From Native-like Selections to English Academic Performance: Exploring the Knowledge Base of English Bilinguals

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A B S T R A C T

Pawley and Syder (1983) pointed out that idiomatic expressions can be discussed in terms of nativelike selection (NLS), which refers to the ability of the native speaker to express his/her intended meaning using an expression that is not only grammatical but also nativelike. In the current study, Pearson's correlation coefficients were used to investigate the possible correlations between the variables of language contact (LC), language attitude (LA), and language motivation (LM) integrative (Int.M) and instrumental (Inst.M), age of L2 onset (AoO), and length of exposure to target language (LoE) and English bilinguals' (EBs) knowledge of NLS in an international school—a semi-naturalistic setting. A possible correlation between EB's NLS scores and their English academic performance (EAP) was examined as well. Moreover, multiple regression analysis was conducted to investigate the factors predicting EB's NLS knowledge. The participants were 281 high school students of mixed gender and ethnicity from an international school in the Philippines. Different questionnaires were used to collect data related to LC, LoE, AoA, LA, and LM. Data concerning NLS knowledge and EAP were gathered using a receptive NLS test together with a standardized English test. The results of the correlation analyses indicated that the variables of LC, LoE, Int.M, and AoO were significantly related to EBs' knowledge of NLS. Moreover, a significant positive correlation was found between EB's knowledge of NLS and their EAP. The results of regression analysis yet revealed that the variables of LC, LA, and Int.M predicted EB's NLS knowledge. The findings provided pedagogical implications for those involved in EFL/ESL teaching, particularly in international schools.

Keywords: idiomaticity; English bilinguals; idiomatic/formulaic expressions; nativelike selections; semi-naturalistic settings

A R T I C L E   H I S T O R Y

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Introduction

Formulaic expressions are multi-word sequences that are stored in memory and can be retrieved holistically from memory to be used in certain situations based on the preference of the members of a certain speech community (Wray, 2000). The use of such expressions reduces the processing-load, increases fluency in communication, and results in nativelike language performance (Liontas, 2003; Liontas, 2017; Ortaçtepe, 2013). As Liontas (2003)puts it, L2 learners develop idiomatic competence, which is "the ability to understand and use idioms appropriately and accurately in varied socio-cultural contexts, in a manner similar to that of native speakers, and with the least amount of mental effort" (p. 299). Some scholars pointed out that the number of such expressions is likely to be bigger than creative and freely generated sequences in some speech situations (Kecskes, 2000). For example, it has been suggested that "speakers do at least as much remembering as they do putting together" (Bolinger, 1976, p .2) or "an enormously large amount of natural language is formulaic, automatic and rehearsed rather than propositional creative or freely generated" (Fillmore, 1976, p. 24).

According to Pawley and Syder (1983), idiomatic/formulaic expressions can be discussed in terms of nativelike selection (NLS), which refers to "the ability of the native speaker routinely to convey his meaning by an expression that is not only grammatical but also nativelike" (p. 191). The researchers used NLS "to describe a speech community's favored collocations, compound nouns, phrasal verbs, colligations, sentence stems, prepositional phrases, metaphors, sayings, quotations, exclamations, and the like" (Foster, Bolibaugh, & Kotula, 2014, p. 102). In their seminal article, Pawley and Syder (1983) observed and challenged the idea of the prevailing generative account of language They pointed out that novel and grammatical forms and sequences of words are all part of native speaker capacity, but they cannot be regarded as a regular part of native speaker behavior because there are some combinations of words and communally preferred ways of saying things which are built through an interconnected network of commonly associated words rather than a word by word manner (Foster et al., 2014).

As Pawley and Syder (1983) put forward, nativelike selection can be referred to as the native speaker's ability to transfer his/her intended meaning using an expression which is grammatical and at the same time nativelike. The researchers pointed out that the way native speakers of a language select such grammatical, natural, and idiomatic expressions is somehow puzzling since their task is to select such expressions from among a big variety of grammatically correct paraphrases most of which are likely to be non-nativelike or highly marked. In order to describe and explain how such nativelike expressions are selected, the researchers suggested taking a closer look at the nature of the native speakers' grammatical knowledge which is likely to differ from any that has broad currency among grammarians. It was also argued that considering observations of English conversational talk, the fluent and idiomatic control over a language depends to a great extent on knowledge of a body of 'memorized sentences' together with 'institutionalized or lexicalized sentence stems'.

Second language learners also develop the knowledge of idiomatic expressions, in particular knowledge of NLS, and the extent to which they succeed in so doing depends on the context in which they are exposed to the L2 linguistic input. To have a better understanding of the puzzle of nativelike selection, Pawley and Syder (1983) referred to two groups of L2 learners: the first group includes those who learned a new language outside the L2 community focusing more on the rules of sentence construction from a grammar book, and then tried to put their knowledge into practice, and in so doing they used the structures which were mostly unidiomatic and strictly grammatical. However, L2 learners in the second group were those who learned a new language by immersion in the L2 community and were able to speak not only grammatically, but also idiomatically. The researchers also pointed out that it is not easy to distinguish the nativelike sentences from the non-nativelike ones since the boundary between the two classes seems to be

the same as the one between grammatical and ungrammatical sentences in English which is not sharp enough to let us easily categorize them.

Some scholars referred to naturalness as being a matter of length and grammatical simplicity, that is, the shortest and simplest sequences are preferred by native speakers in such a way that if they can convey their intended meaning using a single word or a simple sentence they never use a phrase or a complex sentence instead. Nonetheless, Pawley and Syder (1983) do not fully agree with such a suggestion arguing that lexical and grammatical complexity cannot be regarded as the only principle to decide on the idiomaticity, naturalness, and nativelikeness of some sequences. They mentioned, for example, that in everyday speech sentences, such as *Do what I say!* and *Do what I tell you!* are more common than the synonymous *Obey me!,* which appears to be literally shorter and simpler.

