Scrabble as a tool for Haitian Creole literacy

Sociolinguistic and orthographic foundations*

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This paper argues that Scrabble can be used as a tool to help maintain and grow all levels of Haitian Creole literacy and it provides the technical details for developing the game. The rules of the English version are given to introduce the game's basic structure. Haiti's educational, sociolinguistic, and literacy conditions are presented in order to put in context the orthographic form proposed for the Haitian Creole version. An overview of game culture in Haiti shows Scrabble's potential for success. Previous research on the adaptation of Scrabble into Latin by means of a quantitative corpus-linguistic method is examined. Difficult aspects of standard Haitian Creole orthography (IPN) are discussed in order to expose potential pitfalls in design. Quantitative analysis of a Haitian Creole textual corpus provides an empirical basis for the distribution of letter tiles and their point values. Problems encountered in test-games played by Haitian-American university students and Haitian elementary and high school students inform the final proposal. The paper examines the work necessary for the successful introduction of Haitian Creole Scrabble and it provides independent evidence of the game's cognitive benefits. Haitian Creole Scrabble is argued to be a creative and special method for expanding and strengthening literacy in Haitian Creole and other creole languages.

Keywords: Applied Creolistics, Haitian Creole Scrabble, literacy, word games, sociolinguistics, orthography, phonetics, phonology, Scrabble translation

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1.   Introduction

A popular crossword board game like Scrabble can serve as an exemplary tool in the effort to build and strengthen Haitian Creole literacy in Haiti and its diaspora, which includes North America and the Caribbean. This small nation on the western third of the island Hispaniola, with nearly 8,500,000 people, has a population density roughly equivalent to that of China or India. All its inhabitants speak Haitian Creole; however, half of the population is unable to read or write in the language (Arthur & Dash 1999: 260). Given this situation, Siegel's (2005: 308) call for more Applied Creolistics should be heard; this paper is my response. Haitian Creole Scrabble can be a tool for the expansion of literacy, the reinforcement of existing skills and a means for semi-literates to transition out of defunct orthographies (such as those pioneered by Sylvain 1901, McConnell 1945, Laubach 1947, and Pressoir 1947) and into standard Haitian Creole orthography, called 'IPN' after the *Institut Pédagogique National*'s 1979 officialization (see Dejean 1980, 2006 and Schieffelin & Doucet 1998).[1] Scrabble, if played in coordination with traditional approaches to literacy instruction, should help achieve these goals while being a source of creativity, play, competition, and reflection.

Textbooks designed to facilitate Haitian Creole literacy have been employed in various literacy campaigns; for example, *Goute Sèl* (Anonymous 1986), *Aprann* (anonymous c. 2000), and *Wi, mwen kapab* (anonymous 2008), to name just a few. These textbooks are designed for initial literacy and they include photos, drawings, large printed letters, words, short sentences, proverbs, and blank lines for the learner to practice writing on. Although Scrabble was intended for those possessing intermediate and advanced literacy, the game deserves a place among the approaches of initial literacy, too. The playful and social nature of Scrabble and the ergonomic way in which words are assembled and played by means of letter tiles (i.e. writing without penmanship) lends itself as an auxiliary method for all levels of literacy. In addition to learning how to read and write, Scrabble can be used as a form of 'literacy support through play.' As a take-home literacy game, Scrabble has the potential to impact players and observers through the creative and competitive *group literacy* that emerges when the game is played. In fieldwork conducted in Haiti in March, 2008, high school students who already possessed Haitian Creole literacy were in the best position to master and excel in Haitian Creole Scrabble; a smaller, but still impressive number of elementary students also mastered the game. The collective and expressive dimensions of Scrabble and the tangibility of the game's big block letters hold the potential to strengthen and improve Haitian Creole literacy at all levels;

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1. The most widely distributed publication adhering to the IPN orthography is the 1999 (but *not* 1985) translation of *Bib la*, 'The Bible' (anonymous).

however, the game can in no way replace the aims of traditional literacy which involve learning to read and write sentences and paragraphs. Nevertheless, Scrabble transcends the solitude of traditional reading and writing since it is played by 2, 3, or 4 players/groups and has a board that can be scrutinized by all eyes present.

   Over 100 million boxes of Alfred Mosher Butts' Scrabble game have been sold around the world since it first appeared in 1948 (Demari 2001:66). The ever popular game has been translated into 29 languages and includes electronic versions (Davis 1987) and dictionaries (Lowe 1990). There are Scrabble associations, clubs, websites, and annual national and international competitions for large cash prizes (Murray 1985; Shulman 1986; Fatsis 2001). Evoking Du Bellay (1549), Yves Gilbert, the then-president of the French Scrabble Federation, pointed out that the game is 'a defense and illustration of the French language' (Demari 2001:66). Haitian Creole Scrabble, too, is fully capable of serving in this important role of defense and illustration and it can provide a creative and enjoyable method for the maintenance and growth of Haitian Creole literacy.

Table 1a. The Scrabble playing board

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	W x 3			L x 2				W x 3				L x 2			W x 3
B		W x 2				L x 3				L x 3				W x 2	
C			W x 2				L x 2		L x 2				W x 2		
D	L x 2			W x 2				L x 2				W x 2			L x 2
E					W x 2						W x 2				
F		L x 3				L x 3				L x 3				L x 3	
G			L x 2				L x 2		L x 2				L x 2		
H	W x 3			L x 2				W x 2				L x 2			W x 3
I			L x 2				L x 2		L x 2				L x 2		
J		L x 3				L x 3				L x 3				L x 3	
K					W x 2						W x 2				
L	L x 2			W x 2				L x 2				W x 2			L x 2
M			W x 2				L x 2		L x 2				W x 2		
N		W x 2				L x 3				L x 3				W x 2	
O	W x 3			L x 2				W x 3				L x 2			W x 3

For the uninitiated, the game involves as many as 4 players or teams that each randomly select 7 letter tiles from which words are formed. Players replenish letter tiles after playing a word and maintain 7 on hand until all the letter tiles have been played. When the last tiles are played, the final scores are tallied. The Scrabble game board has 15 vertical and 15 horizontal squares for a total of 225 playing squares. On the playing board given in Table 1a 'W×2' or 'W×3' indicate bonus squares where the total word score is multiplied by 2 or 3. 'L×2' and 'L×3' correspondingly indicate bonus squares where the letter score is multiplied by 2 or 3. The horizontal numbers and the vertical letters are the formal means for locating words and letters on the board.

Players cross their words with existing ones and aim for bonus point squares on the board (e.g. there are 24 double letter squares, 12 triple letter squares, 17 double word squares and 8 triple word squares, all laid out concentrically). Once played as words, the numbered wooden or plastic letter tiles and the bonus squares they are played on are added and multiplied (in the case of the bonus squares) in order to obtain the total point score for a word or words that are newly formed. The number of tiles and the point value of a letter correspond to its frequency in the language; thus a common letter will have more tiles but be worth fewer points. Players use combinatorial mental processes that extrapolate words from the letters, syllables, and morphemes found among the 7 letter tiles. Players sound their memories for words while cross-referencing with those already played on the board as they seek a high point gain. Below I show a small part of the Scrabble board to illustrate the basic principles (adapted from www.wikipedia.org):

Table 1b. Illustration of a partial English Scrabble game:

	5	6	7	8	9	10	11	12	13
G			R_1		Lx2		P_3		Lx2
H	W_4	E_1	A_1	T_1	H_4	E_1	R_1	Lx2	
I			T_1		Lx2	N_1	E_1	S_1	T_1
J		Lx3	E_1			Lx3	E_1		
K	Wx2		D_2	O_1	Z_{10}	I_1	N_1	G_2	

The position of a word on the board is annotated with numbers horizontally and letters vertically, e.g. in the word *WEATHER*, the letter T_1 is the center of the board, located in position 'H8.' The point scores for the words on the board are

calculated in the order played.[2] With this cursory review of the basics, one can see that Scrabble involves literacy, elementary mathematics, strategy, and chance.

