Research Council, 2010). The involvement of multiple sources in the formulation of strategies, or the interpretation of the opponent’s actions was spontaneous, and not driven by the collaborative nature of the game as it is the case in Berland and Lee (2012). In other words, participants’ collaboration was not prompted by their assignments into groups or the requirement to play in groups, but rather by the cultural context, which appears to inform this social aspect of computational thinking. Collaboration was unplanned, and in this cultural context, this unplanned collaboration can be linked to a culture that values relationships between individuals and the wider community, sharing, and exchange (Mbaku, 2005; Nkwain, 2015). For this reason,
it was expedient for players and the audience to engage in distributed computational thinking in specific moments in a game that is competitive by nature. Distributed computational thinking was situated at a specific moment in the game and shaped by sociocultural practices.

**Language in Use**

The language used in Elig-Essono and the Bronx was related to the context and participants’ cultural identity as they interacted during gameplay.

**Yaoundé, Elig-Essono.** Language use during gameplay in Elig-Essono was a combination of local and ex-colonial languages. As previously stated (see chapter three), Yaoundé is a multilingual city, where the interactions of local and ex-colonial languages has resulted in the emergence of new languages. For instance, Cameroonian pidgin-English emerges from the interactions of French, English, and local languages (Achimbe, 2014; Nkwain, 2014). French, English, Pidgin English, and local languages interactions also created other languages such as Camfranglais (Kouega, 2003; Ntsobé, Biloa, & Echu, 2008). Camerounism, which is a particular use of French by Cameroonian speakers, is a language resulting from the contact between French and local languages (Atindogbé & Bélinga b’Eno, 2014; Biloa, 2012). This language is different from standard French and is spoken by Cameroonian at every level of society (Biloa, 2012; Mendo Ze, 1999). Camerounism draws on local languages, and it is to some extent a way for Cameroonians to distance themselves from a foreign language that was imposed on them during French ruling of this part of the country (Atindogbé & Bélinga b’Eno, 2014; Mendo Ze, 1999).

There are various forms of Camerounisms consisting either in integrating local languages into French during conversations or in translating local language idioms into French (Atindogbé & Bélinga b’Eno, 2014; Nzesse, 2009). The complex multilinguism of Yaoundé was experienced
as players interacted with each other during gameplay. The following exchange between Caulet and Abi, in a game that opposes both players, evidences language used by players. The conversation below begins after Abi plays the first hole on his right:

*Excerpt 5. 8*

Caulet: tu t’approches du mort *(plays the first hole on his right)*

[you are approaching the dead]

Abi: (moves the seeds on the first hole on his left)

Caulet: ☵ tu crois que je te laisse jouer parce qu’il n’y a pas de joueurs

[you think I let you play because there are no players]

Caulet: *(plays the fourth hole on his right)*

Abi: *(plays the third hole on his left)*

Caulet: on appelle ça le bricole, tu es en train de t'écorcer *(plays the third hole on his left)*

[it is called the tinker, you are tinkering]

Mano\textsuperscript{11}: mais Abi, ça sent bon hein

[well Abi, it smells good hein]

Caulet: haha, mais est-ce que je joue, est-ce qu’il faut l’arrêter encore quand on l’appelle là-bas *(plays the third hole on his right)*

[haha, well I am joking, should we stop again him when we call him there]

Abi: Il y’a un problème? *(moves the seeds in the third hole on his right)*

[Is there a problem?]

Abi : Tu crois vraiment qu’il y’a un problème? *(makes a capture)*

[Do you really think that there is a problem?]

Caulet: tu auras les pourrissons *(plays the second hole on his right)*

[You will have pourrissons]

Abi: qui pourrissons?

[Who pourrissons?]

Caulet: tu auras les pourrissons *(plays the third hole on his right)*

[you will have the pourrissons]

This excerpt shows a peculiar use of language, also known as Camerounism by players during gameplay. When Caulet says “tu t’approches du mort *(you are getting close to the dead)*,” he is translating into French, a local language idiom meant to describe a critical situation

\textsuperscript{10} Translated to evidence Cameroonianisms used by players during gameplay. The statement means “you are about to lose the game.”

\textsuperscript{11} Mano is a spectator in this sequence.
that leads to death or ends the process one started. Employed to alert or warn people, by using this Camerounism, Caulet means Abi is about to lose the game. Likewise, in the following sentence “haha, mais est-ce que je joue, est-ce qu’il faut l’arrêter encore quand on l’appelle là-bas [haha, well I am joking, should we stop again when we call him there],” Caulet translates into French another local language saying. In local language, this adage means that an individual who is on the path to destruction can no longer be stopped or saved. Thus, in this context, Abi’s loss was imminent, and no moves could reverse the situation. Abi’s question “Il y’a un problème? [Is there a problem?],” Mano’s statement “Mano: mais Abi, ça sent bon hein [well Abi, it smells good hein],” and Abi’s reaction “qui pourrissons? [Who pourrissons?]” are all examples of translated local languages idioms into French or use of local language syntax structure in French.

Another interesting language use is found in the word “pourrissons,” which is literally the plural form of the French verb “pourrir [to rot]” conjugated in the present tense. Yet, in this excerpt, “pourrissons” is used as a noun, to mean capturing seeds that will not lead to victory. Statements such as “je vais lui donner un Ki” [I will give a Ki] that is, winning a game without allowing the opponent to capture five seeds/pebbles also exemplify the combination of local language with ex-colonial language during gameplay. “Ki” is the short form for “Kimbang12” in the Ewondo language. I should add that Camerounisms were also employed in interactions between players and the researcher. For instance, to introduce me to other players as coming from a foreign country, players will say “c’est une mbenguiste” [she is a mbenguiste], a Camerounism, where mbengué (local language) means abroad or foreign country (Atindogbé & Bélinga b’Eno, 2014).

12 In Songo it means that you were not able to have at least a hole, that is to say five seeds.
Furthermore, to capture the expertise of a player, words such as “c’est un songologue [he is a songologue],” and “je suis un songologue” [I am a songologue] were used to refer to a player’s level of expertise in the game. The word “songologue” refers to a player with great expertise in the game, and identifying or being identified as a “songologue” simply means being the best or among the best. The word is the combination of “Songo” and “logue,” from the Greek word logos meaning study. Thus, literally, “songologue” refers to one who studies Songo, thus the use of the word to identify a player’s expertise. Yet, when participants described their gameplay as follows: “ici là c’est la songologie [here is songologie],” they simply meant the gameplay involved complex strategies, and only expert players could understand and play; it is the art or science of the gameplay.

It is worth mentioning that Camerounisms are also an expression of Cameroonian identity, a means to reclaim their identity and reject foreign languages imposed on them by colonialism (Achimbe, 2014; Nkwain, 2014). Yet, as previously mentioned, Camerounism is a cultural phenomenon shaped by the context. Indeed, language use is not separated from the context, and research reports the relation between language and the cultural context in which it is used and learned (Souto-Manning, 2010; Young, 2008). Cultural context influences the way language is used, the meanings associated with words, and the way language is perceived as either a means of communication, a symbol of status, or an artistic expression (Hillier, 2003; Souto-Manning, 2010; Young, 2008). Language in use is a contextually situated talk (Hillier, 2003; Souto-Manning, 2010; Young, 2008).

**Bronx, 165th and Sherman Ave.** In the Bronx, players used Antiguan Broken English, also known as Antiguan Creole in the literature (Ballester, 2014; Mehring, 2008). Though one of the players in the Bronx was from Ghana, in West Africa, during gameplay, the preferred
language was Antiguan Creole (AC). When asked why AC during gameplay, Delva says “because I feel more free up speaking the way I speak; since I was a child that’s broken English, but I can speak the plain English ... yes, it is more comfortable for me.” Preference for AC in the Bronx was then related to participants’ personal background, their ethnic and cultural identity. They identified as Antiguans in the Bronx, who played a game very popular in Antigua Warri, and this may explain why Adman responded when I asked whether AC was different from patois\(^{13}\), in relation to the use of AC during gameplay “no Jamaicans talk different than us \(\textit{no Jamaicans speak differently}\).”

The extract below showcase AC as used by participants in a game opposing Delma and Deal. Delma at this moment is about to win the fourth game against Deal, and this passage starts after a wrong move Deal made because he miscalculated the number of warris/seeds in the hole he played.

Excerpt 5.9

Delva: I am in the game long time
\(\text{[I have been playing for a long time]}\)

Delva: bad shot he make...bad shot he make...me gi he...me gi he
\(\text{[he made a bad move...he made a bad move... I gave him...I gave him]}\)

Hastac: [to Delva] Booke tell he to tell you, practice your practice he gonna bang he
\(\text{(pointing at Adman)}\)
\(\text{[Booke told him to tell you, play more, but he is still going to beat you]}\)

DePaulo: [to Deal] he is going to catch you

Delma: [to Adman] he cool man ... he kind of nice, but he too light for me man
\(\text{[he is a cool man... he is kind of nice, but he is not that good for me]}\)

Adman: what do you mean he too light?
\(\text{[what do you mean by he is not that good?]}\)

DePaulo: he is too light
\(\text{[he is not that good]}\)

Hastac: haha he watch the guy, he can’t play that hard
\(\text{[haha he watched the guy, he can’t play that well]}\)

Delva: [to Deal] me get you… 14, 14 Deal \(\text{(counting warris/seeds)}\)

\(^{13}\) A version of Creole language spoken in Jamaica
[I will beat you...14, 14 Deal]
Deal: (plays the third hole on his left)
Delva: Deal e trembling... a trembling... e can’t play in front of the crowd
[Deal is scared... you are scared... he can’t play in front of the crowd]

Though living in an English-speaking country and being able to speak English during the game, AC was the preferred language of communication that even DePaulo (player from Ghana) learned because of gameplay. When Delva says “bad shot he make...bad shot he make...me gi he...me gi he [he made a bad move...he made a bad move... I gave him...I gave him] he is stating that Deal made a bad move because he was allowing him (me gi hi) to capture warris/seeds, but Deal did not. Players also used AC sayings such as “if songo no catch you lungo go catch you,” to mean if you escape here I can catch you the other way. In other words, the player will make a capture irrespective of the opponent’s moves. The use of AC was interesting in this setting, given that in Antigua, AC is not an official language (Ballester, 2014; Mehring, 2008). For these players, language was related to their cultural identity and sets them apart from the Caribbean communities. As Young (2008) explained, language during gameplay is the means by which participants communicate, construct identity, and establish membership in the community.

DePaulo did not speak AC, but understood it because of gameplay. From a legitimate peripheral perspective (LPP), learning occurs in interactions, through participation in cultural activities (Lave & Wenger, 1991; Wenger, 2006). In this case, DePaulo learning the language was situated in the interactions in the gameplay space/place, where the language was used. In this regard, Delva stated:

well he [talking about DePaulo] can follow because he’s accustomed to what we’re speaking up here; so he can follow the dialect you know; so it doesn’t matter if I speak broken English to him or I speak plain English to him he will understand some of the phrases.
AC is, in this setting, the language of the game and the preferred language for players during gameplay. I therefore provide an overview of the development of AC in the next paragraph in Antigua to help understand players’ preference.

**Historical Development of Antiguan Creole**

At this juncture, an overview of Antiguan Creole is relevant. A vast majority of Antiguans are descendants of African slaves who were brought to the island to work on sugar plantations (Mehring, 2008). As other former British colony in the Caribbean, Antiguans speak English as an official language and the Antiguan Creole (Avram, 2016; Ballester, 2014), which players in this study called Broken English. Antiguan Creole (AC) is the combination of several languages that result from the historical settlement of the island, making it distinct from creole spoken in other Caribbean countries (Avram, 2016; Ballester, 2014). English settlers from different parts of England and African slaves contributed to Antiguan Creole (Ballester, 2014; Ballester, 2016). African languages—particularly Gbe and Akan (i.e., Twi, Fante, and Asanti) from West Africa, and English from different parts of England, including colonial varieties of English from islands such as Barbados and St. Kitts—contributed to the development of AC (Ballester, 2016; Le Page & Tabouret-Keller, 1985).

In its formation, AC is not an identical language to other languages in the Caribbean islands, given that its creation was a gradual process that ended with the introduction of African slaves in Antigua in the 18th century (Avram, 2016; Ballester, 2016). The most recent African slaves had less contact with the English owners and rather interacted with the creole language they found on the island, already spoken and developed by previous slaves due to their direct interactions with the plantation owners (Arends, 2008; Le Page & Tabouret-Keller, 1985). Hence, from the interactions between newly arrived African slaves (i.e., still speaking African
languages) and local African slaves’ descendants (who were speaking creole), AC emerged (Avram, 2016; Ballester, 2016). Often perceived as a manifestation of illiteracy and poverty, AC in recent years is increasingly positively viewed in different contexts and considered a symbol of cultural identity (Ballester, 2014, 2016). Consequently, speaking AC during gameplay for Antiguan players in the Bronx was also a matter of identity in this space/place.

Language in both settings participates in the construction of participants’ identity. However, in Elig-Essono, words such as “songologue” were created to identify players or indicate the status of the player, participating in the construction of player’s identity (Bucholtz & Hall, 2005; Young, 2008). And language reflected the cultural context in which participants were interacting (e.g., Camerounisms such as Ki, Pourrissons). Bronx players’ use of language was greatly influenced by players’ national or cultural identity and not by the cultural context alone, which interestingly contributed in the language use. In an English-speaking country, with immigrants from different parts of the world, AC demonstrated that participant belong to the Antiguan community (i.e. claim Antiguan identity) and particularly to this gaming community.

From a sociocultural perspective, language was shaped by the cultural context (Elig-Essono) as well as players’ ethnic identity (Bronx). Legitimate peripheral participation (LPP) uncovers how identity construction converge with language to highlight learning. Indeed, from the LPP perspective, learning is related to identity development as newcomers take on the new identity, moving from the periphery of the community to the center (Eberle, Stegmann & Fischer, 2014; Lave & Wenger, 1991; O’Donnell & Tobbell, 2007). In this study, I use LPP as a lens to look at participation during gameplay. As shown in the data, players at specific moments in the gameplay leave the periphery to the center that is use language at a point in the game. LPP here is not about the process of moving from novice to expert (Eberle et al., 2014; Lave &
Wenger, 1991), but rather about knowing when and how to participate in different instances of the gameplay. This participation is informed by the cultural context as shown by the language in use during gameplay. Legitimate peripheral participation here uncovers the moment, or instances of participation in the gameplay, for participants did not “lack the necessary community-specific knowledge that would allow them to participate in a more central way” (Eberle et al., 2014, p. 218; Back, 2011). Hence, learning occurs as participants intervene at specific moments, turning into moment-specific participants. In this regard, legitimate peripheral participation is situated in the moment with language at particular moments. In addition to language in use, other forms of meaning making among participants appeared slightly similar to literacy practices discussed in the literature, and shaped by the cultural context as shown below.

**Scaffolding**

It was common for the audience to provide appropriate assistance to players to help them in the game in both contexts.

**Yaoundé, Elig-Essonó.** It was common for the audience, for example, to participate in the gameplay by helping a player in different ways. For instance, when playing against Anang, who was having an upper hand on Pierro, Jean (a member of the audience) intervenes as he sees Pierro struggle. The excerpt describes such a moment, as Pierro prepares to play, Jean looks at the board and says the following:

Jean: [to Pierro] mets là *(points to the fourth hole on his right)*
*drop the seeds/pebbles there*

Pierro: le grand lui-même est là, tapez- moi encore *(counts seeds/peebles in the third hole and plays the fourth hole)*
*The expert himself is here, beat me again*  

Here, Pierro was being coached on how to play ensured victory. This help boosted Pierro’s confidence in his abilities as he says to participants in the scene at this moment: “le grand lui-
mème est là, tapez-moi encore. [The expert himself is here, beat me again].” As stated in the literature, scaffolding is about giving appropriate assistance for people to perform a task, attain a goal, or engage in practice otherwise beyond their reach (Davis & Miyake, 2004; Kupers, van Dijk, & van Geert, 2017; Tabak, 2004). The excerpt above evidences scaffolding during gameplay.

**Bronx, 165th and Sherman Ave.** This practice was similar to the interactions between players and the audience in Elig-Essono. There were many situations during gameplay where a player was helped to prevent him from making a mistake. For instance, Hastac miscounted the warris/seeds in a hole, which resulted in Delva winning a game and leading in the series of six consecutive games (three to two). In this episode, Roger, a member of the audience, participates in the gameplay by helping Hastac figure out the exact warris/seeds that were in a specific hole as he gazes at a hole on Delva’s side of the board. Roger at this moment tells Hastac: “14,” that is to say that 14 warris/seeds were in that hole. Roger’s intervention helps Hastac make the decision to play the first hole on his left.

Scaffolding in both contexts was similar as the audience interacted with players to support, coach, and provide guidance. This form of participation was legitimate from a legitimate peripheral perspective as the audience moved from the periphery to the center that is becoming directly involved in the gameplay.

**Distributed Scaffolding**

In the process of assisting players, the audience also employed multiple sources (e.g., body language, gesture, and conversation) to help a player as shown in Excerpt 5.10. In Elig-Essono, as in the Bronx, distributed scaffolding was part of gameplay. The following episodes illustrate how multiple individuals intervene to address the need of players during gameplay.
Yaoundé, Elig-Esson. In this episode, Ayos and Jean are playing against each other. Spectators in the current game include Vince, Pierro, Caulet, and Anang. Minutes into the game, it becomes clear that Jean has an edge on Ayos, having 30 seeds/pebbles with Ayos having 20. A capture of 10 additional seeds/pebbles gives Jean, whereas Ayos needs 20. In this segment, one sees how the audience works with Ayos to scaffold him into making strategic moves that lead to more capture. The audience coaches Ayos, by reading and anticipating Jean’s moves, directing Ayos on what move to make, and helping him anticipate the most appropriate move in reaction to Jean’s action. This excerpt opens up at Ayos’ turn to play.