Moreover, nativelikeness might be subject to conventions, that is, there is a grammatical and at the same time arbitrary way of talking about some matters like time, height, weight, and so on. For example, telling time in English is conventional, and it is usually told in half and quarter hours rather than thirds of an hour. The researchers also added that although familiarity is likely to help native speakers judge about the naturalness of a sentence, it does not necessarily imply that they need to have heard a sequence like *I want to marry you* to be able to identify it as natural and nativelike, and prefer it over another grammatically correct sequence like *I want marriage with you.* Likewise, in some cases the native speakers might only be familiar with the syntactic patterns of an utterance being comprised of novel lexical combinations.

In the past three decades, since the time that Pawley and Syder (1983) introduced the concept of nativelike selection, extensive research in corpus analysis and phraseology has been conducted on idiomaticity and NLS, and the findings of some of the studies appeared to be in line with Pawley and Syder's (1983) idea of nativelike performance. Indeed, positive evidence was found to prove that L1 users incidentally acquire how to combine the words as a result of their everyday interactions (e.g., Altenburg 1990; Ellis, Simpson-Vlach, & Maynard, 2008; Erman & Warren, 2000; Forsberg, 2010; Howarth, 1998; Kecskes 2000, 2003, 2007, 2010; McCarthy 1990; Nattinger & DeCarrio, 1992; Sidtis, 2004; Warren, 2005; Weinert, 1995; Wray, 2008; Wray & Perkins, 2000).

Literature Review

There are some variables that are likely to be related to L2 acquisition/learning and the development of idiomaticity, in particular the knowledge of NLS: language contact (e.g., Freed, 1990; Freed, Segalowitz, & Halter, 2004; Kaplan, 1989; Tanaka, 2007; Wilkinson, 1998a, 1998b, 2000), attitude toward target community's life and culture (e.g., Lambert, 1987; Oller, Hudson, & Liu, 1977; Spolsky, 1969; Starks & Paltridge, 1996; Ushida, 2005), L2 learning motivation (e.g., Dörnyei, 1990; Foster et al., 2014; Gardner & Lambert, 1959; Gardner, 1985; Gardner, Lalonde, & Moorcroft, 1985; Gardner & MacIntyre, 1993; Kecskes, 2000; Lukmani, 1972; Strong, 1984), age of L2 onset (e.g., Abrahamson & Hyltenstam, 2008; Dekeyster, 2000; Flege, Munro, & MacKay, 1995; Johnson & Newport, 1989; Kecskes 2000; Murno, Flege, & MacKay, 1996; Patkowski, 1980; Spadaro, 2013), and length of exposure to target language (Becker, 2007; Foster et al., 2014; Muñoz , 2010; Kecskes, 2000).

Different studies on L2 learners' language proficiency in a study abroad context showed that living in the target language community can bring about higher proficiency provided that they are actively engaged in different types of target-language contacts (Freed, 1990; Kaplan, 1989; Tanaka 2007; Wilkinson, 1998a, 1998b, 2000). The number of hours that study abroad students in immersion context spend per week communicating with L2 community members outside the classroom was reported to be positively correlated with the students' level of L2 proficiency (Freed et al., 2004).

In a study conducted with 40 American university students in a six-week study program in France, Freed (1990) investigated the effects of language contact (LC) on the L2 proficiency. The results of the study showed that two types of contact, interactive and non-interactive, differently impacted students' performance in reading and grammar tests; that is, interactive type of contact, like communicating with French native speakers, resulted in better performance of lower-level students on the one hand, while non-interactive type of contact, like reading French newspapers, led to the better performance of advanced-level students on the other hand. The findings of Wilkinson's (1998a, 1998b, 2000) qualitative studies were almost the same with those of Freed's (1990) in that the American students with lower level of L2 proficiency had relatively low level of language contact in the L2 context; they preferred to socialize with their American peers and use English outside of the classroom. Apart from LC, L2 LM and LA also affect L2 development (Tanaka, 2007).

L2 LM can be regarded as another variable that has been found to have positive correlation with L2 learning/acquisition (Dörnyei, 1990; Gardner & Lambert, 1959; Gardner, 1985; Gardner et al., 1985; Gomari & Lucas, 2013; Lukmani, 1972; Gardner & MacIntyre, 1993; Strong 1984) and the development of knowledge of NLS (Foster et al., 2014; Foster & Tavakoli, 2009). Motivation has been pointed out to be an important aspect in second and foreign language learning. It has been referred to as one of the most crucial factors significantly affecting L2 learners' achievement and attainment (Dörnyei, 1990; Gardner, 1985; Gardner et al., 1985). L2 learners who hold a higher level of motivation to become part of the target community (integrative motivation) are more likely to avail themselves of the contact opportunities resulting in higher levels of engagement with the target community (Dörnyei, 1990; Foster et al., 2014; Gardner & Lambert, 1959; Gardner et al., 1985; Kecskes, 2000; Spolsky, 1969). Aside from L2 LM, LA toward L2 speakers and the L2 community can be regarded as another affective factor influencing L2 acquisition/learning.

The studies that focused on the impacts of affective factors on L2 achievement mostly targeted L2 LM in tandem with L2 LA toward the target language and its speakers, and it has been pointed out that holding a positive attitude toward the target language and its speakers leads to successful L2 learning (Lambert, 1987; Oller et al., 1977; Spolsky, 1969; Starks & Paltridge, 1996; Ushida, 2005). In particular, Oller et al. (1977) mentioned that positive attitudes toward the target language group would result in a higher level of achievement in L2, and in a quite similar manner, negative attitudes toward the target language community would bring about a lower level of L2 attainment. The amount of time that L2 learners have been exposed to the target language is yet another factor impacting L2 achievement.