This paper presents an analysis of Haiti's educational and sociolinguistic conditions in Section 2 below in order to put into context the very specific implementation of standard Haitian Creole orthography suggested for Scrabble later on; namely, one that includes diacritics and some digraphs. An overview of Haiti's game culture shows the precedents that facilitate the introduction of Scrabble in Section 3. Previous research involving the use of a textual corpus for computationally adapting Scrabble from English into Latin is examined in Section 4 (Mahoney & Rydberg-Cox 2001). In Section 5, standard Haitian Creole orthography is given and it is argued that this should be extended to Haitian Creole Scrabble in order to link the game to expanding knowledge of the language's official spelling system. In 5.1 quantitative analysis of a textual corpus provides an empirical basis for the distribution of letter tiles and their point values. The results from test-games are used to support the final design proposal in 5.2. An overview of the research and development necessary for successfully introducing this game is given in 5.3 and the discussion and conclusion in 6 provides independent evidence of the cognitive benefits of Scrabble. In a community with a modest language infrastructure (e.g. a limited supply of books, media, teachers, and schools), Haitian Creole Scrabble is an unconventional and extraordinary method for increasing Haitian Creole literacy in both Haiti and its international diaspora. In order to grasp the motivations for the orthographic proposals for Haitian Creole Scrabble, it is crucial to first understand key issues in education, sociolinguistics, and literacy in Haiti.

2.   Education, sociolinguistics, and literacy in Haiti

Haiti's suffering as the poorest nation in the Western hemisphere is rooted in the brutal form of plantation slavery practiced by French colonialists in Saint-Domingue (c. 1625–1803); it was prolonged by Haiti's isolation in the 19th century; it worsened with the population explosion and environmental collapse of the 20th century (Séverin 2000); and political dictatorships, turmoil, and US occupations have aggravated problems. The labor of the colony's slaves made Saint-Domingue

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2. Table 1 is scored as follows: (a) *WEATHER* = 26 pts. (e.g. 13 × 2 for the center position 'H8' which doubles the first word played); (b) *NEST* = 5 pts. (e.g. 3 + 2 for T_1 which falls on a double letter square) + *EN* = 2 pts. for a total of 7 pts.; (c) *PREEN* = 14 pts. (e.g. 7 × 2 because N_1 falls on a double word square); (d) *RATED* = 8 pts. (e.g. 4 + 2 for R_1 and T_1 which both fall on double letter squares); and, lastly, (e) *DOZING* = 17 pts. (Note that the double word square K11 can only be used with the first word played on it, e.g. *PREEN*.

the most important source of cash crops exported to France and Europe: the consumption of goods such as sugar, rum, indigo, coffee, and tobacco drove French Atlantic triangular trade. Not a single school was built for the West African and Creole slaves during the entire French colonial period, and the children of French colonists also had few options. Moreau de Saint-Méry (1797) complained that educational facilities were rare but he noted that in Cap Français (subsequently re-named Cap Haïtien) a few *pensionnats* 'boarding schools' could be found where mathematics, history, geography, and sometimes Latin were instructed by qualified teachers (Tardieu 1990: 95–7). Those with means who remained in Saint-Domingue over the long-term sent their children to France for formal education.

As Fouchard (1953) pointed out, the only contact that a slave was allowed to have with literacy was the name or initials of the owner branded on her or his chest. The *Gazette de Saint-Domingue* (anonymous 1764), which regularly published notices about runaway slaves, provided information in capital letters about the precise brand (owner's name or initials) that was seared onto the runaway's chest (see, for example, April 25th, 1764). Indigenous education amongst the slaves was transmitted orally through Vodou (Tardieu 1990: 97) and traditions such as proverbs (see Turnbull 2006), *timtim bwa chèch* 'riddles' (see Tardieu 1983) and *kont* 'tales' (see Freeman 2002). The slaves' culture of oral transmission negated and waged war against the French culture of written transmission (Tardieu 1990: 100). Slaves were prized for their labor and craftsmanship but access to literacy through the *syllabaire* 'spelling book' was strictly forbidden (Fouchard 1953, Miller 2008: 35–36). The vicious French colonial culture collided with the slaves of Saint-Domingue beginning with Boukmann's rebellion in 1791.

The Haitian Revolution (1791–1803) produced Haitian independence, but it took the lives of 300,000 people, mostly members of the indigenous army and indigenous civilians, both groups composed of former slaves. French linguistic neo-colonialism, embraced by both the mulatto and black elite, was set into motion; to this day French remains the language of social and economic mobility and it dominates government, business, and education in Haiti (see Leyburn 2004 [1941]; Nicholls 1996 [1979]; Heinl & Heinl 1996). Dejean (2006) points out that the modern Haitian Creole-speaking mass inherits its harsh lot from the French colonial past and the French-language neo-colonial present. The dominance of French in Haiti's schools, the state, and business is one of the major contributing factors behind the monolingual majority's unchanged economic immobility (Dejean 2006).[3]

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3. A reviewer of this paper wrote, 'It remains to be demonstrated that generalized literacy and the use of Haitian Creole for all functions would compensate for the lack of resources, deficient infrastructure, absence of law and order, etc.' However, I am not arguing that generalized

In the early 19th century, President Pétion in the South and the monarch Henri Christophe in the North established French-language schools for the children of the elite (Leyburn 2004 [1941]: 280–81).[4] In 1860, President Geffrard negotiated the Concordat with the Roman Catholic Church, putting an end to the 56 year schism. His government built more public schools and also requested that the Catholic Church establish French-language institutions administered by French priests (Nicholls 1996 [1979]: 119). At the end of the 19th century, Haiti had about 350 schools. By 1917, it had 730 schools which served 11% of the population's reference age group (see Salmi 1998 in Arthur & Dash 1999: 135). Gradually French-language schools have opened for more middle class Haitians, but in insufficient number (Dejean 1993: 79). At the primary level, Haitian schools (private, public, and religious combined) currently serve approximately 55% of all school age students and at the secondary level, enrollment is approximately 18% (www.unicef.org).

The Bernard educational reform initiated in 1979–80 and the political and constitutional changes of the late 1980s have modestly raised the status of Haitian Creole in Haiti (see Valdman 1988b: 68). In the transitional bilingual approach that these reformers suggested, Haitian Creole was proposed as the instructional vehicle and French as the second language for the first three years of elementary school. Thereafter students would transition to French. The Haitian Constitution of 1989 recognizes Haitian Creole as the language that binds all Haitians together and as co-official with French; it nevertheless classifies French as a *langue d'instruction* 'language of instruction', whereas Haitian Creole is an *outil d'enseignement* 'tool of education'. In this formula, Haitian Creole is officially viewed as a means to French but not as an end in itself (Jean-François 2006: 20). A reviewer also pointed out that Haitian Creole reading and writing tests are administered in the 6th and 9th year of schooling in Haiti. The Scrabble fieldwork conducted among rural elementary and high school students in Haiti in March, 2008 (Hebblethwaite 2009b), shows that the majority of the students have good Haitian Creole literacy skills. In that village, like most others in Haiti, the schools are using the textbooks, *M ap li ak kè kontan* (anonymous 1984) and *Konprann sa nou li* (anonymous 1984), which are both a standard series that build literacy through stories, proverbs, articles, reports, poems, miscellaneous texts, images, and testing in the form of multiple

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Haitian Creole literacy would compensate for the problems noted above but it would improve (linguistic) access to education which would positively impact educational achievement for the majority. I assume that expanding educational achievement through majority-language education forms a basis for other societal improvements.