Excerpt 5.10

Ayos: (counts seeds in the first hole on his left)
Caulet: [to Ayos] tu as combien ?
[How many seeds do you have?]
Ayos: 20
Jean: il ne gagne pas
[He does not win]
Caulet: [to Ayos] combien?
[How many?]
Ayos: 20
Jean: [to Anang] il faut regarder hein, il y’a 21
[You have to look hein, there are 21]
Anang: [to Ayos] demande avec 21, demande d’abord
[Wait to have 21 seeds, wait first]
Ayos: (plays the fifth hole on his right)
Jean: (plays the second hole on his right)
Anang: [to Ayos] voilà, maintenant donne ici (points at a hole)
[Good, now drop your seeds here]
Caulet: [to Ayos] va, va, va donc, c’est bon [moves hand from left to right]
[Then move, move, move, it’s good]
Ayos: ☞ (touches a hole different from the one indicated by Anang)
Anang: [to Ayos] non, non, va, tu vas bouffer même plus (points at a hole)
[no, no, play this hole, you will even capture more seeds]
Caulet: [to Ayos] devant ton pion (leans over the board and points at a hole)
[The hole right before your seed]
Anang: [to Ayos] devant ton pion (points at the same hole)
[The hole right before your seed]

The excerpt shows how Ayos is helped at a moment where he is trying to figure out his next move. Caulet and Anang intervene to help him strategize. With the question: “tu as combien? [How many seeds do you have?]”, Caulet collaborates with Ayos to think about his next move, and once Ayos confirms the number of seeds/pebbles in the hole, Anang suggests the move he should make, by suggesting the following “demande avec 21, demande d’abord [Wait to have 21 seeds, wait first].” A suggestion that is supported by Caulet as he builds on Anang’s suggestion to say “va, va, va donc, c’est bon [Then move, move, move, it’s good].” Ayos is scaffolded by both players, who even explain the rationale of the suggestion as shown here when Anang says “non, non, va, tu vas bouffer même plus [no, no, play this hole, you will even capture more seeds].” This example shows that help was provided to Ayos by two spectators, and even by Jean, his opponent, when he says “il faut regarder hein, il y’a 21 [you have to look hein, there are 21]. This comment means with 21 seeds, Ayos will make a better capture, thus Anang’s suggestion: “demande avec 21, demande d’abord [Wait to have 21 seeds, wait first].” Furthermore, when necessary, additional explanation was added to support the player’s understanding of the guidance given: “non, non, va, tu vas bouffer même plus [no, no, play this hole, you will even capture more seeds].” In the literature, this type of scaffolding is referred to as distributed scaffolding and implies that people need diverse sources of support to engage in a practice (Hsu et al., 2015; Tabak, 2004). Tabak (2004) defined it as “multiple forms of support that are provided through different means to address the complex and diverse learning needs” (p. 307). Distributed scaffolding integrates different social or material supports that work together to provide support (Hsu et al., 2015; Tabak, 2004). The audience provided support to players in a distributed way as well.
Bronx, 165th and Sherman Ave. As in Elig-Essono, distributed scaffolding happened in the Bronx. In this episode, Delva and DePaulo are facing each other, and the audience consists of Hastac, Roger, and Deal. Delva has just won the first of the series of six games both players will play consecutively. DePaulo starts this game with great determination. He has the upper hand on Delva at this point in the game, having captured 12 seeds/warris already, while Delva just has six. As previously stated, the first player with 24 seeds wins the game. The following excerpt begins at Delva’s turn:

Excerpt 5.11

Delva: (gazes at a hole)
DePaulo: ⇔[to Delva] it’s just 14, forget about that I have counted (points at a hole)
Delva: (plays the third hole on his right)
DePaulo: haha I am letting you have that one (plays the third hole on his right)
Delma: (gazes at the board)
Hastac: [to Delva] you should play the house (points at a hole)
[You should play the hole with many seeds in it]
Delma: [to DePaulo] let me see your next (plays the hole Hastac suggested)
DePaulo: haha (plays the third hole on his right)
Delva: you laugh …you laugh?
DePaulo: yes (plays the first hole on his left)
Deal: [to Delva] hold him down (points at a hole)
[concentrate and play your best]
Delma: he dead man… he dead (plays the hole Deal recommended)
DePaulo: haha, yeah
Delma: what you see something I can’t see?
Paul: I owe you no explanation

The passage above (Excerpt 5.11) illustrates how Delva receives help from different members of the audience at different moments of need in the game. For instance, when DePaulo (his opponent) sees him gaze at a hole for a couple of seconds, he lends his help, understanding that Delva at this point needed to have the right number “it’s just 14, forget about that I have counted.” In his statement, DePaulo also assists Delva, by letting him know that the move he was
about to make will not lead him to victory; he had already counted the seeds. Assisting Delva at different point of need in the game exemplifies the diversity of help provided to Delva to support the different needs he had at various points in the game. Interestingly, when asked to explain the reason for this form of participation in the game, Adman says:

> because, I don’t know just competition, just the competition in us we want to see you play the best Warri and if he has a game for win and he makes a bad play, he makes a play that later on the other player win you try to correct, correct him like him I correct him, that’s what we do we correct each other off the board you know trying to let each other get better that’s because we’re playing a match against one another we want to see this one get harder and this one get beaten.

It is therefore clear that distributed scaffolding was practiced to assist players in becoming better players, which is more competitive, making gameplay more competitive and interesting. Yet, for a competitive game, this form of assistance is not expected. Having players in the Bronx think about helping each other in an individualistic culture further indicates that players’ cultural identity informed this practice. Players, as already discussed, come from Antigua and Ghana—countries with collectivists’ values and traits (Chioneso, 2008; Muruthi et al., 2016). It is interesting that the American cultural context does not shape this practice, but rather players’ cultural identity.

I should mention that distributed scaffolding in both settings is unique because even the opponents participated in providing support to each other when needed. Opponents gave support either directly as DePaulo did “it is just 14,” or indirectly as Jean did when calling on Anang “il faut regarder hein, il y’a 21 [you have to look, there are 21 seeds/pebbles].” Besides being situated at exact moments in the gameplay, distributed scaffolding is socioculturally imbued. Indeed, the patterns of distributed scaffolding identified in the literature such as differentiated and synergetic scaffolding (Tabak, 2004; Ustunel & Tokel, 2018) are more noticeable in one cultural context than the other. For example, in the Bronx, differentiated scaffolding, which
combines multiple supports but addresses each need “with its own scaffold” (Tabak, 2004, p. 315), was mostly practiced. As depicted in Excerpt 5.11, Delva had different needs, which were addressed at different point with different scaffolds: “you should play the house.” Whereas in Elig-Essono, synergistic scaffolding, which refers to “multiple co-occurring and interacting supports for the same need” (Ustunel & Tokel, 2018, p.132; see also Tabak, 2004) was often displayed. As in the case of Ayos (Excerpt 5.10), Anang and Caulet’s scaffolds complete and augment each other to address the same need: “va, va, va donc, c’est bon [Then move, move, move, it’s good],” and “non, non, va, tu vas bouffer même plus [no, no, play this hole, you will even capture more seeds].” Furthermore, this practice illustrates how the audience participates in the game, shifting during gameplay from the periphery to the center.

**Culturally Situated Collaboration**

Collaboration permeates all the forms of interactions discussed above. Collaboration appears inherent to *Songo* and *Warri* gameplay in both contexts, making the gameplay interesting, given that this is a strategic and competitive board game for two individuals. Yet, a discussion on collaboration is necessary here because in addition to the aforementioned practices that foster collaboration, I observed an interesting form of culturally situated collaboration in Elig-Essono. This form of collaboration was not practiced in the Bronx, and it can certainly be said to be influenced by the communal culture of the country and used at specific moments in the game.

In the Bronx, players and the audience collaborated through the practices describe above. However, during *Songo* gameplay in Elig-Essono, a player sometimes initiated collaboration. In difficulty during the game, a player could call for help among members of the audience as illustrated in Figure 33. Such collaboration is based on a need that the player has identified, and
his assessment of his expertise prompts this call for help, which is to some extent a type of expertise sharing, given that a more advanced player volunteers to replace the player in difficulty. I termed this form of collaboration player-based initiated collaboration. The other type of initiated collaboration occurs when a member of the audience calls on another to help a player in difficulty during gameplay. In this case, the audience member volunteering to help stands by to provide moment-by-moment guidance (Figure 33, A). I refer to this type of collaboration as audience-initiated collaboration. In the paragraphs below, I share episodes of both types of collaboration.

**Audience-initiated collaboration**

For example, in the game between Ngibi and Nti (Figure 33, A), Nti is in a disadvantageous position, seems confused, and on the verge of losing to Ngibi. Guyman, a spectator says: “Pierro on fini ton homme ici [Pierro they are dealing with your man here],” which is a covert call for help. By explicitly calling on Pierro, Guyman recognizes that on his own Nti cannot win against Ngibi; he requires some assistance from a player who is more advanced than him, who could guide him into a potential victory against his opponent. The extract opens when Pierro draws closer to players, positions himself to have a better view of the gameplay, and starts guiding Nti (Figure 33, A).

*Excerpt 5.12*

Pierro: [to Nti] ta case a combien?  
[How many seeds/pebbles in your hole] <Figure 33, B>
Nti: (counts seeds in the third hole on his right)
Pierro: c’est combien?  
[How many seeds?]
Ngibi: [to Nti] il faut qu’on te montre  
[They need to show you]
Pierro: 23  
[23 seeds]
Ntì: *(plays the fourth hole on his right)*
Ngibi: *(plays the fourth hole on his right)*
Pierro: [to Ntì] Eh, pourquoi tu as mis 24? Heureusement que lui aussi il est comme ça
*[Eh, why did you make it 24? Fortunately he is not that good]*
Ntì: [to Pierro] j’ai normalement 16 *(showing seeds in his hands)*
*[I currently have 16 seeds]*
Pierro: non va comme ça Ntì *(points at a hole)*
*[No play like this Ntì]*

*Figure 33. Audience-initiated collaboration*

This form of collaboration is situated at a point in time and prompted by a need identified by the audience. The audience member called upon is always more advanced than the player he is coming to help, and he has a similar level of expertise with the opponent. In this regard, the audience member and the player collaborate to solve the problem—in this case to equip Ntì with the additional knowledge that can aid him in competing against Ngibi.

**Player-initiated collaboration**

The second example shows another type of collaboration between the audience and players. Contrary to the previous example, the player initiates collaboration here. In this episode, opposing Pierro to Ngibi, the former has a clear advantage on the latter in this time in the game.
Sensing danger, and realizing that he could win against Pierro, Ngibi calls on Nti for help (Figure 34,. B). The excerpt below opens up with Ngibi’s call:

Excerpt 5. 13

Ngibi: Nti, Nti (calls on Nti)
Nti: oh\(^{14}\) (answers) <Figure 34, A> [Yes]
Nti: (leaves his seat) <Figure 34, B>
Pierro: Nti, Nti, il t’appelle déjà au secours [Nti, Nti, he is already calling you for help]
Nti: il ne sait pas jouer (draws closer to players) [He does not know how to play] <Figure 34, C>
Pierro: ce sont des acolytes [They are bodies]
Nti: on ne construit pas sa maison comme ça [You don’t build your house like that]
Ngibi: (gazes at the board)
Nti: (taps him on the shoulder) <Figure 34, D>
Ngibi: (gives his seat to Nti) < Figure 34, E>

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\(^{14}\) Exclamation in the local language, Ewondo, which means yes, and is used as a response to someone’s call for attention.
Both types of collaboration are shaped by the cultural context, which encourages extending help to a person perceived as being in difficulty (Mbele, 2005; Nkwain, 2014). This practice is therefore informed by the cultural context, making it different from collaboration as defined in the literature, which often emerges from the fact that people are paired or assigned in groups to work together throughout an activity (Edmonson & Nembhard, 2009; Li et al., 2014) and is not generated by a need at a specific point in time. For authors such as Nissen, Evald, and Clarke (2014), collaboration is a form of interaction characterized by “strong linkages and interdependency between members of a group or team” (p. 475). Critical to collaboration are
elements such as trust and dialogue among people working together to solve a problem, for the development of shared goal or understanding to occur (Edmonson & Nembhard, 2009; Nissen et al., 2014). Yet, most theoretical approaches to collaboration assume individuals are in groups and the influence of partners on the group (Capdeferro & Romero, 2012; Li et al., 2014). Collaboration here is situated because it targets a need that participants recognize necessitates collaboration to address.

From a legitimate peripheral participation framework, the act of inviting another player to assist moves these players from the periphery to the center as they become active, legitimate participants in the gameplay. Legitimate participation here means that the practice is validated by the community. Obam (2008), in discussing tacit and unspoken rules of Songo, explained that the game reflects life in community, and as such players should display and use their competences for social cohesion. As a recreational game, the author argues that for the people of the forest (mostly farmers), Songo is also the metaphor of sowing seeds. Ensuring that everyone in the community has seeds for the planting season explains the assistance players should give to each other during gameplay, particularly to the ones in difficulty (Obam, 2008). Hence, helping another player is part of the gameplay, and it is rooted in the cultural approach to life in the community, for what affects one member of the community affects the entire community.

**Inter-player Interactions**

**Form of Computational Thinking**

My analysis of inter-player interactions highlights an interesting phenomenon often discussed in the literature in relation to digital or modern technology such as computers or video games. However, my data show that players here engaged in a complex form of mathematical reasoning that has similarities with computational thinking as discussed by Berland and Lee
(2012). I draw on Berland and Lee’s (2012) elements of CT (i.e., conditional logic, algorithm building, debugging, and simulation) to discuss CT in both settings (Elig-Essono and the Bronx) given their focus on board games.

**Bronx, 165th and Sherman Ave.** A nuanced analysis reveals that gameplay includes various aspects of CT. I choose the episode below to represent the complex thinking taking place during Warri gameplay. In this segment opposing DePaulo and Delva, a few minutes into the second game of a series of six consecutive games, DePaulo told Delva that he could not win six games against him as he did when playing against Deal, after Delva declared that DePaulo would not be able to win one game against him. The transcript begins after DePaulo moves the warri/seed in the first hole on his left and drops into the following hole. It is now Delva’s turns to play, and leaning over he gazes at a hole on the Warri board:

*Excerpt 5.14*

DePaulo: do not run, move again, move again, I say move again *(plays the first hole on his left)*

Delva: *(bends over the Warri board, gazes at a hole, and plays the first hole on his right)*

DePaulo: *(plays the first hole on his left)*

Delva: *(gazes at a hole on the board)*

DePaulo: \(\Rightarrow\) forget about that

Delva: hush your mouth *(still gazing at the hole)*

*(Shut up)*

DePaulo: \(\Rightarrow\) forget about it…I always set my traps, I always

Delva: = nice *(counts with his hands the holes on the board starting on the third hole of DePaulo’s side and stops at the third hole on his side of the Warri board)*

DePaulo: \(\Rightarrow\) look at him, counting like a first grade student

Delva: \(\Rightarrow\) *(plays the third hole)*

DePaulo: counting like a first grade student *(plays the second hole on his left and makes a capture)*

Delva: you cut my boy

*[You made a capture my boy]*
In this excerpt (5.14), Delva and DePaulo engage in complex reasoning that is albeit not always self-evidently explicit. However, when DePaulo tells Delva, while he is gazing at a specific hole, “forget about that [and again as he continues to gaze] forget about it … I always set my traps, I always,” one observes algorithm building, which in its complex form is about “planning for unknown events” (Berland & Lee, 2011, p. 70). DePaulo anticipated Delva’s moves, and for this reason “set his traps,” dropping and moving warris/seeds on the board that could only lead to a capture, irrespective of how Delva played. Algorithm building consists of a set of conditional logic—local consequences of a given move (Berland & Lee, 2011). Indeed, “setting traps” implies considering local logical consequences of any potential move of the opponent. Hence, in building its algorithm, DePaulo also uses conditional logic, as well as simulation, which is the execution of plans or algorithms (Berland & Lee, 2011), resulting in a capture after Delva plays his third hole.

Yaoundé, Elig-Esson. As in the Bronx, CT was a recurrent practice during gameplay in Elig-Esson. An aspect of player-to-player interaction, in Elig-Esson, players explicitly discuss their plans, making their algorithm building known to their opponent and even to the audience as if they played collaboratively. In this regard, CT here was slightly different from the one practice in the Bronx, where CT (e.g. algorithm building, or simulation) was often discussed in few and limited words (e.g., DePaulo saying, “forget about it … I always set my traps, I always” in Excerpt 5.14). In addition, CT in Elig-Esson was also an opportunity to share knowledge and help the opponent, while displaying one’s expertise.

In the passage below, during a game between Presido and Eno, Presido is leading the game and appears motivated after just winning against another player as he starts this game. A few minutes into their first game, Presido notices that he has the upper hand and is in a good
position to capture at least six seeds/pebbles with his next move, after Eno would have played.