The number of years that L2 learners have been exposed to the target language affects L2 learning/acquisition (Becker, 2007) and is likely to be correlated with the development of knowledge of NLS. As pointed out by Kecskes (2000), exposure to language culture and the quantity or the length of exposure (LoE) to the target language is important in the development of idiomaticity, and it also depends on the length of time spent in the L2 community (Foster et al., 2014). Muñoz (2010) argued that "in naturalistic language learning studies, the length of exposure is equated to the length of residence in the target language community, extending from the age of acquisition (or immigration) to the age at testing" (p. 44). In the process of L2 acquisition in a

natural setting, younger starters have been found to perform better than older starters in different skills; they have been reported to be slow at first, but after quite a long exposure they achieve superior proficiency level and even become nativelike. It can thus be argued that early starters have the advantage of ultimate attainment.

The effects of Age of L2 onset (AoO), often referred to as age of acquisition (AoA), have been studied in both nonlinguistic and linguistic fields. In nonlinguistic fields, AoA refers to the age at which skills are acquired, but in linguistic domains it refers to two different ages: (1) the age at which a monolingual person starts learning a second language and (2) the age at which a new word or lexical item is first learnt or first enters the child's lexicon. The focus in this study is on the first meaning—the onset of L2 learning. Different studies [which ones? You need citations here] have been conducted on the effects of early and late L2 learning on successful acquisition considering a critical period, or sensitive period, of learning, also known as the Critical Age Hypothesis (CPH) (Lenneberg, 1967). It follows then that the knowledge of NLS can also be affected by AoO.

Idiomatic/Formulaic Expressions and NLS

Bardovi-Harlig and Vellenga (2012) studied the effects of instruction on the oral production of conventional expressions. Their major focus was on those conventional expressions which perform specific pragmatic functions in English. The participants of the study were 36 university-level students. The researchers employed a pre-test–instruction/post-test design and tested the participants in six intact intensive English classes so as to determine whether guided metapragmatic noticing activities helped learners increase oral production of targeted conventional expressions. They also examined the generalizability of the gains to other conventional expressions. Students were divided into two groups of three classes each; two different sets of expression were taught to the two different groups. Based on the findings of the study, the researchers suggested that learning conventional expressions is sensitive to instruction.

In their study, Ellis et al. (2008) targeted the construct of formulaic language by conducting three different experiments on two groups of native and nonnative speakers of English. In the first experiment, speed of reading and acceptance in a grammaticality judgment task was measured, and the results showed that formula processing was different in the nonnative group than the native one; the former group relied on coherence and the latter on frequency. In the second experiment, rate of reading and rate of spoken articulation was examined and the results were somehow similar to experiment 1; that is, for native speakers, it was the mutual information (MI) of the string and the degree of coherence that affected their voice onset and articulation time (VOT). However, nonnative speakers' VOT was influenced again by frequency. In the last experiment, binding and primed articulation was studied. It was found that MI and the degree of coherence again influenced native speakers' binding and primed articulation. In all, MI of the formula and the degree of coherence was found to predominantly determine processability among native speakers. For nonnative learners, however, it was the frequency of the formula that determined processability.

Foster and Tavakoli (2009) used cartoon picture prompts and asked participants to describe the narratives. Three groups of participants took part in the study: native speakers of English, intermediate adult learners of English based in Tehran, and intermediate adult learners of English based in London. The measures of accuracy and complexity were taken into account, and no difference was found between the performance of the learners in London and Tehran. Taking account of a measure of lexical variety, ANOVA results showed no significant differences between the native speakers and the intermediate adult learners of English in London, but a significant difference was found between the learners in London and the learners in Tehran.

Foster and Tavakoli's (2009) data were later on analyzed qualitatively by Foster (2009, as cited in Foster & Tavakoli, 2009), and it was revealed that in many cases, the word combinations selected by London-based learners were the same as those of native speakers to describe the same narrative events. However, the word combinations selected by Tehran-based learners were grammatical but they were not nativelike. Such a finding was justified in that London-based learners had been exposed to such nativelike selections in the rich L2 environment which resulted in better task performance. In terms of syntactic accuracy, there was no significant difference between the Tehran-based and London-based leaners. It was, therefore, implied that "in the context of wider L2 environment, idiomaticity was not developing in step with grammaticality" (Foster et al. 2014, p.105).

Doroodi and Hashemian (2011) looked into the relationship between L2 learners' opaque and transparent idiom comprehension and their reading comprehension in consonance with their proficiency levels. The study's participants were 49 Iranian senior undergraduate students of English who, based on the results of a TOEFL test, were divided into 2 groups of skilled and less-skilled reading comprehenders. They were provided with 30 short texts, ending with idiom fragments and asked to select the appropriate words from among 3 options: idiomatic, literal, and figurative. The same tests were presented to 185 freshmen, sophomores, juniors, and seniors to cross-examine their figurative competence. The results of the study indicated that skilled readers outperformed the less-skilled ones in comprehending both the opaque and transparent idioms.

Foster et al. (2014) investigated the receptive NLS knowledge of L2 users of English in both the United Kingdom and Poland. The researchers investigated the impacts of age of L2 onset (AoO), length of exposure (LoE), context of acquisition (CoA), daily usage of English (LC), attitude and motivation, and phonological short-term memory (pSTM) on the knowledge of NLS. The results of their study indicated that only an early L2 acquisition start (< 12 years old) in an immersion setting resulted in nativelikeness, and long exposure to L2 in late starters brought moderate gains in both immersion and instructed settings. However, the gains did not reach nativelike levels. No relationship was found between L2 LM and LA attitude and NLS. Moreover, pSTM was found to be the only predictor of NLS ability among late starters in the immersion setting, but no effect was found in the instructed setting. Based on these findings, the researchers suggested that NLS is subject to age effects, and for the acquisition of NLS, a good pSTM together with immersion were pointed out to be necessary for late starters.