4. Note that Christophe made British educators the headmasters of his 5 schools (Leyburn 2004 [1941]: 280).

choice, true/false, and questions that require short or long answers. After the third year of elementary school, the majority of the curriculum is taught in French with Haitian Creole content reserved for about two hours per week.

Statistics from one geographic department from the year 2001 illustrate the effect of Haiti's language situation on graduation rates. Of Haiti's 9 departments, the Artibonite has a total population of 1,070,397 persons (www.citypopulation. de). In 2001, of the 6,820 students enrolled in the junior year (*rhétorique*) of high school in this department, only 7.89% (*n* 448) advanced; 24.48% (*n* 1,390) had the chance to retake the exam; and 67.64% (*n* 3,841) were eliminated. Of the 2,010 students enrolled in the senior year (*philosophie*) of high school, only 48.18% (*n* 868) graduated; 42.89% could retake the exam; and 13.93% were eliminated (see Dejean 2006: 152). These low rates of student enrollment and graduation are directly linked to the use of French as the medium of instruction, a language poorly understood by students and inadequately mastered by teachers in Haiti (Dejean 1993: 80). As one reviewer noted, the conditions of buildings, books, trained teachers, and children who walk miles to school on an empty stomach might remain the same under a Haitian Creole school system; however, it is difficult to believe the reviewer's assertion that 'the same dismal conditions will obtain' if the teachers and students both use a language they actually master.

Regarding Haiti's sociolinguistic situation, Dejean (1993, 2006) points out that 100% of all Haitians speak Haitian Creole whereas only 2–5% additionally speak, read, listen to, and write French. Haiti is therefore not diglossic, as Ferguson (1959) claimed, because the majority of the population is monolingual (Dejean 1993: 74). Among the small group of bilinguals, neither French nor Haitian Creole are excluded from any domain; both languages overlap and are used in formal and informal settings. Even if official records are in French, Haitian Creole is predominantly spoken by members of the police, employees of the courts, postal and telephone workers, the internal revenue service, the departments of education, agriculture, health, among Haiti's political elite, etc. (Dejean 1993: 74–6). Haiti is one of many societies (especially in the Caribbean, Latin America, Africa, etc.) that employs a *minority language* (often, but not always, the language of some colonizer) in the school system whereas some other *majority language* (or *languages*) dominates oral culture.[5] Like those societies which employ a minority language

5. For example, among the lower-tier nations of the UN literacy rankings one finds the following: (154) Haiti 54.8 % literacy (155) Yemen 54.1% (156) Togo 53.2% (157) Morocco 52.3% (158) Mauritania 51.2% (159) Timor-Leste 50.1% (160) Pakistan 49.9% (161) Côte d'Ivoire 48.7% (162) Central African Republic 48.6% (162) Nepal 48.6% (164) Bangladesh 47.5% (165) Bhutan 47.0% (166) Guinea-Bissau 44.8% (167) Gambia 42.5% (168) Senegal 39.3% (169) Mozambique 38.7% (see http://www.wikipedia.com and http://www.ethnologue.com). All of these

in the state and schools, Haiti's scholastic achievement is among the lowest in the world. This systemic failure, Dejean (2006) argues, originates in the use of French as the medium of instruction in a country that lacks the conditions necessary for primary and secondary education in that language. Access to French is limited by unfavorable conditions in the economy (the state has no money), geography (no neighboring states speak French), society (a Haitian Creole-speaking majority is expected to conform to a French-speaking minority) and pedagogy (a minority of teachers master French). The net result is that only a tiny fraction of all students who begin school actually graduate (Dejean 2006: 244).

Regarding current literacy work, Franswa and Dòsenvil (2007: 3–4) report that the present *Sekretè d Eta Alfabetizasyon* 'Secretary of State in Literacy', Carol Joseph, appointed by the newly elected President René Préval, gave a press conference on September 8th, 2007, to announce the launch of a new literacy campaign in Haiti. In his discourse, Secretary Joseph pointed out that approximately 3,000,000 Haitians are illiterate. The campaign involves so far 963 facilitators working in the North and Southeast departments. 433 literacy supervisors are also currently training an additional 2,430 facilitators for the other geographic departments. The campaign has adapted the Cuban method, *Yo, sí puedo* 'I can do it', into Haitian Creole as, *Wi, mwen kapab* (anonymous 2008). The campaign is recruiting pupils between 14 and 50 years of age and is scheduled to end after 3 years.

This cursory review of educational, sociolinguistic, and literacy conditions in Haiti has been given in order to put into context the recommendations given ahead in Section 5 for the implementation of Haitian Creole orthography in Scrabble. Unlike the French version of the game in which the language's diacritics are stripped away (e.g. *é, è, ê, ë* → *E*, etc.), I am going to suggest that Haitian Creole Scrabble employ standard Haitian Creole diacritics and certain digraphs for a number of important reasons. Haitian Creole Scrabble should follow the official IPN orthography so that playing and observing Scrabble encourages the acquisition and maintenance of the normative script. The use of IPN spelling in Haitian Creole Scrabble should encourage the transfer of literacy skills beyond the game. A variety of Scrabble without the appropriate accents and digraphs would worsen the current problem of enduring defunct orthographies (for examples of erroneous spelling see Dejean 1980: 19–35 and 2006: 202–205). Since being made official by the Ministry of Education in 1980, Haitian Creole's official IPN spelling has been embraced by most Haitians[6] and it would be difficult to convince the public

nations have a *minority* official language in the state and school system whereas other *majority* languages dominate oral expression (see Hebblethwaite 2009a).

6. Exceptions include the members of the *Sosyete Koukouy* who insist on promulgating their slightly different system, e.g. see Célestin-Mégie's, *Agasya Chwal Simbi* (2003); another approach

of the authenticity or usefulness of a version of Scrabble that deviates from the standard (see Schieffelin & Doucet 1998 for more on ideology and orthography in Haitian Creole). The next section briefly examines Haiti's game culture in order to show its readiness for Scrabble.

3.   Game culture in Haiti

As many Haitianists have observed, games are an important part of Haitian culture (Herskovits 1932, Simpson 1954, Courlander 1973). Children's games include *lago kache* 'hide-and-seek' and *zonbi mannmannan* 'ring around the posy', among others (for more examples see Simpson 1954: 65–73). Games popular with adults include dominos, checkers, jacks, dice, *kay* 'house' or 'wari', card-games like *bezig* 'bezique' and ludo (Herskovits 1932, Zéphir 1997: 235). *Gagè* 'cock-fights' and *bolèt* 'lotteries' are popular games of chance that involve gambling. Haitians also love sporting games like soccer, basketball, or volleyball. In urban and rural Haiti, dominoes players can be seen keeping score with clothing pegs attached to their beards or faces. Games are often played outside in public settings where small crowds might gravitate to watch.[7]

The mostly rural Haitian game of West African origin, *kay* 'house', has features that prepare the way for more complex games (see Herskovits 1932, Courlander 1973: 332–333, Valdman 1988a: 200–201, Bautista i Roca 2005). Herskovits (1932) notes how games like *kay*, or its relative *wari* in Suriname, survived colonialism because they were not suspected by European authorities. Played on a carved wooden playing board, the object of *kay* is to capture the opponent's beans. The beans sit facing each other in two rows of 6–8 pockets or cups; each pocket holds four beans. Players take turns scooping up beans and sowing them counterclockwise starting in the opponent's pockets of the playing board. The player captures the contents of the pocket where her sowing ends and continues redistributing counterclockwise until her last bean falls into an empty pocket, signaling the start of her opponent's turn. The goal of the game is to 'eliminate all seeds from one's side of the board and the game is won when a player's last four counters have been deposited in one of the cups belonging to his opponent' (Herskovits 1932: 28). *Wari/kay* is a form of social recreation loved for the game's sake and for the reputation gained by a strong player (Herskovits 1932: 32).

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can be found in Saven & Woudsonn (2007).