The excerpt opens up with Presido stating what he will do, depending on what he thinks could be Eno’s next move. It is Eno’s turn to play:

**Excerpt 5.15**

Presido: s’il me donne, je prends, je ne peux pas laisser
[If he allows me to capture, I will capture, I can’t leave it]

Eno: (counts seeds/pebbles in the second hole on his right)

Presido: ⇨ s’il me donne, je ne peux pas laisser, je vais seulement dire merci
[If he allows me to capture, I can’t leave it, I will just say thank you]

Eno: (touches the first hole on his right)

Presido: ⇨ non, tu ne peux pas jouer cà, c’est pas possible
[No, you can’t play that hole, it’s not possible]

Eno: (removes his from from the first hole on his right)

Presido: ⇨ s’il joue cà, cà tombe ici, je libère, je marches, et puis c’est fini (showing with his hand)
[If he plays that hole, the seed falls here, I move, I drop seeds, and it is over]

Eno: (counts the seeds/pebbles from the first hole on his right)

Presido: ⇨ essaie de jouer ca, essaie (picks seeds from the first hole on his left)
[Try to play that hole, try]

Eno: (drops the seeds from the first hole)

Presido: touche encore cà, tu vas voir, je joue là et là, est-ce qu’il y’a un probleme …il faut quand même lui montrer le bon jeu (points at some holes)
[Touch it again, you will see, I will play here and there, there is no problem… he must be showed good gameplay]

Eno: (plays the third hole on his right)

As shown in this excerpt Presido shares the algorithm he will apply if Eno plays a specific hole: “s’il joue cà, cà tombe ici, je libère, je marches, et puis c’est fini [If he plays that hole, the seed falls here, I move, I drop seeds, and it is over].” In this process of algorithm building, Presido also engages in debugging as he identifies the problem with the move Eno is about to make, causing his opponent to reflect, and play a different hole. Consequently, when he says “s’il joue cà, cà tombe ici, je libère, je marches, et puis c’est fini [If he plays that hole, it the seed falls here, I move, I drop seeds, and it is over],” he is explicitly identifying the error of
Eno’s intended move, and he clarifies his strategy, helping Eno to change his move. The debugging process starts when Presido says, “non, tu ne peux pas jouer là, c’est pas possible [No, you can’t play that hole, it’s not possible].” Presido identifies the problem and later clarifies the reasons for the error using conditional logic and algorithm building: “s’il joue là, ça tombe ici, je libère, je marches, et puis c’est fini [If he plays that hole, the seed falls here, I move, I drop seeds, and it is over].” Researchers contend that computational thinking (CT) is a new and required competence for every learner in the 21st century (Berland & Lee, 2012; Grover & Pea, 2013; National Research Council, 2010). Wing (2006) popularized CT. While there is still no consensus on the definition of the term (Grover & Pea, 2013; Lye & Koh, 2014; Weintrop, Beheshti, Horn & Orton, 2016), researchers have included in CT various computer science concepts such as abstraction, debugging, and remixing (Brennan & Resnick, 2012; Weintrop et al., 2016).

I should mention that during gameplay, all elements of CT as discussed by Berland and Lee (2011) were observed during gameplay in both cultural contexts, though with a slight nuance: Algorithm building was more often openly shared by players in Elig-Essono than in the Bronx. This slight difference can be attributed to the cultural context because besides being a recreational activity, playing Songo also helps teach values and address issues (Obam, 2008). Thus, the coupling of CT practice with stated desire to share knowledge with the opponent as shown here in this statement from Presido.

Excerpt 5.15

touche encore là, tu vas voir, je joue là et là, est-ce qu’il y’a un problème … il faut quand même lui montrer le bon jeu

[Touch it again, you will see, I will play here and there, there is no problem… he must be showed good gameplay]
Interestingly, I also observed embodied cognition in inter-player interaction in both settings. Contrary to the kind of embodied cognition that occurred in player-audience interactions, in player-to-player interaction, embodied cognition was a way for players to recruit their body to display thinking and produce meaning during their interactions with the opponent. Therefore, in the next paragraphs, I discuss embodied interaction in player-to-player interactions in the Bronx and Elig-Esson.

**Embodied Cognition in Inter-player Interactions**

Embodied cognition was a recurrent practice in both settings. Players used parts of their thinking or thought process. Interestingly, embodied cognition was also influenced by the cultural context, which in the Bronx was imported from Antigua and used in the Bronx, while in Elig-Esson, the practiced was informed by the local cultural context. In other words, players in the Bronx used part of their bodies to express thinking or reasoning the same way body was used in Antigua during Warri gameplay, whereas activities displayed through the body in Elig-Esson matched the cultural context.

**Bronx, 165th and Sherman Ave.** In the Bronx community, players used gaze while leaning over the Warri board to count the number of warris/seeds in holes as shown in Figure 34. For instance, after a move made by Hastac, in a game opposing both players, Delva (at his turn) prior to making his move, gazes at the second hole on his right before playing that hole. As he gazes at the board, Delva says: “3, 5, 17, 19” (Figure 34)
Figure 35, B, in the same game, shows Delva directing two fingers toward the third hole on his right to indicate that he is about to use that hole to make a move. For players in the Bronx community, this hand gesture (Figure 35, B) is a player’s declaration of his intention to make a move with a specific hole. Figure 35, C shows another recurrent hand gesture with the same meaning within the community of player. By pointing one finger at the first hole on his left, Delva announces his next move to his opponent, a thinking and strategy he voices out in this game against Hastac. This scene (Figure 35, C) is captured after Hastac has played the first hole on his left, a move that Delva follows by playing the second hole on his left. The transcript starts at Hastac’s turn:

Excerpt 5.16

Hastac: (plays the second hole on his left)
Delva: (moves warris/seeds from the third hole on his right)
Hastac: (moves warris/seeds from the third hole on his right)
Delva: ⇔ watch that, watch that, watch that in (points finger at the first hole on his left)
<Figure 35, C>
Hastac: ⇔ (drops warris/seeds in consecutive holes)
Delva: Nice (picks warris/seeds from the first hole on his left, and drops them consecutively)
As the transcript shows, Delva’s complex thinking process is embodied in the finger he directs toward the hole as he says: “watch that, watch that, watch that in.” With this hand gesture, Delva shows the intricate reasoning involved in the gameplay, even prior to the actions a player takes.

Both the gaze and the hand gesture are shaped by participants’ cultural identity. Indeed, during my field observations, one of the participants, Leo, the oldest among all players in the community, explained that warris/seeds should only be touched if one wants to play these specific warris/seeds. “If you touch it you should play; if you don’t want to play, just look at it,” Leo added. When asked why, Leo, replied “it has always been like that [in Antigua] it is just a rule.”

For participants, Warri is an Antiguan game, which should be played in the Bronx as it is played in Antigua. In this instance, players’ cultural identity informed the way participants express their thinking through their bodies. Indeed, this rule (not touching the warris/seeds), which appears specific to Antigua justifies the type of embodied cognition players used during gameplay. Stoffle and Baro (2016) argued that playing this game allowed African slaves in the Caribbean islands to recreate and engage with their African cultures and in the process resist slavery, during a period where participating in African drum playing for example was forbidden. The outlawing of drum playing during slavery in the Caribbean was a means of preventing African slaves from finding a common way of communicating and organizing themselves (Burrowes, 2013; Stoffle & Baro, 2016). Yet, Warri allowed African slaves to silently use elements of their culture, without attracting the attention of plantation owners (Stoffle & Baro, 2016; Stoffle, Stoffle, Minnis, & Van Vlack, 2014). Hence, the principle of counting warris/seeds without touching them could have been recreated to avoid plantation owners’
attention. Thus, embodied cognition (i.e., gaze and hand gesture) is shaped and rooted in Antigua Warri gameplay tradition or practice.

Yaoundé, Elig-Esson. Similar to Bronx players, players in Elig-Esson display their thinking through different parts of their bodies. Interestingly, embodied cognition here was as well shaped by the cultural context. Nonetheless, in Elig-Esson, the process of seeds/pebbles counting was completed by picking seeds in a hole and dropping them back into the same hole one after the other (Figure 36, A). Pointing a finger at a specific hole was a way to draw attention to a hole that needed to be watched out because of the key role it would play in the long run. In other words, pointing at a hole did not mean using that for the next move. Rather, it was a way for the player to explain the critical role a hole will play as he develops strategy(ies) in response to his opponent’s actions (Figure 36, B).

In the following transcript, Jean says the following as he directs his finger toward a hole, in a game opposing him to Ayos:

Excerpt 5. 17

Jean: je veux au moins 15 là-bas, c’est pas ça? (Points the finger at the second hole on the left of Ayos’ side of the board) [I need at least 15 seeds/pebbles there, is it not so?]  Figure 5.12.B>
Caulet: va de l’avant [Go ahead]
Ayos: (plays the second hole on his right)
Jean: [to Ayos] je prends ça, si tu veux même prends tout ça (hits with his hand the second hole on the left of Ayos’ side of the board) [I will capture this, if you want take all this]
Pierro: [to Jean] prends d’abord le pion là [Capture this seed/pebble first]
Jean: je casse, est ce que je suis là pour m’amuser? [I make a capture, am I here to joke?]
The excerpts above evidence the differences in players’ embodied cognition. While in the Bronx, players’ cultural identity shaped embodied cognition practice, in Elig-Esson, players embodied cognition was related to the cultural context. For instance, using a finger to point at someone or something, in this cultural context, refers to a warning or a way to ask someone to be careful/watchful of a current situation that may impact future happenings. In this context, Jean embodied his thought as he points his finger at the specific hole and says to Ayos: “je veux au moins 15 là-bas, c’est pas ça? [I need at least 15 seeds/pebbles there, is it not so?].” Jean with this statement is simply making clear that the hole he is pointing at will be critical as the game continues. The counting of seeds in Elig-Esson is also done differently, with players touching the seeds/pebbles in the holes, instead of gazing at them only. I should mention that gazing at a hole as way of counting the number of seeds/pebbles in it is a form of embodied cognition I observed mostly among members of the audience in Elig-Esson. Players in Elig-Esson have not experienced slavery, and as such did not probably need to count the seeds/pebbles quietly in order to hide from their master during gameplay (Stoffle & Baro, 2016; Stoffle et al., 2014).
Inter-player Scaffolding

Another interesting aspect of player-to-player interaction during gameplay is scaffolding. Players provided support to each other during gameplay, whenever they discerned the need for guidance. As I explained in the section on players and audience interactions, in distributed scaffolding, opponents contributed. Yet, in the interaction between two players, support was directed by an opponent toward another with the intention of making the game tougher and the opponent not easy to win. The next paragraphs show the nuances in inter-player scaffolding during gameplay in Elig-Essono and the Bronx. While in Elig-Essono scaffolding allows the player to reverse his action, in the Bronx, the support was provided in instances when the player could not change his actions.

Yaoundé, Elig-Essono. In this episode, Caulet plays against Abi, and Abi who has just captured seeds/pebbles on Caulet’s side of the board, is waiting on Caulet to play. The excerpt opens up at Caulet’s turn:

Excerpt 5.18

Caulet: (plays the first hole on his right)
Abi: (counts the seeds/pebbles in the first hole on right, and gazes at holes on the left on Caulet’s side of the board)
Caulet: \(\Rightarrow\) si tu envoies seulement les deux, je te prends ici et ici (Points at two seeds on his side of the board)
[If you only play these two seeds/pebbles, I will capture you here and here]
Abi: \(\Rightarrow\) (plays the two seeds/pebbles in the fourth hole on his right)
Caulet: tu ne sais pas jouer, apprends à jouer (plays the first hole on his left)
[You don’t know how to play, learn to play]
Abi: (looks at the board)
Caulet: voilà, maintenant tu as neuf, voilà huit, comment tu vas construire? (points at a hole on his side of the board)
[Now, you have nine, here are eight seeds/pebbles, how will you build\(^{15}\)?]
Abi: (gazes at the board for few more seconds, and plays the second hole on his right)

\(^{15}\) A strategy that allows a player to have in a hole enough seeds/pebbles in order to capture multiple seeds at once.
The exchange between Caulet and Abi reveals scaffolding moments during gameplay. When Caulet sees Abi staring at the board in the direction of holes on his side for a couple of second, he intervenes to prevent from making a mistake: “si tu envoies seulement les deux, je te prends ici et ici [If you only play these two seeds/pebbles, I will capture you here and here].” When Abi ignores his suggestion and the two seeds, Caulet then follows with a question: “voilà, maintenant tu as neuf, voilà huit, comment tu vas construire? [Now, you have nine, here are eight seeds/pebbles, how will you build?].” Through this question, Caulet assist Abi as he thinks about his next move. This type of scaffolding was recurrent between players, and the purpose for such assistance, Caulet explains, was to make the game tougher and ensure that your opponent was not easily beaten. In other words, scaffolding here develops players’ game abilities.

**Bronx, 165th and Sherman Ave.** Like players in Elig-Esson, helping the opponent was part of the gameplay at 165th and Sherman Ave. The transcript below is the exchange between Delva and Hastac at a time in the game when Hastac appears unsure about the number of warris/seeds in the second hole on the right of Delva’s side of the board. At his turn to play, Hastac leans over the board and looks at a hole on Delva’s side of the board. The passage starts when Hastac plays:

*Excerpt 5.19*

Hastac: plays the third hole on his right  
Delva: plays the first hole on his left  
Hastac: 6, 7, 9, 10 *(leans over the board and gazes at the second hole on Delva’s right side of the board)*  
Delva: ☺️ [to Deal] don’t laugh, don’t laugh  
Hastac: *(picks warris/seeds from the second hole on his right)*  
Delva: ☺️ 17 right in there, 17 right in there *(counts as he looks at the same hole)*  
Hastac: ☺️ *(still in the process of dropping warris/seeds from the second hole on his right)*  
Delva: 17 that’s in there, 17 that’s in there *(plays the second hole on his right)*
Noticing Hastac’s difficulty to confirm the number of warris/seeds in the hole, Delva leans over the board as well to count the warris/seeds and give the exact number: “17 right in there, 17 right in there.” However, Delva intervenes after Hastac has already touched the Warris/seeds in the second hole on his right. Given the Warri gameplay rule, Hastac has already committed to himself to playing this hole, and he can no longer change his move. Delva’s assistance at this moment can be perceived as not useful because Hastac has no opportunity to reconsider his move. Delva assisted Hastac in completing a task he could not perform alone, but after Hastac had touched warris/seeds in the hole, it was at a point of no return. When asked why assist the opponent, Delva said: “He [Hastac] has already committed himself to play, he can’t do anything.” In other words, the opponent was assisted but at a time when he could not reverse his action.

Even though scaffolding was practiced in both contexts (Elig-Esson and the Bronx), the cultural contexts surely shaped the player-to-player scaffolding. For instance, a player in the Bronx assisted his opponent after he has committed to playing a hole. They took advantage of the game rule that requires players to play any warri/seed he touches. Players built on that game principle to still maintain their advantage over the opponent, while helping him. Yet, in Elig-Esson, help was given when needed to support the opponent and make it harder for his opponent to win against him. Sociocultural theory does contend that cultural context shapes the practices in which people engage. I therefore contend that the individualistic traits of the American culture influenced player-to-player scaffolding, whereas collectivism shaped scaffolding in Elig-Esson. Yet, player-audience scaffolding was informed by players’ cultural identity (e.g., Antiguan players assisting each other in a competitive game) and by the cultural context (i.e., participants in Elig-Esson scaffolding to make the game tougher).
While sociocultural theory offers a framework for understanding how learning and literacy are shaped by the cultural context, it does tend to include cultural identity as a factor shaping practices people may participate in. From a sociocultural perspective, people form their identity through their interaction and/or participation in activities within a context (Bucholtz & Hall, 2005; Vågan, 2011). However, in this instance, the interplay of cultural identity and cultural context in the scaffolding practice highlight the reason for extending sociocultural framework to cultural identity in the understanding of practices in which players engage. For example, using the Antiguan gameplay principle to determine when to scaffold the opponent without preventing him from making a wrong move is certainly an illustration of how cultural identity and cultural context interplay to influence gameplay practices.

**Summary**

Players’ interactions during gameplay serve as concrete examples of how cultural context and cultural identity shape players’ gameplay practices. The nuances in the activities players display showed that culture is a critical factor in understanding the literacy practices. Indeed, the interplay of cultural context and cultural identity in shaping the practices was quite noticeable among players in the Bronx, while cultural context was the principal element framing practices in Elig-Esson. The influence of players’ cultural identity in the Bronx could be explained by the need for participants to recreate an environment that reconnected them with their Antiguan identity. Nevertheless, the sociocultural perspective on identity suggests an “ongoing process of self-making in conjunction with others through interaction” (Bartlett, 2007, p. 53). In other words, identity and literacy practices inform one another as individuals position themselves in relation to others through different interactions given that social interactions create a crucial setting for literacy practices (Bartlett, 2007; Esposito, Kebede, & Maddox, 2015; Kuby &
Vaughn, 2015). Thus, “individuals make claims about who they are by aligning and contrasting themselves with others” (McCarthey & Moje, 2002, p. 230). The interplay of cultural context and cultural identity shows that literacy is plural phenomenon, situated and framed by people's cultural identity and context.
CHAPTER SIX

Developing As a Player

The process of developing as a player, or developing a player identity, is a pathway that involved various verbal interactions, actions, language use, thus literacy practices and learning in both gaming communities (Elig-Essono and the Bronx). The construction of a player identity is slightly different in Elig-Essono and the Bronx, evidencing the influence of culture in players’ identity construction, and consequently learning.

Learning to Become a Player

Building the identity of Warri or Songo player is enmeshed in the process of learning to play the game, and this procedure involves years of learning in order to construct their player identity, as participants move from novice to expert (Lave & Wenger, 1991). Prior research has shown that learning is intertwined with identity (Herrenkohl & Mertl, 2010; Lave & Wenger, 1991).