The importance of idiomaticity in L2 teaching has been elaborated by Liontas (2017). He provides five rationales. First, teaching idiomatic expressions to L2 learners facilitates familiarity with creative aspects of language thought and production, and it enables them to develop idiomatic competence. Second, learners understand the importance of context in relation to idiomatic expressions beyond their value of literal meaning. Third, idioms encapsulate complex ideas in condensed, utile form thus helping the learner's ability to understand and own idiomatic usage in suitable, target language contexts. Fourth, idioms provides learners with a means of processing literal, figurative and contextual elements in the production and understanding meaning associated with idiomatic sequences. Finally, teaching idiomatic expressions in EFL/ESL settings presents a systematic basis for the development of idiomatic competence in all four macro skills resulting in the development of fluency in L2 idiom use.

Recent work by Briggs and Smith (2017) draws on the current importance of idiomaticity in English medium teaching to emphasize its value in academic and non-academic environments that relate closely and directly to English as a Lingua Franca (ELF). Briggs and Smith's (2017) idea that there is a rich variety of ELF activities from which L2 learners are excluded because of unfamiliarity with idiomatic usage is addressed separately by Hinkel (2017). Corresponding to Liontas' (2017) third rationale, Hinkel (2017) elaborates on the close mutual linkages between conventional language structures, such as idioms and culture and language-specificity. Idiomaticity

contributes to the development of learners' strategic fluency as well as contextual varieties of language reception, processing and production. Cieślicka and Heredia's (2017) new work on idiomatic transparency and cross-language identity intersects with Leontis' (2017) fourth rationale. A systematic understanding of idiom from this perspective impacts how complete or partial L2 concept formation, meaning and understanding are. These studies show how important idiomaticity is in the current research environment.

As reviewed, the focus of the previous studies conducted on idiomatic expressions, in particular NLS, has been on either instructed settings (outside L2 community) or naturalistic settings (inside L2 community) or the comparison between both. In the current study, however, the setting is an international school with a unique linguistic context that is quite different from either instructed or naturalistic settings. The context is indeed different from instructed settings because the medium of instruction is English throughout the school. Students are required to communicate in English with their teachers who are English native speakers (except for foreign language teachers). Similarly, their classmates are from varied linguistic, cultural, and ethnic backgrounds. Further, the context is different from naturalistic settings because such schools are usually located in countries where the English language is either a second language or a foreign language. Students' experience of English exposure outside the school is equally different.

In this study then such context is referred to as a semi-naturalistic setting. The term was first used by Gomari (2015) in his dissertation entitled 'grammaticality and idiomaticity of English monolinguals and English bilinguals in a semi-naturalistic setting.' In addition, the focus in the previous studies was mostly on the differences of formulaic language constructs between native and nonnative speakers of English (e.g., Ellis et al., 2008), effects of instruction on the oral production of idiomatic expressions (e.g., Bardovi-Harlig & Vellenga, 2012), the relationship between L2 learners' idiom comprehension and reading comprehension (e.g., Doroodi & Hashemian, 2011), differences in the performance of native and nonnative speakers of English in using idiomatic expressions (e.g., Foster & Tavakoli, 2009), factors impacting L2 learners' knowledge of NLS (e.g., Foster et al., 2014), idiomaticity in terms of English-medium instruction (EMI) and English as a Lingua Franca (ELF) (e.g., Briggs & Smith, 2017), an eye movement analysis of idiom transparency and cross-language similarity among bilinguals (e.g., Cieślicka & Heredia, 2017), historical perspectives and classifications of idiomatic expressions in English together with their uses in conversations, speaking, writing, and teaching (e.g., Hinkel, 2017) the importance of idiomatic expressions in L2 teaching (liontas, 2017). However, in the current study, apart from looking into the potential factors related to EB's NLS knowledge, the relationship between their NLS knowledge and EAP was examined as well.

Research Questions

Extending the work on idiomatic expressions, and considering the potential factors related to English bilinguals' knowledge of NLS, as well as the possible correlation between the participants' knowledge of NLS and their English academic performance, the major focus of this study is on answering the following research questions:

1. Are there any correlations between Language Contact, Language Attitude, Age of Onset, Length of Exposure, Integrative Motivation, and Instrumental Motivation and English bilinguals' NLS scores in a semi-naturalistic setting?

2. Which among the following factors predict knowledge of NLS among English bilinguals (EBs) in a semi-naturalistic setting?

    a. Language Contact

    b. Attitude

    c. Age of Onset

    d. Length of Exposure

    e. Integrative Motivation

    f. Instrumental Motivation

3. Are there any correlations between English bilinguals' NLS scores and their English academic performance scores in a semi-naturalistic setting?

Methodology

Research Design

Following Johnson's (2001) classification of nonexperimental research and based on the research objective and the time dimension, the design of the current quantitative study can be regarded as cross-sectional and predictive since the researchers collected the data from the participants during a single, relatively brief period of time so as to examine some intercorrelations between and among variables and the contributions of some independent variables in predicting the dependent variables.

Participants

The participants were 281 high school students of mixed gender and ethnicity from an international school in the Philippines. Filipinos (N = 75) were the largest ethnic and cultural group in the school, followed by South Koreans (N = 45), Chinese (N = 19), Japanese (N = 12), Indians (N = 11), and other nationalities (N = 119). Participants were selected based on the definition of bilingualism given by Butler (2013) and Hamers and Blanc (2000).