7. For an artistic illustration, see Yves Michaud's painting, *Un quartier animé* 'An animated neighborhood', which depicts dice and dominoes played in public (in Alexis 2000: 113).

Lastly, Haitian Creole crossword puzzles have also prepared the way for the advent of Scrabble. Crosswords have long been a rubric in the monthly Haitian Creole publication, *Bon Nouvèl* 'Good News'. Crossword puzzles differ from Scrabble, however, in that they involve deciphering clues that are embedded in full sentences for predetermined words rather than the anagrammatic skill of creating numerically important words with 7 randomly selected letter tiles. The advantages of Scrabble over the crossword puzzle include the game's creative and intellectual aspects in addition to the liveliness of group play. Haitians are passionate about games that foster togetherness, sociability, competition and gambling. Scrabble offers this range of experience in addition to the promotion of skills in literacy, mathematics, and strategic thinking.

4.   Previous efforts at translating Scrabble

Although Scrabble has been translated into 29 languages, research on the method of translation is rare. An exception is Mahoney & Rydberg-Cox's (2001: 58–60) paper on the translation of Scrabble into Latin. They point out that English Scrabble, for example, artificially decreases the number of *S* tiles to four because it can be used profitably to add number or person morphology to English nouns and verbs. Aside from the exceptional *S*, they note that English Scrabble approximately follows the relative frequency of English letters as illustrated in Smith (1943) and Crystal (1987). Scrabble's creator, Butts, used the *New York Times* to calculate the number of occurrences for English letters (Fatsis 2001).

Using the *Perseus* Latin corpus with 1.1 million words and 7.8 million characters, Mahoney & Rydberg-Cox (2001) were able to calculate the relative frequency of letters in Latin and produce estimations for the number of tiles and point values required, providing a good example of the quantitative method required for calculating the Haitian Creole version; their results are reproduced below in Table 2.

Their design follows English Scrabble where letters that occur frequently are assigned a low point value whereas those that occur rarely are assigned a high point value. Before their method is employed on a Haitian textual corpus, the standard Haitian Creole alphabet is reviewed below.

5.   The Haitian Creole alphabet and key issues for Haitian Creole Scrabble

The Haitian Creole version of Scrabble should take after the Finnish, German, Icelandic, Hungarian, or Spanish versions, which include some diacritics or digraphs (Augarde 1984: 67; www.wikipedia.org). The French or English versions, which

Table 2. Quantitative Results for Latin Scrabble (Mahoney & Rydberg-Cox 2001)

Letters	Points	# Tiles	%	Letters	Points	# Tiles	%
E	1	10	9.3%	D	3	4	2.4%
I	1	9	8.9%	P	3	4	2.2%
U	1	9	8.7%	Q	8	2	1.4%
A	1	9	6.8%	B	8	2	1.1%
T	1	9	6.5%	G	8	2	0.8%
S	1	9	6.0%	F	8	2	0.8%
R	2	6	4.9%	H	8	2	0.7%
N	2	6	4.9%	X	10	1	0.3%
M	2	6	4.5%	Y	10	1	0.1%
O	2	6	4.4%	Blank	0	2	0%
C	3	4	3.2%	Total	86	106	100%
L	3	4	2.5%				

lack such letter tiles, are not comparable because French or English orthographies involve a great deal of redundancy with an abundance of overlapping orthographic monographs, digraphs, trigraphs, and diacritics used to represent the languages' respective phonemic inventories. To take one example, in French or English the phoneme /k/ is represented alternatively as 'c' in *couleur/cat*, as 'ch' in *chronique/chemo*, as 'k' in *kaki/kindle*, as 'qu' in *qui/queen* and as the monograph 'x' which represents two sounds as in [ks] in *expérience/experience* and [gz] in *exemple/example*. Such redundancy and complexity exists throughout the French and English writing systems and it renders any inclusion of diacritics, digraphs, or trigraphs futile. Haitian Creole orthography, however, is very closely matched to the sound system and does not pose comparable problems.

The standard IPN Haitian Creole alphabet is called 'phonemic' or 'phonetic' because there is a consistent relationship between pronunciation and spelling; it is reproduced below accompanied by the corresponding symbols from the International Phonetic Alphabet.

Sounds are captured with monographs (*a*, *b*, etc.), monographs topped with diacritics (*à*, *è*, *ò*), digraphs (*an*, *ch*, *en*, *on*, *ou*, *ui*), and a trigraph (*tch*). This system helps represent the sounds in Haitian Creole to a more uniform degree than the spelling systems of English, French, Spanish, or Italian (see Dejean 2006: 206).

In order to understand the final form proposed for Haitian Creole Scrabble later in this paper, it is important to first explain complex areas of the alphabet. The minimal pairs in the lists (a)–(c) below illustrate how the spelling system captures the contrasts between oral vowels, nasal vowels and nasal consonants, which are

Table 3. The Standard Haitian Creole Alphabet (IPN, 1979)

#	Standard HC orth.	IPA	#	Standard HC orth.	IPA	#	Standard HC orth.	IPA
1a	a	/a/	11.	h	/h/	22.	p	/p/
1b	à	/a/	12.	i	/i/	23.	r	/ɣ/
2.	an	/ã/	13.	j	/ʒ/	24.	s	/s/
3.	b	/b/	14.	k	/k/	25.	t	/t/
4.	ch	/ʃ/	15.	l	/l/	26.	tch	/tʃ/
5.	d	/d/	16.	m	/m/	27.	ui	/ɥ/
6.	e	/e/	17.	n	/n/	28.	v	/v/
7.	è	/ɛ/	18.	o	/o/	29.	w	/w/
8.	en	/ɛ̃/	19.	ò	/ɔ/	30.	y	/j/
9.	f	/f/	20.	on	/ɔ̃/	31.	z	/z/
10.	g	/g/	21.	ou	/u/			

some of the more difficult areas of Haitian Creole spelling, and in (d), how it employs digraphs and one trigraph.[8]

a. **The 'A' Vowels (a, an, àn)**

IPN[9]	IPA[10]	English gloss
papa	[papa]	'daddy'
pan	[pã]	'peacock'
pàn	[pan]	'breakdown'
pann	[pãn]	'to hang'

b. **The 'E' Vowels (e, en, èn, è)**

IPN	IPA	English gloss
se	[se]	'it's'
sen	[sɛ̃]	'breast'
sèn	[sɛn]	'trawling net'
sè	[sɛ]	'sister'

c. **The 'O' Vowels (o, on, òn, ò, ou)**

IPN	IPA	English gloss
mo	[mo]	'word'
monpè	[mɔ̃pɛ]	'(Catholic) Father'

d. **Digraphs and Trigraphs (ch, tch, ui)**

IPN	IPA	English gloss
chita	[ʃita]	'to sit'
tcheke	[tʃeke]	'to check out'

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8. These vowel sets are a difficult part of Haitian Creole spelling because they involve learning the difference between sounds/letters without accents (e.g. *a*, *e* and *o*), sounds/letters with accents (e.g. *à*, *è* and *ò*) and sounds/letters comprised of 2 parts (e.g. *an*, *en* and *on*). Common errors in the writings of bilingual Haitian-Americans illustrate the problems that these sets pose: *enpotan* for *enpòtan* 'important'; *fe* for *fè* 'to do'; *komanse* for *kòmanse/koumanse/konmanse* 'to begin'; *sispan* for *sispann* 'to end'; *denye* for *dènye* 'last'; *jwen* for *jwenn* 'to find'; *konen* for *konnen* 'to know'; *avek* for *avèk* 'with'; *le* for *lè* 'when'; *we* for *wè* 'to see'; *lekol* and *lekòl* 'school'; *kon* for *konn* 'to know, be used to', etc.

9. *Institut Pédagogique National*, e.g. the official spelling of Haitian Creole.