Yaoundé, Elig-Essono. When addressing the process of becoming a Songo player, participants described initial phases or steps they identified as critical on the pathway of constructing a player identity. Guyman, one the community members, said the following with regard to how he became a player:

je suis arrivé et j’ai regardé comment on joue, le problème c'est de regarder comment on joue et que si tu veux apprendre tu commences aussi à voir comment on bouffe les pions , qu'est-ce que, comment le mécanisme du jeu se passe, tu apprends aussi c’est un truc qui est mathématique
[I came and watched how they play, the problem is to watch how they play and if you want to learn you also start to see how they capture seeds/pebbles, what is, how the game is played, the mechanism of the game, you also learn, it is something that is mathematical]

In the excerpt above, Guyman insists on watching or observing the gameplay, which enables the potential player or the novice to learn how the game is played and the game
mechanism. Observing others playing the game is critical in learning to become a player. This observation has to be intentional, driven by the desire to learn “et que si tu veux apprendre tu commences aussi à voir comment on bouffe les pions [play and if you want to learn you also start to see how they capture seeds/pebbles].” Consequently, participants needed to observe in order to develop their player identity as Nicolas puts it when talking about the ethnic diversity of players:

vous allez retrouver certains joueurs qui le jouent bien maintenant, mais qui ne sont pas des Bantous tout simplement mais parce qu’ils ont pris le temps de regarder et d'apprendre parce que c’est aussi en même temps un jeu de stratégies [you will find some players who play it well now, but who are not Bantus simply because they took time to watch and learn because it is a game of strategies as well]

Therefore, it was necessary to watch others play the game for a period to be able to learn the strategies involve in the gameplay. After observation, the next step after was to actively participate by playing against people with more experience. Playing against experts was critical in one’s development because by doing so, though the novice loses, in the process he learns to play well, develops gaming strategies, and consequently develops his player identity. For this reason, Caulet discussing his own learning process says:

bon c’est comme ça qu’au fur et à mesure on me tapait que, parce qu’il faut accepter, te battre, tu te laisses battre, et tu vas jouer et ne pas jouer avec les faibles ; tu joues avec les faibles, tu vas rester au même niveau ; donc c'est comme ça que j’ai commencé à jouer, comme ça, à l’école ici à Yaoundé, ici ; donc par la force de jouer c’est comme ça [well that is how gradually I was beaten, because you have to accept, struggle, allow yourself to be beaten, and you should play and not play against weak players; you play with the weak, you will remain at the same level; that is how I started playing, like that, in school here in Yaoundé, here; so by playing that is how]

In other words, after observing, one needs to play and lose against advanced payers. Accepting losing at the game contributes in the development of the player, who gradually becomes a Songo player. Consequently, it is important in the process of becoming a player, to
first observe, play against advance players, lose, accept or deal with the loss, and keep playing.

For the more you play, the more you develop into a player.

**Bronx, 165th and Sherman Ave.** Warri players followed a similar pathway when learning to become a player. Adman described it as follows:

I watched for a long while, I watched, and I watched, and I watched, and I played and got beaten, beaten, beaten till the same guy who use to beat me I started to beat him, started doing it, started doing it, and started getting good, and started getting better when I started beating this guy who used to beat me up often

The process included watching or observing others play for a period to learn the game, then playing and losing, until one gets better and is able to win against advanced players as well. The process does not end, because the more one plays, the more he becomes good at the game, and becomes a Warri player. The pathway to becoming a Warri player is gradual just as it is for Songo players in Elig-Esson. It takes time to build that identity since one keeps learning as he plays the game:

you keep on improving, if you are interested, it is like studying in school. When you are interested in a subject, you keep on learning all the time because you want to get the true understanding of the subject. Keep playing and learning, not just keep playing but learning the skills (DePaulo)

In sum, becoming a player was similar in both cultural contexts, and it involved what I would call observation, practice against advanced players (i.e. playing against more advanced players), losing, accepting defeat, and continuing to play (which implies learning from failure or building on previous gameplay experiences). In light of Lave and Wenger’s (1991) perspective on peripheral participation and learning, players in Elig-Esson and Bronx learn through their participation in the gameplay to become players, and thus construct a player identity. As Lave and Wenger (1991) wrote: “we conceive of identities as long-term, living relations between persons and their place and participation in communities of practice” (p. 53). Becoming a player
was an integral part of building one’s player identity, which also reflects *Songo* and *Warri* iterative learning process. In this study, I discuss identity through the lenses of sociocultural theory and LPP, while drawing on the notion of positioning. Positioning theory takes a discursive approach to identity, and addresses how people position themselves in interactions in relation to others using language to realize their player position in the gaming community (Nasir & Hand, 2008; Vagan, 2011). The sociocultural view of identity points to the interactional and mediated construction of identity. This perspective takes into account the mediating role of cultural tools (e.g., language, signs, gestures) used in a context participate in the construction of identity (Lee & Anderson, 2009; Vagan, 2011). In other words, how individuals use language, signs, or gestures to perform their identities in a cultural context. I therefore look at language as a means players use to achieve their identity.

Interestingly, the process of developing a player identity involved literacy practices (i.e., meaning making) that indicated that one has become a *Songo* or *Warri* player. Below, I expound on each literacy practice. I should note that the concept of identity has been extensively discussed in the literature. Identity can be seen as people’s conceptualization of who they are, people’s self-construal in different context (Lee, 2017; Oyserman & Destin, 2010). Though there is no consensus on the definition of identity in the literature, many scholars have defined identity in relation to learning. Prior research has shown that learning is intertwined with identity (Herrenkohl & Mertl, 2010; Lave & Wenger, 1991). People develop their identities through their interactions with others and their participation in social practices (Barron et al., 2010; Lave & Wenger, 1991). Learning is consequently an integral part of identity development (Bell, Van Horne, & Cheng, 2017).
Other researchers view identity as a static construct one develops in his or her youth and takes with him or her in different places (Erickson, 1968; Jensen, 2003). Others view identity as fluid, socially constructed across contexts (Lemke, 2008; Nasir & Saxe, 2003), how an individual “is positioned and positions himself or herself both in the moment and over time across social practice” (Nasir & Hand, 2008, p. 147). Thus, identity is both locally and interactionally created and changes in connection with other social environments, contexts, and participants (Barron, Gomez, Pinkard, & Martin, 2014; Hand, 2006; Nasir & Saxe, 2003). Identity has also been related to the practices or activities people engage in a setting (Nasir & Hand, 2008). The “practice-linked identities,” as termed by Nasir and Hand (2008), draw from Wenger’s (1998) community of practice conceptualization of identity. These refer to “identities that people come to take on, construct, and embrace that are linked to participation in particular social and cultural practices” (Nasir & Hand, 2008, p. 147). An example is *Songo* or *Warri* player identity. I should state that in these studies, identity development is viewed as learning, for “learning is always about identity development because it is always about becoming” (Bell et al., 2017, p. 369).

Nevertheless, my conception of identity derives from LPP, and involves becoming a “kind of person,” taking on an identity through membership or participation in practices of a particular community (Lave & Wenger, 1991, p. 53). LPP highlights the link between identity and practices and connects identity to learning, though it fails to discuss the particular identities emerging through such participation (Holland & Lachicotte, 2007; Vagan, 2011). For this reason, sociocultural perspective complements LPP because it “captures how the incorporation of [cultural tools] provides people with tools of agency and identity; how [they] mediate, expand, and limit action; and how they work as tools for individual’s identities in cultural [settings]”
(Vagan, 2011, p. 45). And the excerpts above illustrate that in the process of becoming a player, taking on that identity, participants learn as well.

**Gameplay Talk**

An aspect of interactions during gameplay in Elig-Esson and the Bronx is participants’ approach to each other in terms of words and contents of sentences used to brag and tease each other during gameplay. I use the term gameplay talk to refer to verbal interactions that include teasing, bragging, and other word play. Gameplay talk (e.g., bragging, teasing, and the use of other word play) were shaped by the cultural context, and as such defer for players in both gaming communities. When referring to gameplay talk, I draw on the work of Lytra (2009) and Sullivan and Wilson (2013) on playful talk to define gameplay talk. I distinguish playful talk from gameplay talk because playful talk focuses on young people’s verbal interaction in various settings such as home, school, or the community playground (Lytra, 2009; Sullivan & Wilson, 2013; Wegerif, 2007). And in this study, I focus on adults’ verbal interactions during gameplay.

In my study, gameplay talk includes “teasing, joking, verbal play, music making and chanting” (Lytra, 2009, p. 36). Therefore, gameplay talk contains a variety of verbal activities that emerge during gameplay interaction. In addition, given Lytra’s (2009) reconceptualization of playful talk to include performance, “a linguistic practice subject to convention, but also open to variability and innovation” (p. 36). I understand gameplay talk as a means for participants to display and claim an identity through their verbal interactions. For this reason, I purposely distinguish bragging from teasing and from word play, terms I define in the next section.

Gameplay talk was another way for participants to acknowledge that an individual has developed into a player, and thus become member of the community. Gameplay talk also serves as a means for players to demonstrate their player identity. As previously stated, gameplay talk
was framed by the cultural context, and in the following paragraphs I discuss gameplay talk in each cultural context. Now, it is critical to mention that gameplay talk was meaningful within the cultural context and the gameplay environment. Outside of the gameplay environment, gameplay talk did not have the same meaning.

**Yaoundé, Elig-Essonon.** Gameplay talk here follows specific rules inspired by the sociocultural environment. Bragging, teasing, and the use of other word play was allowed, but members of the community were not permitted to be disrespectful, abusive, or use slurs during gameplay. Words that could be perceived as attacking a player personally—for instance, calling a player stupid, or idiot—were not tolerated. Vince, speaking to the tacit rule governing gameplay talk, said the following:

Oui, oui, on est gueulard, mais on se n’insulte pas ça c’est différent. Vous ne verrez pas un joueur dire à un autre imbécile ou alors euuh chien, ou même idiot. C’est très rare, pratiquement rare, vous ne trouvez pas. Mais il va carrément dire : oh joue, joue là, toi tu ne vaux rien, tu perds le temps, tu es même qui, hein, tu te prends pour qui, hein. Un autre dira à un autre : mais tu es un docteur, mais tu, mais est-ce que tu peux vraiment soigner un malade? Mais il va dire au médecin : oh les gens meurent à l'hôpital tous les jours et tu tu, tu fais quoi là-bas même pour les ressusciter, mais il ne va jamais l'insulter, mais c'est dans le cadre du jeu

[yes, yes, we are braggart, but we do not insult each other this is different. You will not see a player call another stupid or euuh dog, or even idiot. It is very rare, absolutely rare, you don't find it. But he will easily say “oh play, play there, you are worth nothing, you are wasting time, who are you even, hein, who do you think you are, hein? Another will say to the other: but you are a medical doctor, but you, can you really treat a patient? But he will tell the medical doctor: oh people are dying in the hospital every day and you, you, what are you even doing there so to revive them, but he will never insult him, but this is in the context of the game]

Therefore, players’ verbal interactions that is gameplay talk revolves around a specific vocabulary and language known by players, which usage reflects a player level of expertise in the game. For this reason, Vince adds that “tout bon joueur de Songo sait mesurer les propos qu’il avance à l’autre [any good Songo player knows how to measure the words he says to the other].” Interestingly, gameplay talk is acquired through playing, for the more one plays, the
more one learns to tease, brag, and absorbs appropriate word play for gameplay verbal
interactions. Participants’ verbal interactions triggered my interest, and when I asked how
players learned this vocabulary or language, Guyman (one of the players) responded as follows:

non non, ça s’apprend avec l’expérience que vous aurez du Songo; vous saurez mesurer,
vous ne saurez pas, vous ne savez pas, on n’insulte pas
[no, no, it is learned through the experience you will gain in Songo; you will know how to
measure, you will not know, you don’t know, we do not use slurs].

**Bronx, 165th and Sherman Ave.** Similar to players in Elig-Essono, gameplay talk of
participants in the Bronx was framed by the context. I should indicate that verbal interactions
were sometimes fueled with swear words, which is to some extent again a reflection of the
cultural context of the gameplay. The American culture has become more accepting of swear
words, which is consistent with individualistic cultures since the emphasis is on self and less on
social rules (Jay, 2009; Twenge, Van Landingham, & Keith Campbell, 2017). Though it was
necessary to indicate the use of taboo words as an aspect of cultural context influence on
gameplay talk, these words will not be included in my discussion.

I should add that playful talk participates in the construction of social identities, and
though each person may create his/her own identity, this construction always occurs within a
social and cultural context (Lystra, 2009; Sullivan & Wilson, 2013; Wegerif, 2007). As such,
identity constructed through playful talk is constrained by the sociocultural environment (e.g.,
rules of conduct, signs, and symbols) and other available resource in the sociocultural
environment (Baktin, 1981; Sullivan & Wilson, 2013). Likewise, I contend that gameplay talk
allows players to construct identities within the constraints of the sociocultural environment,
using resources available in the cultural context.
**Bragging**

I define bragging as a statement made by an individual to impress the addressee, an act of self-promotion (Thoman, Smith, Brown, Chase, & Lee, 2013; Smith & Huntoon, 2014).

**Yaoundé, Elig-Essono.** For example, during a gameplay between Caulet and Jean, Jean three times repeats “dans le sac Mbandjock, on les amène dans le sac Mbandjock” *[in Mbandjock bag, we carry them in Mbandjock bag],* at his turn to play. In this sentence, Jean brags about his ability to capture seeds/pebbles on Caulet’s side of the board, which he does at his turn. Jean is through this statement also announcing his next capture of three more seeds/pebbles on Caulet’s side of the board, capture that places him at an advantageous position at this instant in the game. It should be noted that in Yaoundé, “Le sac de Mbandjock *[Mbandjock bag]*” is a popular bag used locally to carry merchandise, particularly food items destined for sale, and also employed in the market to carry items bought. Mbandjock is a locality in the central region of Cameroon, known for its industrial sugar cane plantation.

Jean later brags in the game when he says “voilà bon appétit, good appetite *[here you have it, good appetite, good appetite]*” as a way to congratulate himself for the next move that results in another capture. Hence, “bon appétit *[good appetite],*” which also mirrors bilinguism in Cameroon. Furthermore, as the game continues, Jean sings loudly a snippet from the song: “Iya eeeh, Iya, me ga nding bot*¹⁶ [Iya eeeh, I loved people],*” sung by Anne Marie Nzié. With this snippet, Jean says he does not want Caulet to be defeated easily at this game, and as such brags about his proficiency at the game. On the other hand, Caulet says things like “quand je joues, même si c’est mauvais, tu dis seulement Amen *[when I am playing, even when I make a wrong move, just say Amen].*” With this, Caulet brags about his expertise, and says pointing his

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*¹⁶ A song by Anne Marie Nzié, also known as the Queen of Bikutsi, a musical genre of the Beti ethnic group in Cameroon.
finger at Jean “je suis ton maître [I am your master]” to express his superiority over Jean as he wins the game. When Caulet says “je lui donne la pourriture, je lui donne les pions pourris [I am giving him rotten, I am giving him rotten seeds],” he is contending that Jean made a capture because he allowed it, and the seeds/pebbles he captured will not lead to his victory. “Pions pourris [rotten seeds]” is the translation of the word “Boil Ibang” in the Ewondo language, and it is used here to mean seeds that cannot yield fruit, that is move that cannot lead to a victory. Chanting to display one’s ability to win even against a group of player was another way for players to brag. For instance, in the excerpt below, Jean plays against Ayos, and at this moment of the gameplay, Ayos is being scaffolded by Caulet. The excerpt starts at Ayos’ turn to play:

Excerpt 6.1

Ayos: (gazes at the board)
Caulet: kelle 17, kelle, va seulement devant … mets les pions
[Go, go, just move forward … drop the seeds]
Ayos: (plays the second hole on his right)
Jean: va de l’avant Paul Biya, va de l’avant Paul Biya (plays the fourth hole on his left)
[move forward Paul Biya, move forward Paul Biya]

Jean in the excerpt above sings a snippet of a popular song dedicated to the president of the republic of Cameroon, Paul Biya, who is known to be an excellent Songo player. The song “va de l’avant Paul Biya 18” was sang by Marie Archangelo, at the current president accession to power. The song is the news jingle of Cameroon Radio and Television (CRTV), the only publicly own national radio and television of Cameroon. By singing a snippet of the song, Jean is stating that even if Ayos and Caulet team up, nothing will prevent him from winning this game.

17 Word in Ewondo meaning go, or move forward
18 Some words from the song: Paul Biya nous te disons nous camarades de L’UNC, en avant pour ta tache de conciliateur, par la volonte de Dieu et la confiance de la nation, jamais jamais tu ne failliras, Va de l’avant Paul Biya Va de l’avant … [Paul Biya we you comrades of UNC, say continue with your task of conciliator, by the will of God and the confidence of the nation, you will never fail, move forward Paul Biya move forward...]
The audience also participated in bragging. For instance, when Presido, in the game opposing Caulet to Jean, says: “je suis quand même votre patron, quand je dis un pas, c’est qu’il est déjà là [I am still your boss, when I see a move, it means the move is right there] to refer to his ability to anticipate the move a player can make. This self-promotion comes after Jean claims: “le jeu es fini [the game is over]” at a moment when Presido rightfully told him that the game was not yet over.

**Bronx, 165th and Sherman Ave.** This form of gameplay talk was recurrent among players. An episode of a game between Delva and Hastac is fueled with statements from Delva saying “I am the best,” or “that’s a six, my game is good as gold, trust me good as gold” as he makes moves that lead to his victory over Hastac. By saying “that’s a six, that’s a six, my game is good as gold, trust me good as gold,” Delva is boasting about his expertise at the game, making him better than Hastac and other players. Hastac also reacts saying, for instance, “you got a little one” to mean he allowed Delva to win the game. In other words, it wasn’t because Delva was good at the game. Other statements, such as “you have warri to put your hands on [you are not in a position to make a capture]” or “a he one a play? [Is he the only one playing?]” question meaning whether Delva thinks he is the only one who knows how to play, are all ways for Hastac to brag about his own abilities. Another way players bragged about their competences, was to say this about the opponent “he is afraid of me, you see” “look how you are trembling,” or “push, push, move.” In the following excerpt, Delva is playing against DePaulo, and both players engage in the following exchange at the beginning of the game:

*Excerpt 6.2*

Delva: you gonna get six none *(gazes at the board)*
DePaulo: play, play, play
Delva: you gonna get six none *(plays the third hole on his right)*
DePaulo: play, I am not scared of you *(plays the second hole on his right)*
Delva: you will get six none...you will get six none...you will get six none *(plays the first hole on his right)*

In this excerpt, both players brag about their abilities for example by pressing the opponent to play as DePaulo when he says “play, play, play” to convey that Delva is not good at quickly reading the opponent’s move in order to react appropriately. Or by predicting their own victory as Delva “you gonna get six none” to mean DePaulo is not as good as him, thus will not be able to win even one game against him. Bragging was not limited to opponents in the game, the audience also engaged in bragging as shown in this exchange among Deal, Delva, and Roger, when each one boasts about his gaming expertise as they examine the potential capture of when Delva in a game against Hastac:

*Excerpt 6.3*

Deal: he has no shot?  
*he can’t make a capture*

Roger: he has a shot

Delva: watch this shot Mr Deal... the same thing ... you see this shot

Deal: you don't have no shot  
*you can’t make a capture*

Delva: you see this shot, you see this shot *(points at two holes consecutively)*  
*you see this capture, you see this capture*

Deal: you have no shot...one shot you have  
*you can’t make a capture...you can make one capture*

Roger: he got one shot  
*he can make one capture*

By saying Delva can’t make a capture “you don't have no shot,” Deal is casting doubts on Delva’s ability to appropriately read the game as he does, thus Delva’s insistence “you see this shot, you see this shot.” Roger then arbitrates by asserting that Delva can make a capture and indirectly displays his competence at the game.
**Teasing**

Teasing is another aspect of gameplay talk, with participants teasing each other. Though definitions of teasing vary in the literature, in this study, I use teasing to refer to a communicative act aimed at challenging a player’s sense of identity in a humoristic or playful way, while serving as a means of self-promotion (Banas, Dunbar, Rodriguez & Liu, 2011; Mills & Carwile, 2009).