Butler (2013) uses the term "multilanguage users" to refer to bilinguals and multilinguals whom he defined as "individuals or groups who obtain communicative competence in more than one language, in order to interact with speakers of one or more languages in a given society" (p. 112). Accordingly, multilanguage users who use two languages are referred to as bilinguals; those who use more than two languages, like trilinguals and quadrilinguals, are referred to as multilinguals. In the present study, the English bilinguals are those high school students studying in the international school who have already obtained communicative competence in their L2 (English) in order to interact with English speakers (Butler, 2013); that is, apart from their L1s, they have access to English as another linguistic code, and they can use it as a means of social communication.

Setting

The research setting was a K-12 international school in the Philippines that provides both local and international students an accredited college-preparatory IBDP (International Baccalaureate Diploma Program). Both the school's mission statement and the curriculum are focused on the

use of constructivist teaching and learning. Throughout the school the medium of instruction is English. There are around 2000 students with 800 students in the high school division from varied ethnic and cultural backgrounds. Ninety-three nationalities are represented in the school.

Instruments

Age of L2 Onset (AoO) and Length of Exposure (LoE)

To detect participants' age of L2 onset (AoO) one question was formulated: At what age were you first exposed to English? Length of exposure (LoE) was determined by measuring the time span between AoO and time of testing. One point as regards the way AoO was determined needs to be clarified, and that relates to the options provided for the question formulated for AoO: the ages of 1, 2, and 3 were included in one category—from birth or before 3-years old—because all those who were exposed to English before 3-years old can be categorized as "birth bilinguals." Since only numerical (not categorical) measures could be analyzed by the SPSS software employed in the study, the average number of 1.5 was used to refer to the AoO of all EBs included in this category. Another reason for doing so was that even if they were given the options 0 (from birth), 1-year old, 2-years old, and 3-years old, it would not be sensible to expect them to precisely remember the exact age of their exposure to the L2. Moreover, considering the general profile of the students in the international school, options for AoO beyond 12-years old were not included since the chance of having students who were exposed to English after 12 years old seemed rare and unlikely. The prediction was true since subsequent data analysis revealed the highest participant age range to be 10.

Language Contact (LC)

A concise version of Freed et al.'s (2004) Language Contact Profile (LCP) was used to explore the nature of the participants' usage of English. The questionnaire consists of four items with four options per item. Answers were recorded on a scale of 1 to 4.

Language Attitude (LA) and Motivation (Int.M and Inst.M)

In order to determine participants' LA toward learning English and English-speaking people together with their level and type of language learning motivation, a questionnaire consisting of 15 items with a 5-point Likert scale ranging from 'Strongly Disagree' to 'Strongly Agree' was used. The scales were coded as (Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5). The questionnaire is the modified version of the integrative and instrumental motivation scale of the original 7-point Likert Scale format of Gardner's (1985) Attitude/Motivation Test Battery (AMTB). The first 5 items (Items 1-5) indicate participants LA toward learning English and English-speaking people. The next 5 items (Items 6-10) indicate the integrativeness of the participants toward the target language, and the last 5 items (Items 11-15) pertain to instrumental motivation.

Nativelike Selections (NLS) Test

To measure the ability to detect receptive nonnativelike selection in English, a test consisting of two stories (193 and 130 words in length) was adopted from Foster et al.'s (2014) study. The stories are based on strip cartoon prompts about a walk around town (first story) and a lost football match. As pointed out by Foster et al. (2014), the stories were generated using nonnative speaker transcripts in such a way that the grammar was corrected but the nonnative word combinations were left in. To ensure the construct validity of the test, it was extensively piloted

and adjusted by Foster et al. (2014) to eliminate any genre-specific material or uncommon vocabulary. Moreover, all words used in the texts were compared to the word frequency lists based on British National Corpus. At the time of testing, all participants were invited to seek clarification as regards the meaning of the words. The researchers, based on extensive native-speaker testing of the texts and searches in British National Corpus, came up with 24 nonnative selections in collocation (e.g., imagine an idea, get success), derivational morphology (e.g., to gunfight), and colligation (e.g., the ball came up with floating, reply by a shrug). Participants were asked to read the stories and pick out anything they found odd in expression (the nonnativelike selections), and they scored 1 point for each correctly identified nonnative selection. However, it should be noted that the ability to receptively detect the selection of nonnative expressions requires students to have a good command of NLS knowledge so that they can distinguish the commonly used and nativelike expressions from the nonnativelike ones. For example, participants who are more competent in terms of NLS knowledge are equally more likely to detect the nonnativelike sequences (the sequences marked in italics) in the following sentences: A young man was *strolling his way* in the street… This was a pity, as a lot of unusual things *missed his notice*.

English Academic Performance (EAP)

English academic performance was measured through students' final grade from their previous semester's English class. In line with the grading scale of the IB (International Baccalaureate) diploma, their final grade for English course is assessed on a scale of 1-7, with a grade of 4 considered a 'passing grade' The grade is made up of all scores across all assignments, and it is retotaled based on the assessment of their knowledge and understanding (40%), critical thinking (40%), and communication skills (20%). Their final grade is the overall average of these three assessments.

Data Collection Procedures

Data were collected in high school homeroom classes using laptop computers and a Google Form survey. The administration was informed to secure the needed permissions to participate in this study. The participants were given 20 minutes to complete the surveys and the task.

Method of Analysis

A series of three analyses were conducted to answer the study's research questions. First, the analysis of descriptive statistics reported the means, standard deviations, and ranges related to each variable. Second, Pearson's correlation coefficients were used to assess the significant intercorrelations between the following variables:

a.   LC, LA, AoO, LoE, Int.M, and Inst.M and English bilinguals' NLS test scores.

b.   English bilinguals' NLS scores and their English academic performance score.