10. The International Phonetic Alphabet.

mòn	[mɔn]	'mountain'	*uitè*	[ɥtɛ]	'eight o'clock'
mò	[mɔ]	'the dead'			
mou	[mu]	'soft'			

Among the 'A' vowels in set (a), *papa* 'daddy', contains the oral vowel /a/ represented by the monograph, *a*. The word *pan* 'peacock', contains the nasal vowel /ã/ which is represented by the digraph, *an*. Observe that in the word *pan* 'peacock', the letter *n* is unpronounced and only represents the nasality of the vowel. The word *pàn* [pan] 'to breakdown' contains the same oral vowel /a/ as is found in *papa* and a pronounced *n* /n/. The /a/ in *pàn* carries the diacritic to distinguish *àn*, [an], from the nasal vowel digraph, *an*, [ã] (that is why *a* and *à* are numbered (1a) and (1b) in Table 3 above). The last word, *pann* 'to hang', contains the nasal vowel, *an* /ã/, followed by a pronounced nasal consonant, *n* /n/.

Among the 'E' vowels in (b), the closed oral vowel /e/ in *se* 'it's', contrasts with the nasal vowel /ɛ̃/ in *sen* 'breast, holy, etc'. However, the diacritics *è* and *ò* now actually represent two things: like *à*, the accents on *è* and *ò* show that the vowels are *not* nasalized adjacent to the pronounced *n*, and, additionally, they show that the vowels are open, e.g. open /ɛ/, not closed /e/; and open /ɔ/, not closed /o/.

Among the 'O' vowels in (c), like (b), the closed vowel /o/ in *mo* 'word', contrasts with the nasal vowel /ɔ̃/ in *monpè* '(Catholic) Father'. The *ò* represents the non nasal vowel in *mòn* 'mountain', and also captures the open vowel *ò* /ɔ/ as opposed to the closed, labialized one, *o* /o/. The 'O' vowels additionally include the closed back vowel, *ou* /u/, as in *mou* 'soft'.

In the list under (d), the sounds include the digraph *ch* /ʃ/, as in *chita* 'to sit', and the trigraph *tch* /tʃ/, as in *tcheke* 'to check out'. Finally, the vowel digraph *ui* /ɥ/, as in *uitè* 'eight o'clock', occurs sporadically. The above aspects of Haitian Creole orthography in (a)–(d) are in focus because they are the most difficult for learners to master and because representing them presents challenges to the design of Haitian Creole Scrabble. In the next sections I will argue that the diacritics and digraphs in (e) below *should* occur on their own Scrabble tiles:

e.   *à   è   ò   ou   ui   ch*

At the same time, I will argue that the digraphs and trigraph in (f) below *should not* occur on their own Scrabble tiles:

f.   **an *en *on *tch*

After presenting the quantitative distribution of the Haitian Creole alphabet in the next section, concrete examples from experimental Scrabble games will be used to show why the forms in (f) *should not* occur on single tiles but should rather be broken up onto separate tiles (e.g. *a + n, e + n, o + n* and *t + ch*).

5.1 Quantitative methodology

In order to properly determine the number of tiles for Haitian Creole orthography, the relative frequency of phonemes in Haitian Creole's system needs to be shown by means of a quantitative corpus analysis. To obtain the approximate relative frequency of the Haitian Creole phonemes, a short corpus of 25,732 words and 78,289 letters was assembled. A variety of Haitian Creole texts in the standard IPN were used such as excerpts from the Bible, *Bib la* (1999), our translation of Martin Luther King, Jr.'s 'I have a dream' speech, a voter rights pamphlet, and one on education.[11] On the basis of this corpus, the frequency of each *sound* — whether monographic, digraphic, or trigraphic (e.g. *è* /ɛ/, *en* /ɛ̃/, *tch* /tʃ/, etc.) — was automatically counted and then divided by the total number of letters to obtain the percentage. The number of tiles assigned to each letter was then approximated.

In the Table 4 that follows, the quantitative results for the relative frequency of sounds and their corresponding letters in the corpus are given.

In the next paragraphs I examine how to create a variety of Haitian Creole Scrabble that is elegant and designed to maximize the acquisition and maintenance of official Haitian Creole orthography and encourage more writing in Haitian Creole beyond the game through greater lexical awareness (see the discussion of Halpern & Wai 2007 in Section 6).[12] The form of Scrabble proposed above contains 44 vowel tiles, 54 consonant tiles, and 2 blank tiles. For its part, English Scrabble contains 42 vowel tiles, 56 consonant tiles, and 2 blank tiles. The frequency of each letter's occurrence is divided by the total number of letters in the corpus in order to calculate the relative frequency, given in the far-right column. These numbers are used to approximate how many of the 98 available tiles should be assigned to each letter. Although other adaptations of Scrabble go beyond 100 total tiles (e.g. 102 for Afrikaans, 104 for Arabic, 120 for Italian, 103 for Welsh, etc.), the round number of 100 was conveniently chosen to keep this version of Haitian Creole Scrabble parallel with most others (e.g. Danish, English, Finnish, Hungarian, Norwegian, Polish, Romanian, Slovak, Slovenian, Spanish, Swedish, etc.).[13]

Note that not a single occurrence of the letters *à* or *h* were found in the corpus. In spite of this it is necessary to keep these letters since several common words,

Table 4. Standard Haitian Creole orthography, International Phonetic Alphabet, number of playing tiles, number of occurrences in the corpus, and relative frequency of characters

	Standard HC orth.	IPA	# of Tiles	# of occurrences in the corpus	% relative frequency
1a	a	/a/	7	7,095	9%
1b	à	/a/	1	0	0
2.	an	/ã/	4	3,571	4.5%
3.	b	/b/	3	1,425	1.8%
4.	ch	/ʃ/	2	492	0.6%
5.	d	/d/	3	1,667	2.1%
6.	e	/e/	6	6,106	7.7%
7.	è	/ɛ/	4	2,678	3.4%
8.	en	/ɛ̃/	3	1,930	2.4%
9.	f	/f/	2	1,060	1.3%
10.	g	/g/	2	1,102	1.4%
11.	h	/h/	1	0	0
12.	i	/i/	6	5,215	6.6%
13.	j	/ʒ/	2	744	0.9%
14.	k	/k/	4	3,924	5.0%
15.	l	/l/	4	4,507	5.7%
16.	m	/m/	4	3,480	4.4%
17.	n	/n/	4	2,906	3.7%
18.	o	/o/	3	2,482	3.1%
19.	ò	/ɔ/	2	890	1.1%
20.	on	/ɔ̃/	3	1,879	2.4%
21.	ou	/u/	4	3,614	4.6%
22.	p	/p/	4	4,197	5.3%
23.	r	/ɣ/	2	1,988	2.5%
24.	s	/s/	4	3,835	4.8%
25.	t	/t/	4	4,190	5.3%
26.	tch	/tʃ/	–	1	0
27.	ui	/ɥ/	1	5	0.00006%
28.	v	/v/	2	1,447	1.8%
29.	w	/w/	2	1,453	1.8%
30.	y	/j/	4	3,836	4.8%
31.	z	/z/	1	571	0.7%
	Blank	Blank	2		
Total	—	—	100	78,289	

not captured by the corpus, nevertheless do make use of them, e.g. for *à* one finds *pàn* 'breakdown', *kàn* (short for *kanistè*) 'metal can', *vàn* 'sluice gate', *igwàn* 'iguana', etc. and for *h* one finds *hep!* 'hey!', *hipe* 'to shout', *houn!* 'yuck!', etc. (see Valdman et al 2007). The low-frequency letters *à*, *ui* and *h* require no more than one tile each. The following words were played with them during fieldwork conducted in Haiti in March, 2008: *pàn* 'breakdown', *nuit* 'night', *uitè* 'eight o'clock', *hey* 'hey', *hach* 'ax', and *he* '**h**ey!', among others. Their presence in those games shows the importance of including them in Haitian Creole Scrabble (see Hebblethwaite 2009b).