**Yaoundé, Elig-Esson.** With statements like “ta femme prépare avec l’huile de frein [your wife is cooking with brake oil],” to refer to a player’s inability to win a game. Reference to a player’s wife, in this context is based on cultural expectation of the man financially providing for his wife (Nkuoh, Meyer, Tih, & Nkfusai, 2010; Nkuoh, Meyer, & Nshom, 2013). Failure to financially support his wife makes one less than a man and, in Songo gameplay, less than a player. “Il est parti danser au poteau [he went to the pole to dance]” or “il a pris le microphone pour dire que j’ai gagné Abi [he took the microphone to say I won against Abi]” are other expressions jokingly referring to a player’s excitement after an unexpected victory against a more experienced opponent. As with bragging, teasing was swayed by the cultural context.

**Bronx, 165th and Sherman Ave.** A recurrent practice among players here, teasing was shaped by players’ personal background. For example, when teasing Hastac, Roger alludes to his status as a former police officer with “hey rocker, I am going to lock you up” to describe his defeat. Another instance is when Delva states, “I don’t want any crying here” to suggest that he is playing fairly, but his opponent is not able to stop him. Other expressions were used to tease a player about his inability to make any capture during the gameplay “you are handicap” or to describe him as an amateur player “it is a poor man’s play.” Similarly, when DePaulo says to Delva “you need glasses” or “play like a man, oh, woman,” he is implying that Delva is an
unskillful. While “I don't want to hit him ... I want to have mercy” points to a player’s inability to win a game against his opponent. Player’s cultural background is also exploited to tease. Hence, to describe the inexperience of Delva’s opponents, Roger says “he is beating them like a Road March,” meaning that they are not skilled to stop Delva. Road March is the most popular song continuously played in Antigua during the carnival.

**Word play**

Word play is a type of verbal play that can consist of “adding suffixes and prefixes to words or manipulating stress and pronunciation” (Lytra, 2009, p. 105; Sullivan & Wilson, 2015).

**Yaoundé, Elig-Essono.** Participants employed various word play, exploiting the multilinguism of the city of Yaoundé. An example of such word play is “un jouerons,” which is normally the future tense of the French verb “jouer [play]” conjugated in first person plural. When interacting with each other, Mano says “tu es un jouerons c’est-à-dire que tu n’es qu’un petit joueur, un petit joueur [you are “un jouerons”¹⁹” means you are just a small player, a small player].” And “un mouillisson,” which consists of the French verb “mouiller [damp]” and the suffix “isson,” a modified form of the French suffix “ison” employed to indicate action or the result of an action. In the Songo context, “Un mouillisson” is employed to designate the weakest player, and as Mano states, players use “un mouillisson, au lieu de mouilleur [un mouillisson, instead of mouilleur]” to indicate the degree of performance of the player during gameplay. I should add that “mouillisson” is derived from “mouilleur,” which is a semantic Camerounism²⁰ that means low performing or weak player.

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¹⁹ This word and similar ones were not translated to preserve their authenticity.
²⁰ Semantic camerounisms are standard French words with a Cameroonian French different from French (Atindogbé & Bélinga b’Eno, 2014; Ngué Um, 2012).
In a game between Caulet and Abi, at a point where Caulet has the lead and is sure of his victory, he says the following: “je les tapophones, je ne leur fait pas mal [I “tapophone” them, I do not just hit them hard]” to mean he brings other players down, or crushes them. The word play “tapophone” consists of the French verb “taper [beat]” and the suffix “phone,” which contains the radical “phone,” found in the word “téléphone [telephone],” In this context, “tapophone” means crush someone at the game. “Songologue” and “je suis un songologue [I am a songologue]” or “ça c’est la songologie [this is songologie]” are used to mean this is the art of the game where other gameplay words are used to brag about a player’s expertise. Participants play with words, by either nominalizing them ("un jouerons," “un mouillisson”) or just by creating new words, as in “je les tapophones,” a creation process known in linguistics as blending.

**Bronx, 165th and Sherman Ave.** This form of gameplay talk mirrored players’ cultural background and helped in singling out and/or identifying players. The following expression “Hila from Point” was particularly used by Delva to express his excitement after a win or a critical move leading to his victory. “Hila” is a woman’s name, while “Point” is a city in Antigua known for being the city of the best Warri players. In this context, “Hila from Point” means beating the opponent like a player from Point. “Tiloups” is most likely an onomatopoeia, a word that imitates the sounds of something in this case the sound of water. To Delva, this was an invented expression, a word he utilized to express his excitement at a capture or a win. However, “waiting as a loaded gun” or “come in” were common to all players. “Come in” means surrender, or give up, while “waiting as a loaded gun” implies quickly capitalizing on a player’s mistake or wrong move because of his vulnerability.
Moreover, “waiting as a loaded gun” could be said to draw from the cultural context given that the gun carrying culture of the United States (Shapira & Simon, 2018; Yamane, 2017). Other sentences such as “he is about to quakou look a muddy” are rooted in Antiguan English, or creole, and in this context suggests that a player is about to lose the game. “Quakou look a muddy” is a reflection of players’ cultural identity, which participates in framing gameplay talk in the Bronx. Whereas, in the expression “that’s the Mexicana,” participants point to the advantageous position of a player in the game that guaranties his victory. The word is a direct reference to Mexicans, and its use during gameplay does illustrate the impact of cultural context on participants’ verbal interactions. With a history of high immigration, Mexicans represent the largest group of immigrants in the United States according to a 2017 Pew Research Center report.

Gameplay talk is culturally contextualized as players in these gaming communities used their shared cultural understand and knowledge to frame their talk during gameplay and mark off terms or principles of verbal interactions (bragging, teasing, and word play), as was the case in Elig-Essono. The principal distinction in the gameplay talk discussed above is that some were more established through a recurring use (e.g., songologue, songologie, jouerons), while some were more emergent, recently introduced in players’ verbal interactions (e.g., mouillions, tapophone). In the Bronx, words such as “tiloups,” “mexicana” were still emergent, while “come in,” “shot,” or “scared of me” are more established because of their used in different cultural contexts (i.e., the United States and Antigua). Nevertheless, gameplay talk here is informed by both the cultural context and the cultural identity of players.
**Gameplay Talk and Player’s Identity**

I argue that gameplay talk plays a role in the development of players’ identity, which from a sociocultural perspective is built through interactions and participation in different gameplay activities. Indeed, gameplay talk positions participants in the community as members and also shapes their player identity. Addressing verbal interactions of players at Elig-Essono, Mano says, “et puis, et puis on a de ces expressions ici que ça veut dire si tu restes à écouter tu peux tomber malade [and, and here we have some expressions that if you keep listening you can fall sick].” “Tu peux tomber malade [falling sick]” here means you can easily get confused. Therefore, gameplay talk helps players construct an identity in these settings, but also negotiate their own identities.

**Yaoundé, Elig-Essono.** In fact, gameplay talk marked a distinction among players, given that the community’s best players were known for their gameplay talk, which they used as a strategy during gameplay. For instance, Caulet, talking about gameplay talk said: “c’est ça qui fait ma force, c’est ça qui fait ma force parce que quand je te gueules, tu t’embrouilles [this is my strength, this is my strength because when I brag you get confused].” Furthermore, reaction to gameplay talk was a characteristic of a good *Songo* player. One could not claim to be a good *Songo* player if he reacted violently or angrily at a gameplay talk. So a good player should not only be able to engage in gameplay talk, he should also be to:

supporter aussi hein, parce qu'ici-là il faut supporter les intrigues; si tu es un homme qui se fâche ne vient même pas jouer au *Songo*. On intrigue hein, mais on ne va pas aux mains ici, ouais ouais, il faut être fort [stand hein because here you must put up with teasing; if you are a man who gets angry do not even come to play *Songo*. We provoke hein, but we don’t fight here, yeah, yeah, you must be strong]. (Jean)

**Bronx, 165th and Sherman Ave.** In the Bronx, gameplay talk contributed to a player’s individual identities. Gameplay talk, for instance, helped Delva create a unique player identity...
because some words were introduced or created by him, just like “Hila from Point.” Speaking to the purpose of gameplay talk, Delva says:

it is a strategy, this is a strategy and it is also gives like the spectator a sense of excitement too because I mean if you just sit here, and it’s no fun to, it’s no fun to me, so I like to talk to the opponent, tease him, harass him and it works because sometimes somebody gets nervous and that’s to your advantage that’s all.

In other words, gameplay talk is not only a form of verbal interaction that makes an individual display or claim his identity as a player, but gameplay talk is also a strategy for destabilizing the opponent. However, I should add that gameplay talk here does not define membership into the community as it does in Elig-Essono. Consequently, gameplay talk is more an individual characteristic, and a good Warri player does necessary engage in gameplay talk. This is rather an individual process, which may be understandable given the cultural context in which the gameplay takes place. The individualistic cultural context further explains the absence of tacit rules guiding gameplay talk.

With to LPP, learning implies “becoming...[and] involves the construction of identities” (Lave & Wenger, 1991, p. 53). Consequently, by developing the identities of player or members of the gaming community through gameplay talk, players engage in learning. Interestingly, research considers playful talk as a process contributing to the creation of identities that are also situational (Lytra, 2009; Sullivan & Wilson, 2013; Wegerif, 2007); I contend that gameplay talk has a similar role in players’ identities. Moreover, gameplay talk allowed players to be positioned and position themselves in relation to others in the moment and across time in both contexts (Nasir & Hand, 2008; Vagan, 2011).

**Language Learning and Player Identity**

I previously discussed language use in relation to player’s cultural identity mostly from the standpoint of participants using language to perform their cultural identities. Hence, language
reflected players’ cultural identities. However, in this section, I address language in light of its contributions to player identity construction, which is the process of becoming member of the community of players to fully participate in the gameplay in both contexts. To some extent, this section relates to gameplay talk, with the exception that I focus here on the language related to the ethnic groups to which the game played (i.e., Songo and Warri) is linked. In Elig-Essono, this language is Ewondo; in the Bronx, it is Antiguan Creole.

**Yaoundé, Elig-Essono.** As previously stated, *Songo* is the name of the game among the Beti/Fang ethnic group, to which the Ewondo group and language belong. Players in Elig-Essono were ethnically diverse, yet they had one characteristic: They all understood and spoke Ewondo. Players, and particularly those from different ethnic groups, recognized that in the process of becoming *Songo* players, they learned Ewondo. Learning the language allowed them to enact their *Songo* player identity. Speaking to how he learned Ewondo and to the way the language participated in the construction and enactment of his player identity, Mano, one of the players said:

> ça veut dire que tu sais, les insultes\(^{21}\) c’est dans leur langue, c’est dans leur langue, et puis leur manière de parler te laisse entendre que voilà ce qu’il a dit ; et tous les jours, quand tu viens, tu apprends, tu apprends, et après tu finis par parler. Moi, depuis 96, quand on m’a pas appris à jouer ça, quand j’ai commencé à apprendre ça, c’est là où j’ai commencé à apprendre et l’Ewondo, et le Boulou\(^{22}\), et l’Ewondo et le Boulou parce qu’il y a des petits mots c’est vrai qui ressemble un peu à d’autres langues aussi. Toutes les langues pratiquement en Afrique ont les mêmes consonances\(^{23}\) comme disons l’Ewondo; donc, c’est comme ça, c’est ça qui a fait que quand je joue à ça on peut également te\(^{24}\) confondre

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\(^{21}\) “Insultes” here is a semantic Camerounism that is a standard French word used with a different meaning (Atindogbé & Bélinga b’Eno, 2014). Consequently, the English translation of this word takes only into account the semantic meaning, which in this context is best rendered as bragging rights.

\(^{22}\) Boulou is ethnic group as well as a language part of the Beti/Fang ethnic group

\(^{23}\) Refers to the phonetic and phonological features, intonations, accents and tones of the language, in addition to the alignment of terms, and arrangement of consonants. The word was translated here as “sounds.”

\(^{24}\) This is an example of Camerounism derived from local languages. Mano is referring to himself and using this personal pronoun, literally meaning “you,” he talks about other players’ perception of him. Though I used the literal translation, it is important to note that Mano is talking about himself in relation to others, as well as he talks about the perception of other players who like him learn the language in the community.
[you know what it means is that bragging rights are in their language the Ewondo people], they are in their language, and also the way they speak let you understand that this is what he said; and every day, when you come, you learn, you learn, and later, you end up speaking. I, since 96, when they taught me how to play this, when I started learning this, that is when I started learning Ewondo, Boulou, and Ewondo, and Boulou because it is true that there are few words that are similar to other languages too. Practically all languages in Africa have sounds that are similar to like let’s say Ewondo; so that’s how, this is why when I play it, they can also take you for [an Ewondo].

Hence, learning Ewondo was part of becoming a Songo player, an integral part of acquiring the Songo player identity given that the bragging rights are in this language, and language acquisition allows players to be seen as member of the larger gaming community of players in the city. Because of Songo gameplay, participants learned the language, which allowed them to construct their identity as Songo players because as Jean further explicated, learning how to play among Ewondo people at Etoa Meki, a neighborhood in Yaoundé, made it possible for him to understand the language. Though “le jeu est attribué aux Béti, normalement c’est le Béti qui devait être fort, mais ils sont surpris que je suis au-dessus [the game is attributed to Beti, normally the Beti should be the best, but they are surprised that I am the best]” (Jean).

Indeed learning to play among Ewondo rendered it feasible for Jean to understand: “quand ils parlent, la langue peut peser, je ne peux pas, mais je comprends, je comprends très bien [when they speak, my tongue can be heavy, I cannot [pronounce like the native speakers], but I understand, I understand very well].” The language is consequently participating in the development of players’ identity. I should note that language learning is situated within the gameplay environment, and as Young (2008) explained, language in social interactions is the primary means by which “people communicate, construct identity, and establish membership in communities” (p. 3). Ewondo did not just mean full participation in the gameplay, it also meant becoming an authentic player since the original language of gameplay is Ewondo. Interestingly,
scholars explain that *Songo* gameplay was always an opportunity for players to express language mastery through the use of proverbs, idioms, and other sayings, mastery which also shed light on players’ expertise at the game (Mbarga Owona, 2005; Meka Obam, 2008). This fact clarifies the relation between language learning and identity.

**Bronx, 165th and Sherman Ave.** Antiguan creole (AC) was the language of *Warri* gameplay mostly because players from Antigua brought the game to this community. The community in the Bronx was ethnically diverse, and understanding AC was key for any player. I previously stated, when discussing language in use during gameplay interaction, that Antiguan participants fell more comfortable speaking AC than English. Speaking to his preference for AC during gameplay, Delva explicated: “because I feel more free up speaking the way I speak; since I was a child that’s broken English, but I can speak the plain English.” Like Ewondo, AC was the language in which the bragging rights were embezzled, and any *Warri* player in the Bronx needed to understand this language.

DePaulo, the African player from Ghana, is a good example for understanding AC learning and player identity formation. Prior to joining this community, DePaulo did not speak AC; his learning of AC occurred during his gameplay interactions with players in the community. The first time he participated in the game, DePaulo says he did not understand AC; however, the more he played with others, the more he got to understand, though he can’t speak the language. According to DePaulo, his grasp of AC was progressive because “my first time of playing with them I did not understand anything, but their language there are some English words in English in it that helped me understand.” Though DePaulo learned to play *Warri* in his country of origin Ghana, learning AC was critical to become a *Warri* player in the Bronx. This is because playing *Warri* is not just applying the rules, it is also about “their language,” DePaulo
said. In addition to his prior experience of Warri in Ghana, AC acquisition afforded DePaulo to see himself as “good Warri player” because in Ghana he was an Oware player.

As Lave and Wenger (1991) argued, identity and learning cannot be dissociated; they are intertwined. From a LPP perspective, learning entails a process of becoming members of a community, which relates to taking on identity as one participates in communities of practice (Lave & Wenger, 1991). Similarly, I argue that in the process of learning Ewondo or AC players construct their Songo player or Warri player identity. They position themselves as Warri or Songo players within their respective communities, moving from the periphery because Ewondo and AC allowed them to legitimately participate in the gameplay, thus in the construction of their player identity. Furthermore, a sociocultural view of identity conceives identity as changing across time and place (King, 2008; Lantoff, 2006; Norton & Toohey, 2011; Vagan, 2011). Building on the sociocultural perspective of identity as transitioning or changing, researchers in language learning argue that language acquisition contributes to the construction of individuals’ identity (Baxter, 2016; King, 2008; Lantoff, 2006). As Norton (2006) concluded, “identity constructs and is constructed by language” (p. 3). Indeed, learning the language that identifies the board game with a specific ethnic group in these different gaming communities suggests that “[players’] identities [was] performed in countless ways by means of language” (Creese & Blackledge, 2015, p. 21).

**Gameplay Practices Beyond Gameplay Settings**

Participants connect gameplay with other skills they found useful in other settings. I discuss in the following paragraphs the skills players find useful in settings beyond the gameplay environment in both cultural contexts in light of their similarities and differences.