The third statistical approach was a multiple regression analysis. The DV of NLS scores was regressed on the six IVs: LC, LA, AoO, LoE, Int.M, and Inst.M. Furthermore, since the impact of all the possible IVs were assessed simultaneously, the multiple regression can be referred to as a standard or direct multiple regression and not a hierarchical or stepwise one (see Hardy and Alan (2004) and Cohen (1988) for explication of the method).

One point that requiring more clarification as regards the relationship between Pearson's correlation coefficients and multiple regression is that in multiple regression "research factors and

their constituent IVs may be correlated with each other or uncorrelated" (Cohen 1988, p.408). In other words, an IV can be regressed against a DV and its effect may be found significant. However, it does not necessarily imply that the two variables are correlated as they may or may not be correlated.

Results

Table 1
Descriptive Analysis Results

Variables	Mean	SD	Range				Skewness	Kurtosis
			Observed		Expected			
			Min	Max	Min	Max		
1. Language Contact	3.11	.674	1.00	4.00	1.00	4.00	-.469	-.367
2. Language Attitude	2.65	.481	2.00	5.00	1.00	5.00	.820	1.494
3. Age of Onset	3.14	2.556	1.50	10.00	1.50	12.00	1.545	1.344
4. Length of Exposure	12.63	2.803	4.00	17.00	1.00	17.50	-.926	.523
5. Integrative Motivation	2.04	.543	1.00	4.00	1.00	5.00	1.248	2.106
6. Instrumental Motivation	4.29	.663	2.00	5.00	1.00	5.00	-.950	.889
7. Nativelike Selections	16.22	3.847	7.00	24.00	1.00	24.00	-.225	-.712
8. English Academic Performance	5.70	.835	3.00	7.00	1.00	7.00	-.309	.320

Table 1 reports the analysis of descriptive statistics of all the variables. As can be seen, the participants' average score for LC is quite high (M = 3.11; SD = .674) suggesting that the English bilingual students were likely to communicate with their friends in English, spend quite a long time reading English materials, and watch English movies or TV programs. However, their average score for LA was not high (M = 2.65; SD = .481); students' attitude toward learning English seemed not to be positive.

The age at which the participants were first exposed to English is quite low (M = 3.14; SD = 2.56). As already noted, the AoO of all those who chose the category from birth or before three years old was decided to be 1.5—the minimum expected and observed age range. The skewness (S = 1.545) shows the distribution to be highly skewed to the right of the mean (i.e., the mass of the distribution is concentrated on left of the mean). In turn, the kurtosis (K = 1.344) indicates the distribution to be leptokurtic (i.e., the values concentrated around the mean). Both the skewness and kurtosis suggest that the AoO of the majority of the participants was lower than the mean value; that is, in AoO scale, they mostly checked the option 1.5. Following Meisel's (2008) classification of bilinguals, our participants were likely to be birth bilinguals (i.e., exposed to English from birth or before three years). The number of child bilinguals or those exposed to English from 4 to 8-years old was likely to be bigger than that of adult bilinguals or those exposed to English after 8 years.

The length of time that participants were exposed to English is quite high (M = 12.63; SD = 2.803). As most of the students were birth bilinguals and were exposed to English before the age of three. The mean score for Int.M (M = 2.04; SD = .543) is considerably lower than that of Inst.M (M = 4.29; SD = .663), suggesting that the students were more instrumentally motivated

to learn English; that is, they were motivated to learn English because they consider learning English as an instrument enabling them to get higher grades in school, being accepted by top ranking universities or finding a better job in the future rather than getting familiar with the life of the English-speaking nations and their people, knowing other cultures and participating in their activities, and being in contact with people from other countries. Lastly, the mean score of students' EAP was quite high (M = 5.70; SD = .835) as they attained relatively high scores in knowledge and understanding, critical thinking, and communication skills.

Table 2
Intercorrelations among the Variables

Variables								
	Correlations							
	1	2	3	4	5	6	7	8
1. Language Contact	---	.023	.469**	.498**	.033	.193**	.360**	.181**
2. Language Attitude		---	.504**	.382**	955**	.206**	.079	.339**
3. Age of Onset			---	-867**	592**	.092	-.405**	-.186**
4. Length of Exposure				---	475**	-001	392**	.231**
5. Integrative Motivation					---	.157**	.199**	.050
6. Instrumental Motivation						---	.054	.201**
7. Nativelike Selections							---	.365**
8. English Academic Performance								---

**p < .01; *p <.05

Table 2 reports the intercorrelations among the eight variables. A Pearson correlation analysis shows a moderate to strong positive correlation between NLS scores and LC (r = .360; p<.01) and LoE (r = .392; p<.01), but there appears to be a weak positive correlation between NLS scores and Int.M (r = .199; p<.05). AoO was the only variable which had an approximately large and significant negative correlation with NLS scores (r = -.405; p<.01). The correlation analyses suggest that the variables of LC, LoE, and Int.M move in the same direction with NLS scores; that is, when one goes up, the other goes up too. For example, the higher the level of English bilingual's integrative motivation, language contact, and length of exposure, the better their performance is likely to be in NLS test. The correlation between AoO and NLS scores is negative which means the lower the AoO the better the performance of English bilinguals is likely to be in NLS tests While there appears to be no relationship between LA and Inst.M and NLS scores, there is a moderate to strong positive correlation between NLS scores and EAP (r = .365; p<.01); that is, those English bilinguals who had got higher scores in standardized English test were likely to perform better in NLS test.