A key problem addressed in detail ahead is whether Haitian Creole Scrabble should represent nasal vowel digraphs *an*, *en*, or *on* upon single tiles or whether they should be split onto separate tiles (e.g. *a + n*, *e + n*, *o + n*). Above they were counted as units because I wanted to quantitatively distinguish *a* /a/ from *an* /ã/, *e* /e/ from *en* /ɛ̃/, and *o* /o/ from *on* /ɔ̃/. At first I hypothesized that keeping nasal vowels together on one tile would be accurate and could reinforce the rules of Haitian Creole orthography. However, as I soon noticed, keeping nasal vowels together on single tiles actually introduces unwanted ambiguities into the game.

5.2 Testing Haitian Creole Scrabble and the problem of nasal vowels

In this section the strengths and weaknesses of two alternative designs for nasal vowels in Haitian Creole Scrabble are laid out. In order to assess playability and discover problems, a prototype of the game was introduced to a group of bilingual Haitian-American undergraduate students enrolled in intermediate Haitian Creole at the University of Florida, in the fall of 2007. These students made suggestions about the design, helped assemble four prototypes of the game and played it on several occasions during the course of the semester.

The one-tile design originally conceived for the nasal digraphs *an*, *en* and *on* quickly proved to pose problems for cross-wording (e.g. horizontal and vertical connectability). To understand this issue, compare the phonemic approach on the board in Table 5 with the traditional approach on the board in Table 6. The two boards illustrate the different effects that single versus split nasal vowel tiles can have on the game's compactness. In the Tables 5 and 6 below, the horizontal word is *mennen* 'to lead', and the vertical word is *enganm* 'spry, youthful':

Table 5. Phonemic Haitian Creole Scrabble

m	en	n	en
			g
			an
			m

The phonemic version in Table 5 places the nasal vowel phonemes of Haitian Creole onto single tiles. In Table 6, however, the nasal vowels are split onto two separate tiles, e.g. *e + n* and *a + n* like the 'traditional' (American) game. At first sight, an advantage of the phonemic version might be that players can produce longer words with fewer tiles whereas an advantage of traditional Scrabble might be that additional letter tiles are made available for cross-wording.

Table 6. Traditional Haitian Creole Scrabble

m	e	n	n	e	n
				n	
				g	
				a	
				n	
				m	

The choice of design significantly impacts the kinds of words that can be used for cross-wording. For example, the possibilities afforded by the phonemic game in Table 7(a–b) are not the same as those afforded by the traditional game in Table 8(a–b). Vertical words like *men* 'but', in Table 7a, do not connect in the same manner or place with the horizontal word *mennen* 'to lead', in 8a. In many instances, the phonemic game requires completely different words. For example, the vertical word *nòs* 'wedding', is played successfully in Table 7a since it forms acceptable words alongside *enganm*, e.g. *òg* 'organ', and *san* 'blood'. However, **nòs* cannot be played in Table 8a since it generates the unacceptable word **sg* when played alongside *enganm*. Conversely, words played on Table 8b, such as the vertical word *nui* 'to harm', cannot be played in the same way on Table 7b where the unacceptable word **gui* is formed.

Table 7. Illustration of phonemic Haitian Creole Scrabble

(7a)

	m			
m	en	n	en	
		ò	g	
		s	an	
			m	

(7b)

m	en	n	en	
			g	**ui*
			an	
			m	

Table 8. Illustration of traditional Haitian Creole Scrabble

(8a)

		m			
		e			
m	e	n	n	e	n
			ò	n	
			*s	g	
				a	
				n	
				m	

(8b)

m	e	n	n	e	n
				n	*ui*
				g	
				a	
				n	
				m	

The boards in Tables 9 and 10 below reproduce some of the first 20-minute games played by Haitian-American university students. They revealed some of the problematic ambiguities that arise when one places digraphic nasal vowels on single tiles.

Notice how the upper horizontal bold-face word *chenn* [ʃɛ̃n] 'chain' (F8), is crossed by the vertical *cheni* [ʃeni] 'caterpillar' (E9). The *en* sequence in *cheni* does not correspond with the nasal vowel because in *che.ni* the vowel *e* and the consonant *n* belong to *different* syllables (e.g. [e] is the nucleus of the first syllable and [n] is the onset of the second syllable). The word *cheni* is not spelled *chèni* because the vowel *e* is [e], not [ɛ]. The problem is, then, that in Table 9 the tile *en* is being used as both [ɛ̃] in *chenn* and [e.n] in *cheni*. Thus the phonemic version of Scrabble has the problem of bivalency with regard to nasal vowels (*chenn*) versus oral vowels plus nasal consonants (*cheni*).

Table 9. Results from a 20 minute HC Scrabble game played by 3 people

	7	8	9	10	11
E			ch		
F		ch	en	n	
G		w	i		
H	f	a			
I		l	i	v	
J				è	
K				b	ò

Table 10 below was also a 20-minute game played by bilingual Haitian-American university students. It provides more evidence of how orthographic bivalency problematically arises when the letters *an*, *a* and *n* (and *en*, *e* and *n*; *on*, *o* and *n*) have dedicated tiles:

Table 10. Results from a 20 minute HC Scrabble game played by 4 people

	3	4	5	6	7	8	9	10	11	12
D									f	
E								p	è	ch
F			z				ch	o		e
G				an		l	en	Ø		n
H			b	o	n	Ø				
I	d	w	a							
J		a	n	e						
K			k							

On the one hand, horizontal words like *lenn* 'wool' (G8) above (where 'Ø' in G10 represents the blank tile) and its vertical crossword, *chen* 'dog' (F9), occur with the nasal vowel on one tile as the experimental phonemic version of the game originally intended. On the other hand, on several occasions players found themselves without a nasal vowel tile but in possession of separate *a/e/o* plus *n* tiles and consequently they played words with the nasal vowel over two tiles now, e.g. the vertical *chen* 'dog' (E12) or the vertical *pon* 'bridge' (E10). Thus orthographic

bivalency with nasal vowels was the main problem with the phonemic version of Scrabble. The trigraph *tch* presents similar problems in that the sequence could be reproduced on a single tile, e.g. *tch*, or over 2 tiles, e.g. *t + ch*. The solution is to abandon the nasal vowel digraphs and the trigraph *tch* as single tiles altogether. Although at first I hypothesized that these single tiles might be a good way to reinforce Haitian Creole digraphs or the trigraph for users of the spelling system, the bivalency with regard to words like *chenn* [ɛ̃] and *che.ni* [e.n] and the alternative use of single tiles *a/e/o* plus *n* or *t* plus *ch* creates inconsistency and inelegance that should be avoided.

Before giving the final form proposed for Haitian Creole Scrabble, it is important to reassert that Haitian Creole's other digraphs, *ou*, *ui*, and *ch*, and the diacritics *à*, *è,* and *ò* should remain on their own tiles in the game. The digraphs *ou*, *ui*, and *ch* should have their own tiles because these digraphs contain letters *that are never realized apart from the digraph*. In other words, there are absolutely no lexical items with the self-standing letters *c* or *u*; thus, it would be redundant to create single tiles for the digraphs *ou*, *ui*, and *ch* (see Dejean 2006 and Valdman et al 2007: vi). Although the monograph *u* currently exists as a phonological (i.e. /y/) feature of the Haitian Creole sociolect spoken by Haitian Creole-French bilinguals, e.g. *jus* 'just', *eduke* 'educated', and *lute* 'to struggle', for *jis, edike* and *lite*, etc., this orthograpy is non standard. A self-standing *c* would also perpetuate the non standard, French-influenced error of employing *c* for [k], represented consistently as *k* in Haitian Creole.