25 Name of the game in Ghana
Playing was, for participants in Elig-Esson and the Bronx, a preferred pastime at the end of a day of work or other daily activities. Participants played the game for reasons such as relaxation and socialization with other players. As previously mentioned, participants were from different walks of life and gathered every day of the week throughout the year to play (in Yaoundé, Elig-Esson) and every week end over the summer in the Bronx. Gameplay and its influence on players beyond the game environment continues to be a concern and research focus in game literature (Bayeck, 2016, 2017; Gee, 2018; Nasir, 2008; Richard, 2017; Steinkuelher & Squire, 2014). Consequently, in this section, I address the relationship between gameplay and life beyond the gameplay environment.

**Developing Coping Skills**

**Bronx, 165th and Sherman Ave.** Discussing gameplay and skills learned, participants in the Bronx such as Adman mentioned patience. *Warri* gameplay, Adman argues, taught him:

> patience, it helps with patience, and not to get angry also over things that somebody may say something to you and you don’t let that bother you; all of these I get from playing *Warri*. Because I know people tend to get you, you know say things to get you, so I learned that from the *Warri* even from back home […] and you learn to endure, you know, endure, because when you have someone beating you up straight, straight, straight, you have to come here try to beat him, you have to play again and study him, and then try to watch his game and change style until the day you learn to beat him

As the passage above shows, patience for Adman is about endurance and self-control in the way one reacts to verbal provocation. I should add that Adman was a very religious individual who rarely missed his church gatherings. Gameplay also gave Adman an opportunity to distribute religious tracts or pamphlets to players he felt “may be called the sinners but you come to help win them over you know; like sometimes I may bring a book, Christian book or a pamphlet or invite them you know.” This religious background may explain why he prefers to use the term patience, and associates patience to endurance and self-control, also known as
According to the Cambridge Online Dictionary (n.d.), patience is “the ability to accept delay, suffering, or annoyance without complaining or becoming angry.” Patience encompasses features such as persistence (despite failures), calmness in the face of frustration, self-regulation, and showing self-control under provocation or stress (Baumann, 2010; Hirsch, 2014; Schnitker, 2012; Schnitker et al., 2017).

Interestingly, other participants used calmness and tranquility to describe the patience that Adman associated with self-control and endurance. Delva for instance said that gameplay calms you down, it’s like a tranquilizer it calms you down; I mean, well if you go outside of this environment and somebody says something derogative, you probably might be offended if you are not cool enough you know; but here, if somebody tells you about anything derogative I mean, no big deal.

Warri gameplay equips participants to handle frustration, and/or conflictual situations even outside the gameplay setting. As DePaulo added,

because you see, like we say something that if you are highly tempered you can get provoked, but since you are familiar to those things, when euuh, you don’t care so even if it’s not here and it is outside, a different place when you meet the same situation, if somebody is trying to provoke you, you forget him

Patience as a practice has not yet been widely discussed in education, nor in the learning sciences. However, in the field of psychology, and economy interest in patience is growing (Bauman, 2010; Pianalto, 2016; Schnitker et al., 2017). Practicing patience affects well-being (Schnitker, 2012; Schnitker & Westbrook, 2014); boosts innovation, promotes productivity, and enhances decision-making (Baumann, 2010; Haque, Liu, & TitiAmayah, 2017), while creating better collaboration (Chen & Miller, 2010; Comer & Sekerka, 2014; Lin & Hou, 2010). Moreover, being patient improves cooperation and leads to successful learning among students working in collaborative groups as they manage frustration (Kershner, Warwick, Mercer, &
Thus, as a noncognitive skill, patience is needed in today’s impulsive society, characterized by immediacy, and swiftness (Kershner et al., 2012; Roberts, 2013). Patience is, consequently, a skill that is relevant today because it empowers people, and it is “a productive medium of learning” (Roberts, 2013, p. 43) to deal with pressure, delay, failure, and frustration that needs to be modeled and taught (Corner & Sekerka, 2014; Kershner et al., 2012; Roberts, 2013).

Research shows that patience is mostly valued in collectivistic eastern cultures, where it is seen as a quality a leader should have (Kelley, 2008; Triandis et al, 1993; Zhang & Chua, 2009). Therefore, patience in Warri gameplay is not a result of the cultural context, but possibly an effect of the players’ cultural identity on the gameplay. Participants are certainly using practices related to Warri gameplay in Antigua as well as Ghana. The following statement from DePaulo supports this argument: “back home, when you are playing, […] if you are playing, and winning, we crack jokes like if your dad is not wise, you can’t play Warri; […] we say all sort of things just to make us happy.” Players’ cultural identity frames the practices they engaged in during gameplay, resulting in non-cognitive skills such as patience.

Yaoundé, Elig-Esson. For participants in Elig-Esson, through gameplay players acquire skills to cope with pressure even outside of the gameplay environment. Vince, for example, said that:

ouais, vous voyez dans la conduite dans nos eeuuh, sur nos eeuuh, sur nos routes, les gens, les automobilistes se lancent des mots, n’importe quoi, quel que soit ce que vous êtes, eeuuh, vous vous lancez un mot à n’importe qui sans même le connaitre, sans aucune politesse, au Songo vous apprenez à gérer ça. Quand je conduis, même si on me dit eeeuh, oh chien enlève ta brouette de là, oh non je suis au-dessus de ça. Alors qu’un autre va descendre de la voiture et il va dire mais comment … alors qu’au Songo on accepte tout ça … on est au-delà de tout ça

[yeah, you see when driving on our eeuuh, on our eeuuh roads, people, drivers yell at others, no matter who you are, eeuuh, you yell at anyone not even knowing him, without any courtesy, in Songo you learn to deal with that. When I am driving, even if someone calls]
me eeu, oh dog remove your wheelbarrow there, oh no, I am above of that. While another will get off the car and will say but how... while in Songo we accept with all this... we are above all that]

The process leading to the development of coping skills involved humility and patience. Indeed, gameplay brought together people from different social status, in a space/place were social status did not matter, but only expertise at the game mattered. The act of playing implied that any player was willing and ready to subject himself to gameplay talk (e.g., teasing and/or bragging) in the gaming environment. Mano pointed to the absence of social status when he says: “non ici-là il n’y a pas de respect, il n’y’a pas de tonton là [no here there is no respect, there is such thing thing as uncle].” This leads Vince to conclude that Songo “c’est un jeu qui cultive l’humilité [it is a game that develops humility].” Patience was closely related to humility in the eyes of players. In fact, Guyman, addressing the non-cognitive benefits of Songo gameplay, contends that “être patient, apprendre la patience, parce que euuh, les humeurs des gens ne sont pas comme les autres [to be patient, to learn patience, because euuh, because people moods are not alike].” Therefore, participants learn to deal with other people’s temper because as Nicolas put it:

oui, je suis plus zen, je suis plus zen, et ça fait même que même euuh, un usager peut arriver dans mon service, se met à me tuer l’esprit, il me gueule ; je vais prendre ça dans le sens des intrigues que je subis ici au Songo parce que ça cultive l’état d’esprit comme ça

[yes, I am zen, I am more zen and it does that even euuh a customer can come to my office, and start upsetting me, yelling at me; I will take it like the teases I experience here in Songo because it develops that kind of mindset].

Yet, even a quick-tempered individual can change because “quand tu joues tu t’habitues au comportement, tu peux changer, donc tu peux changer [when you play, you get used to the behavior, you can change, so you can change]” (Jean). As discussed in the section on developing
as a player, player’s reaction to gameplay talk during gameplay was an indication of player’s identity. Thus, players’ handling of gameplay talk also influenced players in other settings.

Overall, gameplay participated in the development of coping skills, which when particularly identify in both contexts, were similar, with the exception that in Elig-Esson, players included humility among the coping skills. I argue that the cultural context also framed the non-cognitive skills players felt they learned from gameplay. For instance, humility was one of the non-cognitive skills that distinguished Elig-Esson from Bronx. Given the culture of respect for elders for example, valued and expected in this cultural context (Anchimbe, 2011; Farenkia, 2014), it was valued that during gameplay, such distinction no longer stood. All were equal during gameplay and could engage in gameplay talk irrespective of social status. Habits developed during gameplay appeared to be useful in out-of-the gameplay settings.

**Gameplay and the Building of Social Network**

**Bronx, 165th and Sherman Ave.** Warri gameplay implied creating a network of friends both at the gameplay space/place and beyond. I observed that players in the Bronx knew players who gathered at different locations in the city of New York, which explains why they were able to advise me on the location to visit as I previously stated (see Chapter Three). Bronx players were also part of a transnational community of Warri players because of players’ connections with Antigua. This connection opens another door for players’ development. Indeed, it was a common practice among players in the Bronx to return to Antigua to compete against local players. Such yearly visits “home” as they called them helped players improve their gameplay. Adman for instance says that at “home they always have the latest…so I go there and I see what they have, then I come here and beat them all.” This connection with gaming communities in Antigua made it possible for players in Antigua to stand as direct opponent to Bronx players,
waiting for their next visit “home.” Such competition is exhibited in the exchange between
Hastac, Adman, and Delva, in a game opposing Delva to Deal. Delva is winning over Deal, and
the passage starts with Delva bragging:

Excerpt 6.4

Delva: it’s a bad shot that Deal played
Deal: *(looks at the board)*
Delva: me gi he
*I am going to allow him to capture warris/seeds*
Deal: *(plays the fourth hole on his right and makes a capture)*
Hastac: he went to Antigua and was beaten by a guy *(points at Delva)*
Adman: *(laughter)* yes
Hastac: Booke gave Adman a message to gi you
*[Booke gave Adman a message to give you]*
Delva: the guy in Antigua is scared of me
Adman: and you got a blow
*[And you were beaten]*
Delva: he too light for me
*[He is does not have my level of expertise]*
Hastac: he watched the guy, he can’t play that hard *(directs finger toward Delva)*
*[He played against him, he can’t be that good]*
Adman: *[to Delva]* he say go practice your practice, he gi you a blow
*[He said go and play more, he will still win against you]*

The excerpt above indicates the form of connection, as well as rivalry between players in
the Bronx and players in Antigua. Bringing the name of Booke into the conversation, an expert
player of *Warri* in Antigua against whom Delva was not able to win a game the last time he
visited Antigua, is a way for Adman and Hastac to let Delva know that he is not that good at
*Warri*. He could win in the Bronx, but among players in Antigua, he was not that good. For this
reason, Adman adds: “*[to Delva]* he say go practice your practice, he gi you a blow *[He said go
and play more, he will still win against you].”

Within the community in the Bronx, from gameplay emerged a strong friendship, which
made them feel they were all one, irrespective of their ethnic origins. The ethnic diversity of the
group did not prevent players from seeing each other as friends. As Delva explicated, “we are all friends here, we have known each other for, we’ve known each other for a while. We have a good relationship so we come here to relax, enjoy each other company.” When asked how Warri gameplay helped him, DePaulo replied:

Friendship, oh yes, that’s true because so many come here to play, others come to watch so when you come we are sharing jokes, cracking, you see, you feel happy so it helps in the social life it helps, it helps a lot, every game like draught, Warri is Warri is an interesting game very good game, to me that’s my favorite game.

Thus, the multiple interactions during gameplay also participated in the building of a social network among players in the Bronx. They develop a network of friends, though this friendship was limited to the gameplay settings. Participants did not share personal events or stories with each other as it appears that their friendship did not extend beyond gameplay. They did not meet outside of the gameplay space/place except on special occasions like the Caribbean parade, when “we all get together, when we have a parade, Africans, Antiguans, you see them all come” (Nicky, a self-selected participant). Nevertheless, the building of social network participated in the development of players as they used outside resources such as traveling to Antigua yearly to improve their Warri skills, while creating a network of friends and competitors who motivated them to get better at the game.

Yaoundé, Elig-Esson. As Bronx players, Songo gameplay participated in the development of a social network termed here as “family.” Guyman, a self-selected participant, talking about the kind of social network build through gameplay says:

C’est d’abord une famille qu’on se crée en dehors de notre famille à la maison. Ouias, c’est une autre famille qu’on se crée en dehors de la famille de la maison

[It is first of all a family that we create besides our family at home. Yeah, it is another family that we create besides the family at home]

26 Participants who intervened and participated in my interviews with a participant I selected for my study. These self-selected participants are all part of the gaming community.
The social network here was an extension of players’ blood-related family, which makes it different from the social network players build in the Bronx. Brothers, instead of friends, was the word used by participants here to describe their relations with other members of the community. In the following passage, Nicolas explains what it means to be part of this “family”:

Je ne peux pas trouver un joueur de mon club du Songo en difficulté quelque part et je ne l’aide pas. Il fait appel à moi je réponds ; parfois même en priorité par rapport à ceux qui sont devant moi dans mon bureau tout simplement parce que nous avons créé une convivialité entre nous, cet esprit-là ça te suit partout. Donc je t’appelle, je suis coincé, j’ai besoin de ceci même par personne interposée, tu vois un peu, donc c’est ça la famille, donc ça vient devenir une autre famille, qui n’a rien à y voir ; bon chez nous les Africains ici, on a souvent euu, on n’aime souvent nous dire que tu nais avec tes frères, mais tu grandis avec d’autres, c’est ceux avec qui tu grandis, ceux avec qui tu vis dans le social qui deviennent tes frères, tes amis, et tes frères beaucoup plus ; ils peuvent même beaucoup plus te soutenir que ton frère de même père même mère, oui

[I cannot find a player of my Songo club in difficulty somewhere and not help him. He calls me I answer; sometimes even I prioritize him compared to those in front of me in my office simply because we have created among ourselves a friendliness; that mindset/spirit follows you everywhere. So I call you, I am stuck, I need this even through someone else, you see, so this is family, which has nothing to do with; well for us Africans here, we often have euuh, we like to say that you are born with your brothers, but you grow up with your others, the ones you grow up with, those with whom you live with socially that become your brothers, your friends, and mostly your brothers; they can even sustain you much more than your brother from the same father and same mother, yes]

The brotherhood developed made it possible for members in this community to share and help each other just as it is expected from family members in this cultural context (Anchimbe, 2011; Farenkia, 2014). Hence, the cultural context framed rapport among participants that is the social network, which was an extension of players’ family, and as such provided the emotional, and economic support members of the community needed. In this regard, Jean says:

Le Songo m’a déjà donné du travail. J’ai joué avec l’ancien directeur du port économique, je jouais avec lui dans quel quartier là, comment on appelle le quartier là? Après Mokolo là, Ekounou Oyon, il m’a donné du boulot ; j’avais un problème de job. J’ai aussi mon ami là, le prêtre Abena, avec qui je joue, quand je suis en difficulté, il me vient en aide à cause du Songo, on se connaît au Songo, on s’est connu au Songo ; voilà

[Songo already gave me a job. I played with the former director of the port authority, I was playing with him in a neighborhood, how do we call that neighborhood? Right after Mokolo, Ekounou Oyon, he gave me a job; I was unemployed. I also have my friend, the
priest Abena, with whom I play, when I am in difficulty, he helps me because of Songo, we met in the Songo setting; that is it]

Unlike players in the Bronx, the network of players in Elig-Essono was local, not transnational. This is understandable given that all players where from Cameroon, and they did know players from different groups in the city of Yaoundé.

**Gameplay and Relaxation**

**Bronx, 165th and Sherman Ave.** Another gain from playing Warri was the ability to relax from the pressure of life and work. Relaxing through gameplay for example increases performance at work as Delva maintained: “well from my point of view it helps you to relax, so when you are relax here, you go to work and you are relax at work and then you can perform adequately.” Relaxing also permitted players to balance work and life, building in the process confidence in their ability to address other complex issues. In this regard, DePaulo said “ok, so at least after work, you do something, you can take, some people take a walk, others go to the park, but I choose to play Warri yeah, that makes me happy.” Nicky further added that “after work, you have to think about family after work and so forth, it helps you maintain certainty level about family, whatever, ever and so.” In other words, while relaxing during gameplay, players also build a level of confidence, what he terms as “certainty level” that prepares them to face or solve issues outside of the game environments, such as family challenges. DePaulo additionally summarizes this problem solving ability that results from relaxing through gameplay as follows:

that’s why I said it broadens your mind like, when you’re seeing something, or if there is a dispute at home, all this, you know to settle dispute you need to be brainy, oh yes, sometimes there are hot issues at home which if you are not brainy you can’t settle, but if you are wise you can calm the situation down within a minute

Interestingly, to explain what he means by broadening one’s mind, DePaulo referred to a story in the Bible about King Solomon’s judgment in the dispute between two women over the
ownership of a baby. King Solomon’s ability to problem solve this complex issue was, to
DePaulo, the kind of mind broadening Warri gameplay provided. In solving the dispute, King
Solomon asked the baby to be cut into two pieces and shared between both women. Moreover,
based on the rejection of this solution by the child’s real mother, DePaulo adds the king “sat
down quietly and said you are the real mother, he applied wisdom. So like Warri, always you
have to apply the wisdom helps you to develop the technicalities.”

The fact that participants connect Warri gameplay to relaxation and confidence in their
problem-solving ability is critical because board game literature (Bilalić, McLeod & Gobet,
2009; Trinchero & Sala, 2016) as well as digital games (Adachi & Willoughby, 2013;
Posamentier & Krulik, 2017) show that gameplay develops problem solving skills. Problem
solving is the act of “first [gathering] information and [thinking] of a strategy before trying to
solve a problem” (Adachi & Willoughby, 2013, p. 1043). However, limited are game studies
associating relaxation with players’ confidence in their problem solving skills in other settings.
Nevertheless, it is clear that Warri gameplay is not just for fun, as proven in game literature
(Adachi & Willoughby, 2013, 2015; Carter et al., 2014; Gee, 2018). Participation in the game
resulted in relaxation and problem solving.