Table 3
Selected Multiple Regression Model for Predicting NLS

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	Constant	6.845	2.620		2.613	.009
	LC	. 1.181	.367	.207	3.213	.001
	LA	7.999	1.468	1.001	5.449	.000
	AoO	-.267	.177	-.177	-1.507	.133
	LoE	.041	.145	.030	.279	.780
	Int.M	-7.269	1.386	-1.027	-5.244	.000
	Inst.M	-.081	.317	-.014	-.255	.799

Note. Model R^2 =.282, F (6, 275) = 17.96; Adjusted R^2=.267.

Table 3 reports the results of a regression analysis for the variables predicting NLS scores among EBs. As indicated, the regression was a fair fit (R^2 adj = 26%); that is, the variables predicted 26% of the variance in the students' NLS score. Moreover, the overall relationship was significant and statistically valid (F6, 275 = 17.96, p ≤.05).): a significant relationship exists between the set of predictors and NLSs scores as the outcome variable. With all variables held constant, on the one hand, NLS scores were negatively related to AoO, Int.M, and Inst.M decreasing by .18 for every extra year of age, by 1.03 and .014 respectively for every extra score in integrative motivation and instrumental motivation. On the other hand, NLS scores were positively related to LC, LA, and LoE increasing by .20 and 1.0 respectively for every extra score in language contact and attitude, and by .28 for every extra year of age of exposure to English with all other independent variables held constant. The effects of LC, LA and Int.M were found to be significant (t274 = 3.213, 5.449, -5.244, p < .05); that is, these variables significantly predicted NLS scores or knowledge of idiomaticity at the sentence level.

Discussion

The results of the descriptive analysis showed that the participants' score for LC was quite high, suggesting the students studying in the semi-naturalistic setting mostly spoke in English with their friends, and spent much time reading English materials and watching TV programs or movies in English. The results of the correlation analysis indicated that there was a moderate to strong positive correlation between NLS scores and LC. This finding is in line with those of previous studies (Freed, 1999; Wilkinson, 1998a, 1998b, 2000; Freed et al., 2004) in which it was found that the number of hours L2 learners spend communicating with L2 community members is likely to be positively correlated with their level of L2 proficiency. In Freed's (1990) study, both interactive and none-interactive types of language contact resulted in better performance of French L2 students. In Wilkinson's (1998a, 1998b, 2000) qualitative studies, American students with lower level of L2 proficiency were found to have relatively low level of language contact in the L2 context. Freed et al. (2004) also found that more language contact (either spoken or written) with L2 would result in significant gains in oral performance.

The results of the descriptive analysis also indicated that the number of the years the English bilinguals were exposed to English (LoE) was quite high, and the age at which they were first exposed to English was low, suggesting that most of the participants were birth bilinguals and the child bilinguals outnumbered adult bilinguals. The finding related to the correlation between the two variables of LoE-AoO and NLS knowledge appears to corroborate the results of previous studies, which generally supported the Critical Age Hypothesis (CPH), and showed that lower age of L2 onset (Abrahamson & Hyltenstam, 2008; Dekeyster, 2000; Flege, Munro, & MacKay, 1995; Johnson & Newport, 1989; Kecskes 2000; Murno et al., 1996; Patkowski, 1980; Spadaro, 2013), as well as longer exposure to L2 (Becker, 2007; Foster et al., 2014; Muñoz, 2010; Kecskes, 2000), resulted in better L2 performance. It can thus be argued that the earlier and longer the exposure to the L2 is, the more efficient the L2 learning/acquisition is likely to be. In particular, early and long exposure to L2 input would result in better development of bilinguals' knowledge of NLS.

The finding related to the correlation between LoE and NLS scores was likely to be in line with that of Becker's (2007), in which LoE together with Children's efficiency were found to be important determinants of the child's L2 proficiency. The findings of Marshall and Gomari's (2013) study on the students of the same international school also revealed that longer exposure would result in better performance in reading and language usage tests. However, the finding is not in line with that of Foster et al.'s (2014) study on nativelike selections; that is, long exposure to L2 in late starters brought moderate gains in both immersion and instructed settings, and long exposure to L2 in late starters brought moderate gains in both immersion and instructed settings; however, the gains did not reach the nativelike levels. The results of the Bardovi-Harlig and Bastos' (2011) study are contrary to the current finding since the length of exposure and stay in the target community did not have a significant effect on either recognition or production of conventional expression.

The finding regarding the correlation between Int.M and NLS scores appeared to be in line with what had already been found in previous studies on the nature of motivation by Gardner and Lambert (1959) and Spolsky (1969). In those studies, English proficiency test scores were found to be significantly correlated with integrative motivation rather than the instrumental one. However, the finding seemed to be contrary to that of Lukmani's (1972) in which a significant correlation was found between the proficiency scores of the students and instrumental motivation scores. The finding was contrary to that of Foster et al.'s (2014) study on nativelike selections since no relationship was found between L2 learning motivation and nativelike selections scores. Moreover, the findings regarding the correlation between English bilinguals' NLS scores and their English academic performance appeared to correspond to those of Doroodi and Hashemian's (2011) in which knowledge of idiomatic expressions correlated with reading comprehension.

The correlational analysis of data coming from English bilinguals revealed that the following four variables were significantly related to NLS scores LC, LoE, Int.M, and AoO. The multiple regression analysis indicated that the variables predicted 26% of the variance in the students' NLS scores. A significant relationship was found between the set of predictors and NLS scores as the outcome variable. The variables of LC, LA, and Int.M were found to be the significant predictors NLS scores. The comparison of the correlational and regression analyses indicates a low degree of similarity since from among the variables identified by correlation analysis, only LC and Int.M appeared in the multiple regression model. The resulting inconsistency originates from the differences between correlational and multiple regression analysis; that is, univariate/bivariate and multivariate analytical techniques that are applied to analyze the same data are likely to yield results that vary with regard to statistical significance and effect sizes (Fish, 1988, as cited in Onwuegbuzie, Bailey, & Daley, 2000).