The diacritics *à*, *è*, and *ò* must also remain because they are empirically essential, universally viewed as Haitian Creole symbols, and need to be better propagated. An accentless game would result in vague forms like *PAN* which could mean *pan* 'peacock', or *pàn* 'to breakdown, etc'; *KOULE* which conflates *koule* 'to pour, sink, etc.' and *koulè* 'color'; *ALE* which conflates *ale* 'to go' and *alè* 'on time'; or *PO* which conflates *po* 'skin' and *pò* 'port'. The problems of ambiguity and inelegance make inadvisable the conflation of *o* and *ò* into *O* or *e* and *è* into *E*. The digraphs and diacritics, *ou*, *ui*, *ch*, *à*, *è,* and *ò* need to stay on single tiles. Therefore, as can be seen in the final letter distribution in Table 11 below, in order to eliminate the single tile for nasals and redistribute them over two tiles, I divided them up roughly according to the percentage in which they appear in the textual corpus.[14] These changes are indicated below by the '+' sign and boldface type.

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14. To be precise, from the 4 original *on* tiles, two tiles went to *a* now for a new total of 9 *a* tiles (7 + 2) and 2 went to *n*. From the 3 *en* tiles, 2 went to *e* for a total of 8 *e* tiles (5 + 3) and 1 went to *n*. From the 3 *on* tiles, 1 went to *o* for a total of 4 *o* tiles (3 + 1) and 2 went to *n*. For its part, the letter *n* grows from 4 tiles (+ 2 + 1 + 2) to a total of 9 *n* tiles.

Table 11. Final proposal for Haitian Creole Scrabble

#	Ls.	Ps.	Ts.	#	Ls.	Ps.	Ts.	#	Ls.	Ps.	Ts.
1a.	a	1	+9	10.	i	1	6	20.	r	4	2
1b.	à	8	1	11.	j	4	2	21.	s	2	4
2.	b	4	3	12.	k	2	4	22.	t	2	4
3.	ch	4	2	13.	l	2	4	23.	ui	8	1
4.	d	3	3	14.	m	2	4	24.	v	4	2
5.	e	1	+8	15.	n	1	+9	25.	w	4	2
6.	è	2	4	16.	o	2	+4	26.	y	2	4
7.	f	4	2	17.	ò	4	2	27.	z	7	1
8.	g	4	2	18.	ou	2	4	28.	Ø		2
9.	h	10	1	19.	p	2	4		Total tiles: 100		

5.3 Challenges for the introduction of Scrabble in Haiti and its diaspora

The challenges of introducing Scrabble into Haiti are many. The game design exists in this article, in four hand-made exemplars at the University of Florida, and in an additional 20 hand-made exemplars that were used and left in Belle Rivière, Haiti, during fieldwork in early 2008; however, the game has not yet been manufactured or propagated in Haitian Creole. The company that owns the international rights outside of North America, e.g. Mattel in Great Britain, would either manufacture or license the game. Ideally, a Haitian company or the Haitian State would acquire the rights to manufacture and market Haitian Creole Scrabble. Standard game boxes in the U.S. retail for $12.99, an exorbitant price in Haiti. Support from the United Nations Children's Fund, the United States Agency for International Development, the French government's Partner University Fund, academic partners, and other benefactors could greatly encourage the introduction of this game; for example, funding could be directed at providing game boxes and Scrabble animators for a Scrabble tour of selected Haitian primary and secondary schools and classes that involve intermediate and advanced literacy. Week-long Scrabble workshops (2 hours per day) could culminate in the top-scorers winning Scrabble boxes. A related issue is how the game can find its way to the Haitian diaspora of 1,500,000 persons in North America where Haitian Creole literacy is equally pressing, I think, but where the game's license is held instead by Hasbro.[15] Clearly a

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15. One reviewer asked, 'Why would one want to teach literacy in Haitian Creole in the U.S. diaspora rather than English, except as a transitional step?' The answer to this question is that attainment in English literacy is *enhanced* through simultaneous literacy in the home language

team of international scholars, benefactors, and collaborators is needed to develop and deploy this important word game.

Another key obstacle for Haitian Creole Scrabble is lexicographical. Although Haitian Creole-English lexicography has improved with leaps (Freeman et al 2004 [1996], etc.) and bounds (Valdman et al 2007), most Haitians have no access whatsoever to any kind of glossary or dictionary. An authoritative Haitian Creole glossary of 20,000+ 2–8 letter words should accompany the game. Vernet & Freeman's (1997), *Diksyonè òtograf kreyòl ayisyen* 'Dictionary of Haitian Creole Orthography', a glossary of 13,350 lexical items in 89 pages, provides a nice example of the sort of booklet needed. The Scrabble glossary should employ a denser format where five columns are used per page instead of Vernet & Freeman's (1997) three. This would give a glossary of 89 pages up to 22,250 words with 2–8 letters. If the game is to have an impact on the ground, the development of an inexpensive, pocket-sized Scrabble glossary is absolutely essential to provide support for the spelling-challenges that are an integral part of the game and for the broader goal of maintaining and expanding literacy.

6. Discussion on the cognitive benefits of Scrabble and conclusion

A variety of research shows that Scrabble has benefits for the people who play it. I provide an overview of that research in order to show the many positive contributions that the game can make in Haitian society. Psychologists (Cansino et al 1999; Tuffiash et al 2007, Halpern & Wai 2007) and medical researchers (Verghese et al 2003, Bal 2004) show the game's mental and therapeutic dimensions; economists (Polak 1955, Epingard 1993) use the game for modeling economic principles and examining rationality; and education specialists discuss its strengths and limits in the classroom (Silberman 1996, Blanche 2005). Creolists, Haitianists, sociolinguists, and literacy instructors should also take notice of the potential of this game to make a positive impact on the widening of literacy and knowledge through leisure in Haiti and elsewhere.

Cansino et al (1999: 262) examines the short-term memory processes that are activated when players are required to retain the string of random letters as they

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(Jeon 2003: 184). There are already 261 two-way bilingual programs in the United States with 244 Spanish-English, 4 Korean-English, 5 Chinese-English, 6 French-English, and 2 Navaho-English (Jeon 2003: 184). Such bilingual programs have been very successful in enhancing biliteracy and the strategic linguistic resources of the U.S. citizenry (Jeon 2003). Building Haitian Creole literacy among Haitian-Americans, then, is desirable because it enhances *English* literacy and gives Haitian-Americans access to knowledge through Haitian Creole texts.

experiment with different combinations of letters. A process of 'semantic retrieval' occurs from long-term memory when a combination of letters matches with a word. Scrabble involves an active toggling between short-term and long-term memory. Tuffiash et al (2007: 126) note that expert players develop the ability to recognize tactical words on the basis of anagramming which is the deciphering of visual letter cues. Success with the skill of anagrammatic word identification is linked to accumulated orthographic knowledge of words (Tuffiash et al 2007: 131) and the simultaneous activation of short and long-term memories. Halpern & Wai's (2007: 79) quantitative study shows that expert Scrabble players attain skills that are transferable beyond the game; these players had 'superior performance on selected verbal and visuospatial tasks that correspond to abilities that are implicated in competitive play'. Verghese et al (2003) and Bal (2004) discuss a study of 469 community-based, English-speaking participants between 75 and 85 years of age which shows that games like Scrabble provide a cognitive reserve that helps delay the onset of dementia. The mental activity that straddles short and long-term memory promotes brain health and longevity.

Polak (1955: 648) argues that sophisticated games like Scrabble can model economics since players try to 'maximize profit' by playing high point tiles rather than 'maximize turnover' by playing lots of tiles. Players have to calculate the 'cost' of playing a letter that might have been played in another word and they learn that value is linked to relative scarcity, e.g. for the English game, 12 tiles exist for E_1 whereas only one tile exists for the tiles J_8, K_5, Q_{10}, X_8 and Z_{10} (649). Scrabble also suggests 'special accounting prices' that (a) reflect the indivisibility of Scrabble tiles where Q_{10}, for example, cannot be divided, unlike the divisible costs of the real world; that (b) reflect the usefulness of certain tiles like the inflectional and plural S in English; and that (c) reflect individual skill.