Yaoundé, Elig-Essono. Participants here also recognized that playing relieved them from
life stress and helped in finding life balance, while equipping players with the competences
necessary to face life challenges, that is, problem solving, as shown in this statement from
Nicolas:

L’objectif du Songo est juste pour passer de bon moments de distraction, comme dans
tous les sports savourer ce moment de distraction et en même temps ça permet de se vider
dans la tête, se déstresser, voilà même le mot, ça permet de se déstresser pourquoi? Parce
que vous allez trouver ici que beaucoup de joueurs sortent de différents milieux sociaux,
de différentes activités, donc chacun vient avec son lot de soucis qu’il a connu durant la
journée de travail, quand il arrive là c'est totalement oublié ; il se refait un plein
The goal of Songo is just to spend good entertaining moments, like in every sport to enjoy that moment of entertainment and at the same time it allows you to empty your head, to relax, this is even the word, it allows you to relax, why? Because you will find here that many players are from different walks of life, from different occupations, so each one comes with his share of worries he’s experienced during the day at work. When he gets here, it is completely forgotten; he regains his energy; when he gets back home he is, it is to be ready to start a new day, the next day].

Consequently, relaxation and problem solving, or what Nicolas calls “être prêt à entamer une nouvelle journée, le lendemain” were associated with, and/or result from gameplay. Players could problem solve any challenge they faced, which meant success in every activity participants set out to complete. Jean expressed this belief as follows:

when I say develops understanding, it makes you, that is daily life you are ready for everything, yes ... yes, as you see here, you will see that in every domain you are comfortable

Comfortable in this context means being able to solve anything that comes one’s way. Nicolas supported this by sharing a personal story “moi quand j’étais au secondaire, franchement le Songo m’aidait à résoudre mes équations de mathématiques, c’est semblable [when I was in high school, Songo seriously helped solve my mathematical equations, it is similar].

With regard to relaxation and problem solving skills resulting from gameplay, players in both contexts (Elig-Essono and the Bronx) have a similar perception. Songo and Warri gameplay facilitates relaxation, while developing problem-solving skills that players used in different contexts.
Summary

In this chapter, I discussed the pathway to player identity construction within each cultural context through what I termed gameplay talk, and I addressed how practices within the gameplay intersect with life beyond the gameplay environment. For instance, gameplay talk, as a literacy practice, was shaped by the cultural context as well as participants’ individual identity as player. Gameplay talk is one of the means through which participants expressed who they were within the community, thus standing out from the collective identity of the community of Warri or Songo players. Hence, some gameplay talk practices were specific to some players, and did project the level of expertise of these players. Players enacted their identities through gameplay talk, building both on the cultural resources available within the context and their cultural identity.

In addition, this chapter further addresses the benefits of gameplay practices in life beyond the game environments. The findings reveal that non-cognitive skills such as patience or humility were, according to participants, skills they acquired through gameplay that extended beyond the gameplay setting. Interestingly, participants used different words (e.g., humility in Elig-Esson and patience in the Bronx) as examples of non-cognitive skills, which shows the influence of cultural context on the type of skills developed in both settings. Furthermore, culture frames the social network players develop since in Elig-Esson it is an extension of one’s family, while in the Bronx, the network is limited to the gameplay setting.
CHAPTER SEVEN

Conclusion and Implications

In this chapter, I present the conclusion and implications of this study. I argue that *Songo* and *Warri* are rich learning environments. Players, during gameplay, engage in literacy practices that are shaped by the cultural contexts as well as players’ cultural identity. My findings suggest that literacy practices are framed by the cultural contexts, pointing to the fact that literacy as learning is situated within a cultural context. Furthermore, cultural contexts influence the structure and formation of both gaming communities. Finally, my data further indicate that space/place frames interactions among participants, informs what is known, and the game aesthetics.

The Influence of Space/place

The significance of space/place in the gameplay in both settings was evident in the verbal interactions among participants in both settings (Bronx and Elig-Essono), in players’ knowledge about the game, and in the game aesthetics. For instance, in Yaoundé, Cameroon, participants preferred to use labels with cultural meaning or to use nicknames denoting participants’ position in the society or in the gaming community. In this space/place they viewed as museum, participants preferred to use labels such as *La Mère* when interacting with the woman who provided the gameplay space/place and supported the community in other ways. It was also a common practice among participants in Elig-Essono to introduce any visitor to *La Mère*. Contrary to players in Elig-Essono, participants in the Bronx employed labels designating an individual’s geographic origin when identifying each other during gameplay (e.g., Caribbean, Antiguan, or African). In other words, participants’ interactions in both gaming communities were shaped by the space/place where the gameplay took place.
This finding aligns with Barron’s (2006) and Ma’s (2017) findings on space/place influence on interactions among people. Noticeably, the difference in participants’ ways of interacting with each other further illustrates the effect of space/place on verbal interactions. In Elig-Essono, Yaoundé, La Mère was appropriate because of the role she plays in the formation of the group (i.e., La Mère) and in the preservation of the Beti/Fang history through the museum, which grants her recognition among players, thus the title of La Mère. Likewise, in the Bronx, playing in a space/place where different ethnic groups intersect prompts the usage of geographic identifiers during gameplay in some instances.

This finding also breaks away from the dichotomy between space and place in the literature and shows that both concepts intertwined because space and place are both lived by participants through their interactions. The conception of place as emerging from what people make of a physical setting (Gagnon, Jacob & McCabe, 2015; McGrath & Reavey, 2013) merges with the notion of space as a physical environment made of people’s lived experiences and interactions among different elements in that space (Dourish, 2006; Kuntz & Berger, 2001; Lefebvre, 1999). As shown with players in Elig-Essono, space/place is a physical setting to which participants attribute meaning (e.g., the museum of Songo gameplay), a participant in players’ gameplay experiences from which emerges complex interactions (e.g., La Mère).

My data further indicate that space/place informs participants’ knowledge about the origins of the game, with participants in Elig-Essono connecting the game to the Fang/Beti ethnic group living in Cameroon and other countries of the central region of Africa (e.g., Gabon, and Equatorial Guinea). Whereas, for Bronx players, the game originated from Ghana, West Africa, which historically provided most of the slaves shipped to Antigua (Stoffle & Baro, 2016). This finding pushes against situated learning perspective on knowledge being located in the
physical environment where the activity, in this case gameplay, occurs (Lave & Wenger, 1991). Geographical space/place framed what participants in this study knew about the game, thus geographically situating learning, a shift from a view of knowledge as being shared by people in a physical environment where they interact (Lave, 1988). Hence, knowledge is also geographically located, that is dependent on the geographic location or identification of people.

My findings also reveal a difference in the aesthetics of the board games (Warri and Songo). The board game appearance (i.e., aesthetics) in the Bronx differ in the number of holes (six) and seeds/warris (48) from the game in Elig-Essono (seven holes and 70 seeds). Previous studies on the variants of African board games connect the difference in appearance (e.g., number of holes or seeds) to migration, slavery, trade, and/or movement of people (Bikić & Vuković, 2016; de Voogt, 1991; Townshend, 1979).

Even though literature on African board games suggests migration, slavery, or movement of people as a viable explanation for aesthetic differences (Bikić & Vuković, 2016), my finding adds that space/place can also explain the aesthetical variances of the game in both settings. This argument aligns with Burgin’s (2010) theory of situational aesthetics, which relates aesthetics to the situation or space where an object is designed or created. In other words, African slaves brought to Antigua designed a board game (Warri) that was contingent upon the space/place where they found themselves. A space/place where they were forbidden to practice or participate in activities that could connect them to their origins (Stoffle & Baro, 2016) could have also influenced the design of Warri. This finding provides an alternate view to the variances found in both games, which differs from archeologists’ and anthropologists’ explanations and mirrors a perspective often found in the literature on aesthetics in computer games (Larsen, 2016) to the
study of board game aesthetics. In studying game aesthetics, researchers could benefit from considering space/place as an underlying feature that can frame the game.

**Cultural Context and Literacy Practices**

The significance of the cultural context was evident in the literacy practices players display in both settings. Players’ meaning making was culturally framed and situated, which explained the nuances and differences observed in literacy practices participants engaged in during gameplay. This finding is in alignment with prior research on literacy practices, which indicates that literacy cannot be separated from the sociocultural context (Nasir, 2005; Nieto, 2013). As such, literacy is not devoid from the context, but rather is shaped by the cultural context.

Indeed, participants in both settings engaged in literacy practices that were slightly similar, yet distinct because the cultural setting shaped them. While some of the literacy practices uncovered in this study are found in the literature on board gameplay for example, they are informed by the cultural context, which makes these literacies slightly distinct from findings in the literature, but also different in each gameplay environment.

For instance, players in both settings engaged in practices similar to computational thinking and distributed thinking as discussed in the literature on collaborative board gameplay (Berland & Lee, 2012). Yet, in Elig-Esson, computational thinking provided an opportunity for expertise demonstration and knowledge sharing, while in the Bronx, the practice was mostly limited to an exhibition of players’ expertise. The nuance in computational thinking practice in both settings illustrate the influence of culture on literacy. The community of Elig-Esson plays in a collectivistic culture where the growth of the group is greatly valued (Hofstede, 2001; Schonfeld & Sweeney, 2016; Triandis, 2007). Thus, the association of computational thinking
with knowledge sharing in Elig-Esson, and the focus on expertise in the Bronx, given the individualistic cultural context focus on personal attributes (Hofstede, 2001; Triandis, 2007). I should also emphasize that computational thinking has been identified as a critical skill all learners in the 21st century should acquire (Berland & Lee, 2011; Grover, & Pea, 2013; Shute, Sun, & Asbell-Clarke, 2017; Wing, 2006). This finding adds to the literature as it demonstrates with Berland and Lee (2012) that computational thinking is not limited to digital technology (Atmatzidou & Demetriadis, 2016; Lee et al., 2011; Shute et al., 2017). Board games such as Songo and Warri also engage players in computational thinking. Yet, this finding does differ from Berland and Lee (2012); in their study, computational thinking was noted in a collaborative strategic modern board game (i.e., Pandemic), while Songo and Warri are inherently non-collaborative and old strategic board games. Because computational thinking is displayed during the gameplay of a strategic, two-player board game, this suggests that traditional board games such as Songo and Warri are spaces that foster computational thinking. Computational thinking is then a literacy practice that has been practiced for centuries by players of Songo and Warri in Cameroon and Antigua.

Likewise, scaffolding and distributed scaffolding, as well as embodied cognition, were shaped by the cultural context. In Elig-Esson, a player scaffolds his opponent to help him perform an action he is unable to perform independently during the gameplay (Hsu, Lai, & Hsu, 2015; Kupers et al, 2017; Tabak, 2004). Such scaffolding made the game tougher and helped the opponent in his gameplay. However, in the Bronx, a player provided support only when his opponent had overtly committed to making a specific move by touching warris/seeds from a hole. In this case, the player kept his advantage over his opponent at specific moment in the game. Nevertheless, the fact that players could provide support to their opponents makes Songo
and Warri gameplay unique in both cultural contexts. Overall, the purpose for scaffolding in the interactions between the audience and players was similar in both settings. In scaffolding during gameplay, participants meant to make players better at the game, that is, to develop their gameplay skills by responding to players’ needs at different moments (e.g., after a move in the Bronx). In this regard, scaffolding in this study is consistent with the goal of scaffolding in the literature, that is, foster learners’ autonomy, and agency, in teacher-student or peer-peer interactions in classroom settings (Devolder et al., 2012; Kupers et al., 2015, 2017). I should add that conversations on scaffolding in board gameplay research is still limited, and the concept is not much discussed in relation to autonomy, or player agency in an informal environment (Devolder et al., 2012; Eicher, 2014). Interestingly, in this study, scaffolding as in formal environments is critical for the development of other players, thus their learning of the game and development as players. This finding adds to research on scaffolding and on game literature by shedding light on a form of scaffolding framed by the cultural context.

Distributed scaffolding during gameplay also shows distinct patterns, with players in Elig-Essono tending to engage in synergistic scaffolding by simultaneously providing multiple sources of assistance for the same need (Tabak, 2004; Ustunel & Tokel, 2018). Bronx players exhibited differentiated scaffolding more as they used multiple supports to address each need with its own scaffold (Tabak, 2004; Ustunel & Tokel, 2018). This nuanced pattern in distributed scaffolding further illustrates cultural context framing of literacy practices. Collectivistic cultures are more group oriented, compared to individualistic cultures (Hofstede, 2001; Triandis, 2007). For this reason, I argue that using multiple supports to address the same need (i.e., synergistic scaffolding) draws on the group, collective mindset; differentiated scaffolding (i.e., using multiple supports for different needs) is consistent with individualism cultural traits.
Another literacy practice that reveals the influence of cultural context is embodied cognition through the differences in players’ gestures as they use their bodies to express their learning and knowledge. Indeed, my data show that hand gestures for example were culturally situated and meaningful. This result confirms that embodied cognition is a process that takes places through actions and perception unfolding in physical, social, or cultural setting (Azevedo & Mann, 2018; Hall & Nemirovsky, 2012). However, it also unveils the nuances in this practice in both cultural settings. Cultural context contributes and, I add, informs embodied cognition given that culture as well as people’s lived experiences participate in sense making (Azevedo & Mann, 2018; Hutchins, 2014).

The framing of literacies by the cultural context is further evidenced by the stark contrast between the language in use (i.e., language used during gameplay) in Elig-Essono and the Bronx (Antiguan Creole). In Elig-Essono, the language in use mirrored the multilingualism of Cameroon (camerounisms). Studies adopting a sociocultural perspective on language learning explain that language as well as literacy development are socially situated practices also tied to the cultural contexts (Black, 2006; Lankshear & Knobel, 2003). As highlighted in the literature, language does not exist in isolation (Hillier, 2003) and is, therefore, fashioned by the cultural context (Souto-Manning, 2010; Young, 2008).

Just like cultural context informs literacy practices already discussed in the literature, my study further shows that cultural context gives rise to both new literacies, that is, literacies not yet explored in the literature on games or in the learning science, and to literacies only exhibited in one setting. Among these literacies is collaborative criticism, which refers to a collective effort by the audience and players to push participants to explain or reflect on their actions. Hence, in Elig-Essono, only players with higher level of expertise or similar level engaged in collaborative
criticism, while the level of expertise of a player did not matter in the Bronx. Gameplay talk is another contribution to the literature on literacies and games. Gameplay talk draws from the concept of playful talk (Lystra, 2009; Sullivan & Wilson, 2013) but differs with its focus on verbal interactions that include bragging, teasing, and word play among adult game players. Gameplay talk involved making sense of the complex verbal interactions in both settings, which required fluency and understanding of the overwhelming array of multiple forms of sense making that make up the gameplay. As video gamers in Steinkuehler’s (2007) study, participants in this study must incessantly:

‘read and write’ meaning within this complex semiotic domain as every successful move within the [board game] environment requires participants to both recognize and produce meaning out of the overwhelming array of [complex], multimodal resources that make up the [gameplay]. (p. 301)

Thus, gameplay talk was an integral part of the learning that takes place over time as participants interact with each other during gameplay. In fact, through gameplay talk, participants developed an identity that made them stand out among their peers, and did show their knowledge of the game. Participants utilized gameplay talk as a means to demonstrate expertise, to be positioned and to position themselves in both gaming communities. In this regard, gameplay talk as a literacy practice aligns with research on literacies that connects literacy practices to identity (Nasir & Hand, 2008; Vagan, 2011).

Furthermore, gameplay talk, which implied making sense of the process, and various forms of verbal interactions were framed by the cultural context with the use of words such as “Mexicana,” referring to the cultural context in which the game was played in the Bronx, New York City, United States. The Bronx is home to the largest percentage of immigrants from Latin America in New York City (Lobo & Salvo, 2013). The framing of gameplay talk by the cultural
context supports playful talk studies that suggest that playful talk draws on social and cultural resources available (Lystra, 2009; Sullivan & Wilson, 2013; Wegerif, 2007).

Moreover, my data also show that the process of becoming a player or learning to become a player, which captures the learning process in both gameplay settings, is equally a literacy practice. Hence, the learning process that consists of observing the gameplay, playing against more experienced players, losing, accepting defeat (i.e., handling defeat), and continuing to play in *Songo* and *Warri* gameplay requires, at each phase, the ability to “read and write meaning” (Steinkuehler, 2007) with different levels of complexity during gameplay. Thus, the development of a player is in itself a constellation of literacies. This finding highlights the relationship between learning and literacies, and aligns with other research on literacies in the learning sciences (Taylor, 2017). For as shown in this study, literacy practices and learning are entwined. I should also add that the learning process in both settings does show the similarities in the process of learning to play *Songo* and *Warri* board game.

Distributed embodied cognition—the simultaneous use of players’ bodies to make sense of an object of mutual interest often for different end goal as described in this study—is another example of literacy practice peculiar to *Songo* and *Warri* gameplay. This type of literacy practice differed from embodied cognition because of the simultaneous involvement of multiple players. Yet, in Elig-Essono, distributed embodied cognition was coupled with explicit scaffolding of players, while this practice in the Bronx displayed each players’ understanding or expertise in the game. Distributed embodied cognition was not supported by open assistance from members in the audience in the Bronx. Because distributed embodied cognition is a perspective on embodied cognition, it indicates players’ collective sense making. This finding offers an alternate perspective of the concept of embodied cognition (Azevedo & Mann, 2018; Lee, 2015; Stevens,
2012), revealing players’ collective learning as they produce meaning through their actions and perceptions simultaneously. In this regard, this finding adds to the literature on embodied cognition by highlighting the collective and simultaneous meaning making through action and perception of players as shaped by the cultural context. Thus, both players and the audience learn simultaneously during gameplay, as the audience becomes an active participant and learner just like the player during the gameplay.

Consequently, awareness of the link between players and spectators gives insights into learning in gameplay settings. For researchers, the interactions between players and the audience/spectators becomes important to understand learning in interactive environments and to create learning environments that would encourage competitive, yet supportive, and collaborative learning environments, where competition is driven by the desire to develop the “other.” As such, it becomes important to examine the pattern of interactions between players and audience/spectator in light of the cultural context to inform the design of competitive, collaborative, and supportive learning environments.