An analysis of intercorrelations among some independent variables can help explain why the variables that emerged as significant in correlational analysis (e.g., AoO) were no longer identified as significant in regression analysis. The variable of AoO is significantly related to the variables of LC, LA, Int.M that are significant predictors of NLS scores. This finding suggests that, once the three variables are in the regression model, the predictive power of some other variables such as the Age of Onset is diminished. Even the failure for LoE to be included in the regression model despite being significantly correlated with it can be explained by the fact that it is significantly related to LC, LA, and Int.M.

Conclusion

In the current study, Pearson's correlation coefficients were used to investigate the possible correlations between the variables of LC, LA, Int.M, Inst.M, AoO, and LoE and English EB's knowledge of NLS in an international school—a semi-naturalistic setting. LC and Int.M were significantly related to EB's knowledge of NLS in both correlational and multiple regression analyses. LoE and AoO were significantly related to EB's achievement in the NLS test but only in correlational analysis, whereas LA was found to be a significant predictor of NLS scores only in multiple regression analysis. The findings as regards AoO suggest that earlier and longer exposure to the L2 input would result in better performance of L2 learners in developing their knowledge of idiomatic expressions, in particular their receptive knowledge of NLS. The findings of both types of analyses also emphasized the importance of LM and LA. It can be safely argued that the higher the learners' motivation and the more positive attitude they hold toward L2 learning, the wider and better their knowledge of idiomatic expressions is likely to be. As regards LoE, our findings suggest that the earlier and longer exposure to the L2 input results in better knowledge development of idiomatic expressions at the sentence level (i.e., nativelike selections). Moreover, a moderate to strong positive correlation was found between NLS scores and EAP, which indicates that those English bilinguals who obtained higher scores in standardized English test were likely to perform better in the NLS test. Furthermore, the results analyses related to LC suggest that the more contact with L2 input resulted in better performance of EBs in NLS test

In the current study attempts were made to investigate some issues related to idiomaticity of English bilinguals in a semi-naturalistic setting (international school). However, the study was subject to several limitations. First, it only focused on one type of idiomatic expressions at the sentence level (NLS). The focus was only on the receptive type of NLS. As regards the variables correlating with and impacting NLS knowledge, only five variables of LC, LA, AoO, LoE, and LM were investigated.

Second, the sample size was somewhat small. This was not merely a subset of the population as the number of respondents was about 60% of the target population. It should also be noted that obtaining approval from the institution and adjusting to the working schedules of the respondents also made it difficult to include every English bilingual student enrolled from Grades 9-12. Although the number used appeared to yield reliable and precise estimates as shown in the analyses, having used a bigger number of participants could have probably resulted in even more precise analyses.

A third limitation comes from the factors related to NLS knowledge which can affect the development of idiomaticity: context of acquisition (CoA) and phonological short-term memory (pSTM). CoA was not included in the study since the English bilinguals were from very diverse

backgrounds. pSTM was not addressed here as it would be impossible to ask such a big number of students to perform pSTM tasks.

Fourth, a methodological limitation comes from the instruments used in collecting the data concerning the knowledge of NLS; that is, different types of tasks could have been designed to collect data about nativelike selections. It should be noted that this limitation was not addressed since the participants were already required to complete different questionnaires and perform the NLS task. Indeed, it would not have been prudent to expect high school students to perform lengthy and complicated tasks since doing so might have negatively affected their performances.

One last limitation pertains to the level at which idiomaticity was addressed: knowledge of idiomatic expressions was studied at the sentence level focusing on nativelike selections. However, idiomaticity could also have been addressed at the discourse level focusing on situation-bound utterances (SBU).

Despite these limitations, this study yields important implications for idiomaticity and its relationship with EAP in a semi-naturalistic setting. The findings related to LC suggest that educators in the semi-naturalistic setting of an international school should encourage English-bilingual students to have more contact with L2 input. This can be achieved by encouraging them to do group activities with their native English-speaking classmates, instead of allowing them to engage in such activities with those who share the same L1 backgrounds. Apart from being involved in group activities with native speakers of English outside of school, the bilingual students should be encouraged to read English materials and watch TV programs in English.

The results as regards LM and LA posit that in the semi-naturalistic setting educators should prioritize keeping EBs motivated and encourage a positive attitude toward L2 learning and the L2 community. What can furthermore be posited as regards AoO and LoE is that parents should provide their children with opportunities for varied exposure to L2 input from a very early age and encourage them to be involved in regular and continual L2 learning.

The result regarding the relationship between NLS scores and EAP suggests that efforts should be made to develop suitable materials for teaching idiomatic expressions, in particular NLS to English bilingual students. As revealed in previous studies, developing knowledge of idiomatic expressions, in particular NLS knowledge would result in increased student fluency since the use of such expressions reduces the processing-load, increases fluency in communication, and results in native-like language performance (Briggs & Smith 2017; Liontas, 2003; Liontas 2017; Ortaçtepe, 2013).

From these findings and implications, future research studies could examine factors related to the knowledge of idiomatic expressions at the discourse level: SBUs and its relationship with students' EAP (either native or nonnative speakers). Expressive knowledge of NLS can be further addressed in future research as well. More studies can be further conducted either in semi-naturalistic settings or other types of settings, such as naturalistic and instructed settings to address different aspects of idiomaticity. Moreover, taking account of the findings of previous studies on the impacts of increased context and pragmatic knowledge on the comprehension and interpretation of idiomatic expressions, (Liontas, 1999, 2002a, 2002b, 2002c, 2002d, 2002e, 2003, 2007, 2008, 2015) further research can be conducted to examine the potential impacts of these two variables on receptive and expressive knowledge of NLS as well as different types of SBUs.

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