In a study about the rationality of Scrabble, Epingard (1993) focuses on the cognitive and decision-making processes demonstrated in French competition Scrabble. Scrabble at this level is a game with a strong informational density which requires its players to take on rational behavior with respect to their objectives (1993: 1099). Players employ *methods* to treat and conceptualize the *resource* of information. The 'intense rationality' of Scrabble entails 'maximizing value under time constraints' (1993: 1110). Players do this by comparing the numerical score obtained by an array of different words in relation to existing words and bonus squares on the board. Such players transform pertinent information by rapidly sifting through and comparing as many signals of noise and information as possible (1100). To optimize their skills in Scrabble, competitive players develop combinatory faculties acquired through play and good judgment; they memorize and expand their vocabulary, improve word retrieval speed, recognize anagrams,

master inflectional and derivational morphology,[16] and access compounding and word-building properties (*side > outside*; *fur > fury*). Scrabble players' rationality is the combination of instrumental and cognitive traits that evolve over the (advanced) player's career (1113).

Lastly, Silberman (1996) and Blanche (2005) discuss the ways that Scrabble and other word games can be used in classrooms. Silberman (1996) provides 101 activities that can be used to make learning *active*. In the activity 'goodbye Scrabble' students use Scrabble tiles to create words that 'celebrate what they have experienced together' at the end of class (186). Blanche (2005) points out that Scrabble is too often overlooked in English as a First Language or English as a Second Language classes and in related academic research. In the context of the communicative teaching method, Scrabble is superior to crossword puzzles because it is interactive. Similar word games like *Enjoy Words*, which involves single letters on one side of the tile and compound letters (e.g. ABLE, AC, AD, AN, ANCE, AR, ATE, ATION and ATIVE, etc.) on the other, can be useful pedagogically because longer words are possible and because there is no rationing of frequent letters (Blanche 2005: 23). A limitation of Scrabble in the EFL or ESL classroom is that the time needed to explain and play exceeds the 25 minutes usually allotted to such activities. It strikes me, however, that dedicating more time to teaching and playing Scrabble, especially in language classes, may positively impact affective and intellectual states.

As Siegel (2005) has pointed out, considerable research has been undertaken in areas like Haitian Creole syntax, historical linguistics, dialectology, and bilingualism, matters that are often theoretical (see, for example, DeGraff 1992, 1997; Lefebvre 1998, Fattier 2000, Déprez 2003, and Hebblethwaite 2007) — this reflects the emphasis placed on theory in the linguistics establishment. Research on applied linguistics and literacy research, so critical for Haiti, has lagged behind. The key applied linguistic works in Haitian Creole studies are bilingual Haitian Creole-English dictionaries (Valdman et al 1981 and et al 2007; Freeman et al 2004 [1996]).[17] Although one reviewer questions the relevance of such *bilingual* lexicography for Haitian Creole Scrabble, it should be noted that these bilingual dictionaries were used heavily by the participants of the Scrabble fieldwork in Haiti; this was not because they give *English* translations, but because they have the largest inventories of *Haitian Creole* headwords. For now, Freeman (2004 [1996]) and Valdman et al (2007) are the definitive Haitian Creole Scrabble dictionaries because of their Haitian Creole headwords; if Haitian Creole Scrabble would ever

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16. Epingard (1993) points out that inflectional morphology is particularly rich in the French game, e.g. *NEBULISER > NEBULISA, FILLE > FILLES, CANAL > CANAUX*, etc.

17. Also see the dictionaries of Bentolila et al (1976) and Targète & Urciolo (1993).

take off, their dictionaries should serve as the basis for the assembly of a Haitian Creole Scrabble glossary. Attempts at monolingual Haitian Creole lexicography have been limited, leaving this area as the most serious gap in Haitian Creole applied linguistics (see, however, the attempt of Vilsaint & Heurtelou 1990). Leading Haitian Creole textbooks include Valdman (1988a) and Freeman (2004 [1987]); these books are designed for English-speakers who are going to Haiti.[18] Other practical contributions are found in software development (Mason 2000; Ross & Freeman 2002) and literacy (Dejean 1986, 2006). Major contributions in Haitian Creole publishing include Frankétienne (2002 [1976]), Laroche (2000), Séverin (2000), Beauvoir & Dominique (2003), and Casimir (2004). Bilingual or trilingual Haitian Creole/English/French facing-page publications include Laraque & Hirschman (2001) and Hebblethwaite & Pierre (2005). This paper is an effort to show that further practical measures in Applied Creolistics avail themselves for maintaining and strengthening Haitian Creole literacy.

Evidence shows that Scrabble players become 'creative learners' (Freire 1985 [1970]: 46–49) for whom thought and language are in dynamic interplay with reality; this is the case because Scrabble literacy skills are transferable to other domains of language and literacy such as reading, writing and verbal skills (Halpern & Wai 2007). Available research from the fields of psychology, medicine, economics, and education illustrate the many benefits of Scrabble. The game could have a positive impact in a country like Haiti where games are popular but where literacy rates are mediocre and access to texts is limited. Any effort to introduce it into Haiti will require planning, research, testing, development, cooperation and funding among international academic partners, industry, trademark holders, aid organizations, and members of Haitian government, education, and business.

In terms of the game's numerical structure, the number of tiles and points is open for discussion and improvement; this paper primarily develops arguments in support of a specific implementation of Haitian Creole's diacritics and digraphs. To recapitulate the key findings about orthography, it has been argued that the diacritics and digraphs in (e) *should be used* on single tiles because of the perception

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18. The pedagogical problem we have with these books at the University of Florida concerns our predominantly Haitian-heritage learners who are staying in the United States and not returning to Haiti. These students want to learn primarily the Haitian Creole that is relevant to U.S. life. Thus dialogues and content focused on washing clothes by hand, cock-fighting, cooking on an open fire, farming with a hoe, or Vodou ceremonies, for example, are viewed by many students as *peripheral* to the task of acquiring content and functions that meaningfully reflect their daily realities; examples include going to the movies, to class, the library, the student union, the campus swimming pool, the cafeteria, the outdoor plaza to play frisbee or soccer, the mall, the driver's license bureau, a bar, etc.

of their authenticity (in the case of the accented letters) and because they do not occur independently of the given unit (in the case of the digraphs):

e. *à   è   ò   ou   ui   ch*

To the contrary, the digraphs and trigraph in (f) *should not be used* on single Scrabble tiles because they occur independently of the digraph or trigraph and thus would allow players to reproduce the letter sequence with either the *single* digraphic or trigraphic tile (e.g. *an*, *en*, *on* and *tch*) or with the respective mono-graphs on *two* tiles (e.g. *a + n, e + n, o + n, t + ch*):

f.   **an *en *on *tch*

As a result of this bivalency and inelegance, I have recommended splitting these three digraphs and one trigraph onto separate tiles.

Haitian Creole Scrabble, more than many other initiatives, holds great prom-ise for the expansion of literacy in Haiti due to the game's unique cognitive, com-petitive, and playful qualities. The game stands a great chance of long-term suc-cess in the arena of literacy because, unlike books which are static with frozen content, Scrabble is a dynamic and interactive group game which is constantly evolving with the algorithms of memory and vocabulary. Scrabble is a beautiful and elegant method for building and maintaining literacy, practicing vocabulary, honing elementary mathematical skills, flexing memory, and sharing in the joys of communal life. Alfred Mosher Butts' Scrabble board game has enriched our lives; Haitian Creole Scrabble can have an equally meaningful impact in the lives of Haitian Creole speakers, too.

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