In addition, the cultural setting explains the existence of the distinct forms of culturally situated collaboration such as audience-initiated and player-initiated collaboration in Elig-Esson. This finding adds to the literature on collaboration, which mostly discusses collaboration in groups or collaborative environments, that is, settings intentionally designed for collaboration (Capdeferro & Romero, 2012; Li et al., 2014). Indeed, in Elig-Esson, players practice these unique forms of collaboration (audience initiated and player initiated), which draw from a culture that encourages helping people facing challenges. The culturally situated forms of collaboration instantiate the collective, solidarity, and community-driven approach to life that informs and sets this literacy practice in this gaming community apart (Mbele, 2005; Nkwain, 2014).
In sum, these findings highlight the critical role cultural context plays in framing literacy practices, pointing to the fact that literacies are not devoid of the cultural context, but are informed by it (Perry, 2012; Prinsloo & Roswell, 2012). My findings also move away from the narrow situated learning perspective that essentially sees literacies as located in the physical context where the actions take place (Lave & Wenger, 1991). In this regard, my study contributes to understanding how literacy practices and learning are mediated by the cultural context. So far, research relating literacy to the cultural context adopts either a traditional view of literacy (i.e., ability to read and write; Gutiérrez, Morales, & Martinez, 2009) or a New Literacy Studies approach (i.e., how people use their literacy—ability to read and write—in different situation or context; Perry, 2012; Street, 2003). This study, therefore, contributes to the larger body of literacy and game studies by pushing against a perception of literacy and learning as pertaining only to particular board games.

Cultural Context and Gaming Communities’ Structure

My findings equally indicate that in their structures, the gaming communities were framed by the cultural context. Communities of practice like these gaming communities are always presented as loosely structured, horizontal, with no structure in their formation because practices are constantly renegotiated and participation voluntary (Eberle et al., 2014; Eckert & Wenger, 2005; Meyerhoff & Strycharz, 2013). However, this finding contradicts the conception of community of practice as unstructured, bringing to light the sway of the cultural context in the configuration of a community of practice. This finding offers an alternate perspective to the construct of community of practice and does highlight the need to be more sensitive to culturally and locally situated realities when discussing communities of practice. Noticeably, in the Bronx, the community structure was loose, which aligns with current conception of community of
practice (Eckert & Wenger, 2005; Meyerhoff & Strycharz, 2013), but also with the individualistic culture in which the game was played. Yet, in Elig-Essono, a rigid structure was part of the community formation, which leads me to argue that the absence of a linear structure should not be seen as a determinant of a community of practice (Eberle et al., 2014; Eckert & Wenger, 2005; Meyerhoff & Strycharz, 2013). Though authors like Meyerhoff and Strycharz (2013) recognized that “a clear hierarchy” may exist in a given community of practice, but “members at the top need to constantly (re)assert their place there” (p. 434), such structure is not rigid as members have to reassert their positions. Interestingly, such reassertion is not practiced in Elig-Essono where members in positions do not need to frequently demonstrate “their place there.”

The gaming community structure is thus a reflection of the cultural context. For this reason, it becomes relevant when defining a community of practice to factor the cultural context that has the potential to create and even frame any community of practice. Simply put, a community of practice does emerge from larger cultural patterns, and top members’ reassertion of their position in a community with “a clear hierarchy” (Meyerhoff & Strycharz, 2013) is dependent on the cultural context. Hence, this finding expands the contextualized meaning of community of practice offered by situated learning theory and legitimate peripheral participation (Lave & Wenger, 1991) to include cultural context patterns in the configuration of a community of practice. Though community of practice contrasts the individualistic and decontextualized assumptions of learning (Eberley et al., 2014; Handley, Sturdy, Fincham & Clark, 2006; Lave & Wenger, 1991), the construct is still not completely free from an individualistic view of community of practice. Indeed, as evidenced in this study, the lack of hierarchy is a cultural trait
more associated with predominantly individualistic than collectivistic cultures (Triandis, 2007; Shin et al., 2013).

**Identity and Literacy Practices**

Identity appears in this study as a factor influencing literacy practices during gameplay. This is evidenced among players in the Bronx, where the language used during gameplay reflected participants’ cultural identity (i.e., Antiguans). Identity, in my findings, informed literacy practices, confirming research that associates identity to literacy practices (Moje & Luke, 2009; Williams, 2008). Players in the Bronx performed some literacy practices (e.g., language) as a way to position themselves in this cultural context, and space/place as individuals from Antigua. In fact, though playing in a diverse borough of New York City, participants preferred to communicate in a language that pointed to their cultural identity. This relationship between identity and literacy practices was also observed in Elig-Essono. This goes to illustrate the complex connections between cultural identity and literacy practices. According to research, an individual’s cultural identity influences the type of literacy activities he or she engages in (Li, 2000; Street, 1995), which in my study means the type of literacy practices displayed. Though these studies did not adopt a contemporary definition of literacy—sense making in semiotic domain (Steinkuehler, 2007, 2010), they do shed light on the influence of cultural identity on literacy practices. With Nasir and Vakil (2017), I contend that literacy is a complex phenomenon that involves identity.

**Gameplay Literacies Beyond Gameplay Settings**

In accordance with other research on board gameplay (Berland & Lee, 2012; Carter et al., 2014), my data reveal that playing these games was useful to participants beyond the game environments. Participants acknowledged that playing the game helped developed coping skills,
such as patience, humility, and endurance—skills they utilized in their lives outside the game environment. Patience, humility, self-control, and endurance were noncognitive skills participants acquired through gameplay and that influenced their everyday lives. Though these coping skills were quite similar in both contexts (Elig-Essonono and the Bronx), humility was only discussed by players in Elig-Essonono, suggesting that cultural context also contributed in the shaping of the coping skills. Patience is a concept that includes other notions such as persistence, self-regulation, or self-control (Hirsch, 2014; Schnitker et al., 2017).

This finding is important because prior research on board games show that they enhance social and emotional skills (e.g., self-regulation, resilience) critical for success in life and work (Hromek & Roffey, 2009; Oppenheim-Leaf, Leaf, & Call, 2012; Xu et al., 2011). Interestingly, patience is a skill that is needed not only in everyday activity, but it is also important in learning situations. According to Roberts (2013), patience is a learning vehicle, a skill whose meaning has changed from “conforming oneself to the need to wait for things […] to an active and cognitive state [that] no longer connotes disempowerment [but] power” (p. 4). In my study, patience, as well as humility, entailed the process of developing as a player, and both concepts were an integral part of learning. Considering findings that demonstrate the positive effect of patience on collaboration and decision-making for example (Bauman, 2010; Comer & Sekerba, 2014), further research needs to be conducted to provide a better understanding of the meaning of patience and humility in different cultural settings and the core features of these concepts. Learning scientists may examine how patience and humility inform learning in formal and informal learning environments and how these skills can be taught for a better learning experiences.
Furthermore, social network and relaxation were other gains from *Songo* and *Warri* gameplay from participants’ view. I should state that in Elig-Essono, the gaming community functioned like a family, with participants involved in members’ personal lives (e.g., financial support in case of sad or happy life events). Indeed, participants talked of the gaming community as being family, which suggests a great sense of belonging to the community. This is in contrast with Bronx players, where the community was a network of friends, who kept away from matters concerning members’ personal lives but felt comfortable with each other during gameplay. The friendship here was limited to the gameplay setting as players were estranged from each other in matters that concerned members’ personal lives. The sense of belonging to the community was different based—I suggest—on the cultural context where the game was played. Nevertheless, in both contexts, relaxation and the social network of support that the gameplay created equipped participants to carry on with other activities related to life outside the game environment. In a way, participants learned through gameplay to deal with or address circumstances/challenges outside the game environment. The connection between gameplay and players’ activities beyond the game setting echoes literature on video games that illustrates the “bidirectional continuities and discontinuities between gameplay and everyday life” (Stevens, Satwicz, & Mearthy, 2008, p. 53). In other words, gameplay activities are tangled up with the wider worlds of activity in which players participate (Gee, 2008b; Stevens et al., 2008).

**Theoretical Implications**

This study expands research on literacy practices in board gameplay and in the field of game studies and the learning sciences. First, it addresses the absence of African board games in the literature on game studies. Second, it provides a more nuanced view of literacies as shaped by the cultural context, identity, and space/place. Third, it shows how cultural context informs
the structure of gaming communities. Fourth, it reveals how gameplay practices relate to real world activities. Finally, the study demonstrates that playing *Songo* and *Warri* is a literacy practice.

With regard to game studies, this research expands what is known about literacy and learning in game environments, with its focus on an African board game. Research in game studies should be diversified to include other games like African games, which are yet to be studied in the field of game studies. My study also expands the learning sciences scholarship by cross-culturally investigating literacy in informal environments. This indicates that future research in the field of the learning sciences should cross-culturally explore literacy practices, and particularly investigate literacy and learning in understudied/unfamiliar gaming contexts, that is yet to be studied in the field, such as African informal game settings.

In terms of literacy practices and game research, the study shows that cultural context can inform meaning making among players. It adds to literacy scholarship by providing a nuanced perspective on literacy practices through a cross-cultural lens. Literacy practices are not always identical; cultural context, cultural identity, and space/place interact to shape literacies displayed in a given setting. For example, the audience-initiated and player-initiated collaborations were forms of literacy practices only displayed in Elig-Essono, Yaoundé, which drew from the cultural expectation of helping any individual in need. Though there are many studies on collaboration, these forms of collaboration (i.e., audience-initiated and player-initiated) are yet to be discussed in the literature. Distributed embodied cognition is another example of literacy practice, discovered in this study, but slightly difference in its practice in both cultural contexts.

So far, the learning sciences have not extensively looked at the complex interactions of cultural context, cultural identity, space/place in the understanding of literacy practices and
learning. Wrestling with the interplay of literacy practices, cultural context, cultural identity, and space/place is a compelling new frontier for the field of learning sciences and one in which issues of literacy practices and learning in the field offer exciting new opportunities to advance fundamental knowledge about how people learn. In other words, discussion about literacy practices should be further expanded to include not only the cultural context but also cultural identity, space/place, and the complexities of their relations in real-world settings for a better understanding of meaning making in different learning environments for learning scientists.

For instance, most research so far focuses on context as it relates to a discipline such as science or engineering (Nasir & Vakil, 2017) or an institutional setting (Allen, & Eisenhart, 2017; Nasir & Vakil, 2017). However, to expand the field’s understanding of how people learn and what literacy practices they engage in, it is also important for researchers to explore the effect of the cultural context on literacy practices and learning and how cultural identity, cultural context, and space/place intertwine to frame literacy practices. To develop learning environments that are more inclusive, it is important for the field to consider the interplay of other factors (e.g., space/place, cultural context, and cultural identity) in the shaping of literacy practices and learning in real-world settings.

This study also provides a different view of communities of practice by showing a gaming community (Elig-Essono) with a structure that did not change even though practices were constantly shared. In this regard, it pushes against the conception of community of practice as lacking static or rigid organization (Eberle et al., 2014; Eckert & Wenger, 2005; Wenger, 2006), which is to some extent a western view of community of practice. Indeed, in Elig-Essono, Yaoundé, the community was structured, while in the Bronx it lacked rigid organization. This research expands the concept of community of practice and implies areas for future research.
Similarly, it adds to situated learning theory by introducing the concept of geographically located knowledge, expanding the notion of context as it relates to where an activity takes place (in situated learning theory) to the geographical situatedness of the activity. Furthermore, this research extends sociocultural theory concepts of social practices or cultural practices informed by the context to gaming group structures to explain both gaming groups organization.

More research should explore understand how people know what they know, for instance, how geographic location shapes epistemology in order to align learning environments to the way people learn/know what they know. In addition, board gameplay permeated/influenced out-of-game activities, which adds to the literature on game as learning environments. For instance, players identified patience and humility as non-cognitive skills they develop through gameplay, which help them deal with the demanding and stressful world outside the game environment. Though the concepts of patience and humility are not yet explored in the learning sciences, the fact that these skills were fostered in the gameplay environment is of interest and opens new avenues of investigation for learning scientist and researchers, considering that these skills are useful in everyday activity. Consequently, further research on the relationship between humility, patience, and learning is needed.

In addition, with regard to research, my findings show that using one’s representation or perception to make sense of a phenomenon can lead to misrepresentation or symbolic violence as in the case of conversation/interview bombing in this study. According to Bourdieu (1992, 2004), symbolic violence refers to the subtle imposition on subordinated groups (e.g., a group understudied) by the dominant class (e.g., researcher) of an ideology or meaning which validates the statuo quo (e.g., what is already stated in the literature). Though apparently similar to focus group interviews, the pattern and process that created conversation/interview bombing made this
form of interview different from focus groups. I argue that in the context of research, symbolic violence may consist of assigning a concept already discussed in the literature to a phenomenon encountered in the course of the study that may appear similar, but is in fact different from the notion described in the literature. Therefore, researchers should carefully provide details about any phenomenon that appeared identical to what they know, in order to avoid “symbolic violence” and add to the literature.

This study demonstrates that *Songo* and *Warri* gameplay is a constellation of literacy practices. Given that participants in this study were all adults and male players, future studies should explore literacy practices among female and young players of *Songo* and *Warri*. 
References


Eicher, L. (2014). *The impact of scaffolding through the use of board games on student goal orientation* (Honors project). Retrieved from https://scholarworks.bgsu.edu/honorsprojects/118


Haque, M., Liu, L., & TitiAmayah, A. (2017). The role of patience as a decision-making heuristic in leadership. *Qualitative Research in Organizations and Management, 12*(2), 111-129.


(chair) and Y. Kafai (discussant), Fiddling on the fly: Thinking, learning, and designing using board games. Symposium presented at the annual meeting of the American Education Research Association, Vancouver, British Columbia.


doi:10.1080/02601370120490


Stevens, R. R. (2012). The missing bodies of mathematical thinking and learning have been found. *Journal of the Learning Sciences, 21*(2), 337–346


doi:10.1111/soc4.12497


Katchabaw & J. Rajnovich (Eds.), *Proceedings of the 2008 Conference on Future Play:
Research, Play, Share* (pp. 33-40).

*Simulation & Gaming, 37*(1), 24-40.

*Chinese Management Studies, 3*(3), 200-212.

Zimmerman, E. (2009). Gaming literacy: Game design as a model for literacy in the twenty-first
century. In B. Perron & M. J. P. Wolf (Eds.), *The video game theory reader* (pp. 23–32).
APPENDIX: Instruments

Sample: Semi-structured Interview Questions

a) For how long have you been playing *Songo* board game?

b) When you play *Songo*, what do you often do?

c) What happens during the game?

d) How do you decide when to stop and seek for help?

e) What do you do to win the game?

f) How do you achieve/ensure victory?

g) What do you gain from playing the game?

h) Do you see playing the game as a waste of your time? Why?

i) What do you like about the game and think is helpful to you?

j) Why do you invest a lot of time into *Songo* and why do you?

k) What does it mean to you to play *Songo*?

l) Why do you play this game?

m) How do you interact with the other players?

n) Of what use is the audience to the gameplay?

o) What makes this game interesting?

p) How do you typically interact with the audience?
# Observation Protocol

<table>
<thead>
<tr>
<th>Category</th>
<th>Includes</th>
<th>Researcher would note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date/time/location</td>
<td>Date of the observation, starting time, and location</td>
<td>The time, date, and location</td>
</tr>
<tr>
<td>Event/Scene description</td>
<td>Instances during gameplay, people present or in attendance, beginning or end of gameplay, period in the game</td>
<td>Anything that would be useful in describing a specific scene or event; what is happening during that time, what people are doing, how many people are involved or present, people’s actions, or focus of attention</td>
</tr>
<tr>
<td>Players’ interaction during play</td>
<td>Players’ moves, gestures, tone of voice, posture, gaze, verbal communication (language spoken/used, e.g., what is said), who initiates the interactions</td>
<td>The moves players make, how they gaze at the board or at each other, tone of their voice,</td>
</tr>
<tr>
<td>Players’ interaction with audience during play</td>
<td>Gestures, physical behavior, verbal communication, moves</td>
<td>How players are using their bodies and voices to communicate with the audience.</td>
</tr>
<tr>
<td>Audience interaction during play</td>
<td>Moves, verbal communication, gestures, space</td>
<td>How the audience uses gestures, voice, posture, and space to communicate with players, or to react to players’ actions; the dynamics of interaction in the audience</td>
</tr>
<tr>
<td>Observer Discussion</td>
<td>Feelings/thoughts/interpretations</td>
<td>What she thinks is going on; her perception and analysis of the different activities, questions about behaviors she observes</td>
</tr>
<tr>
<td>Research Question</td>
<td>Purpose</td>
<td>Data to Answer Question</td>
</tr>
<tr>
<td>-------------------</td>
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<td>-------------------------</td>
</tr>
<tr>
<td>RQ1. How do players interact with each other, the game, and the audience during gameplay?</td>
<td>To identify the different types of interactions that occur during <em>Songo</em> gameplay</td>
<td>Observation field notes, Video recordings</td>
</tr>
<tr>
<td>RQ2. What sort of skills or practices do players think they use during gameplay?</td>
<td>To understand the skills players identify as needed during <em>Songo</em> gameplay</td>
<td>Semi-structured interviews</td>
</tr>
<tr>
<td>RQ3. How do these practices and learning in the game pay off in the real world or non-gaming settings?</td>
<td>To explore the relationship between <em>Songo</em> board gameplay and players’ everyday activities</td>
<td>Semi-structured interviews</td>
</tr>
</tbody>
</table>
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Charles L. Blockson Collection of African Americana & African Diaspora. Provide research and instruction support to students, and faculty. Curate exhibitions for Black History Month in collaboration with the head library archivist (Fall 2017- Present)

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- Development Issues in the Global Context, Agricultural Economics, Sociology, & Education Department, Penn State University, Undergraduate Course, 30 students, (Fall 2016)
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