LEARNING ALL THE PARTS OF THE PUZZLE

Focused instruction of formulaic sequences through the lens of activity theory

By Lina AlHassan, Carleton University

Abstract

The role of focused instruction of formulaic sequences—defined as continuous and discontinuous strings of words that are highly frequent in academic discourse (Hyland, 2008; Simpson-Vlach & Ellis, 2010)—in improving second language (L2) learners' academic skills has been the centre of recent focus in Second Language Acquisition (SLA) research. However, only a few studies have investigated this role empirically (e.g. AlHassan & Wood, 2015; Cortes, 2006). Moreover, there has not been any attempt, to my knowledge, to explore English for Academic Purposes (EAP) instructors' perspectives on this teaching approach. This mixed methods pilot study adapted key concepts proposed in Activity Theory (AT) to probe the effectiveness of focused instruction of formulaic sequences in augmenting EAP students' academic reading and writing skills and to explore EAP instructors' perspectives on this teaching approach. The results showed that focused instruction of formulaic sequences improves academic reading and writing skills, but the instructors had mixed views about its effectiveness.

Keywords: focused instruction of formulaic sequences, EAP students' academic reading and writing skills, EAP instructors' perspectives

Since the revolutionary results of corpus linguistics research in the late 20th century, which empirically demonstrated that between 30% and 50% of the language produced is composed of formulaic sequences (Conklin & Schmitt, 2012; Erman & Warren, 2000), many experts in the field of Second Language Acquisition (SLA) have argued that formulaic sequences should be placed at the core of classroom materials and addressed explicitly in the language classroom (Cowie, 1992; Granger & Meunier, 2008; Paqout & Granger, 2012). Such an instructional approach may promote the acquisition of formulaic sequences, improve L2 users' language production and comprehension, and positively affect L2 users' evaluation at the academic level (Boers & Lindstromberg, 2009; Handl, 2008). Nevertheless, an empirical investigation of the acquisition of formulaic sequences and its effects on L2 learners' academic reading and writing skills has not been attempted to any great extent yet. Nor have there been any attempts to explore English for Academic Purposes (EAP) instructors' perspectives on the effectiveness of an explicit instructional approach to formulaic sequences.

To address these two gaps in the literature, a mixed methods study was designed. The study, which had a sequential explanatory design (QUAN → qual), was designed based on two models proposed in Activity Theory (AT) and conducted in an EAP program at a large Canadian community college in an attempt to inquire into the effectiveness of such an instructional approach in augmenting EAP students' academic reading and writing skills. During the quantitative phase, a number of formulaic sequences were taught for a total of ten hours over a two-week period, reading and writing tasks were collected from 12 EAP students at three different points in time, and the collected data were evaluated by three EAP instructors who were interviewed during the qualitative phase.

Literature Review

As early as the 1990s, several linguists started to question the view of language production as being entirely creative each time it is produced; such a view of language prioritized grammar instruction and marginalized vocabulary instruction in SLA research and methodology for decades (Lewis, 1997; Zimmerman, 1997). The influence of this view dominated SLA research and methodology until the emergence of corpus linguistics research, whose revolutionary results have revealed the fallacy of the notion of absolute creativity (Barlow, 2000; Sinclair, 1991; Weinert, 1995). By focusing on the way language users actually utilize their linguistic knowledge in language production rather than on the knowledge which allows them, in principle, to generate an infinite number of utterances based on syntactic rules, corpus linguists have demonstrated empirically that language, whether spoken or written, is neither entirely creative nor composed afresh each time it is produced; rather, it is marked by the frequent occurrence of formulaic sequences which are, for the most part, register- and genre-bound (Cortes, 2004; Erman & Warren, 2000; Fromkin, Rodman, & Hyams, 2003).

The results of corpus linguistics research have had strong implications for SLA research and pedagogy. Experts in SLA have argued that since language production is at least partially formulaic, formulaic sequences should constitute a major component of classroom materials, especially in academic contexts (Boers & Lindstromberg, 2009; Granger, 1998). The rationale for emphasizing the importance of integrating formulaic sequences into classroom materials in academic contexts has been mainly attributed to the possible positive effects of the acquisition of formulaic sequences on academic reading and writing proficiency (Boers & Lindstromberg, 2012; Jones & Haywood, 2004).

Several experts in SLA have claimed that mastering a wide range of formulaic sequences may improve L2 learners' writing proficiency. Since achieving proficiency in a register is contingent on language users' ability to comply with the established conventions of that register, L2 learners need to master the elements that characterize academic writing in order to be identified as proficient writers (Ellis, 2008; Verstraten, 1992). Among the defining linguistic characteristics of academic writing, as demonstrated in corpus linguistics, is the frequent occurrence of formulaic sequences that function as important building blocks of academic discourse (Boers & Lindstromberg, 2012; Hyland, 2008). Without mastering a wide range of the formulaic sequences that are recurrent in academic writing, L2 writers

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may produce academic texts that do not precisely express the intended message and that are viewed as lacking proficiency or idiomaticity (Laufer & Waldman, 2011). As Coxhead and Byrd (2007) put it, academic vocabulary, both individual words and formulaic sequences, can be seen as "a language bar or barrier that students need to transcend in order to move successfully from everyday ways of expressing meaning to the specialized, 'high-status' academic language" (p. 132).

Mastering a wide range of formulaic sequences may also promote L2 users' academic reading skills. In addition to enriching L2 users' linguistic repertoire, formulaic sequences promote reading efficacy in that they require less processing time than their creatively constructed counterparts (Ellis, 2012). In this respect, "since EAP courses are meant to… [prepare] non-native speakers of English to deal with the demands of post secondary academic reading and writing,… they should deal with the formulaic sequences most frequently used to construct academic text in English" (Wood, 2010a, p. 88).

Because of the complex nature of formulaic sequences, which are either partially transparent or fully opaque, and L2 users' tendency to disregard their occurrence in input, an explicit instructional approach to formulaic sequences has been strongly recommended in literature (AlHassan & Wood, 2015; Boers & Lindstromberg, 2009; Conklin & Schmitt, 2012; Lewis, 1997). Some experts in SLA, therefore, suggest that language teachers should explicitly teach the formulaic sequences that account for their students' needs and integrate this language phenomenon into activities which promote their acquisition and internalization into L2 learners' linguistic repertoires (Jones & Haywood, 2004; Lewis, 1997).

In spite of the extensive focus that has been placed on the effectiveness of an explicit instructional approach to formulaic sequences in augmenting L2 users' performance in academic contexts, an empirical investigation of such a role is rarely attempted in research. Moreover, although language instructors play a key role in this proposed instructional approach, no attempt has been made to account for their perspectives on its effectiveness. To help address these two gaps in literature, a mixed methods research study was designed based on Engeström's (1987) version of AT.

Theoretical Framework: Activity Theory

AT originates in Vygotsky's cultural-historical theory, which depicts higher psychological functions as a triangle involving a stimulus, a response, and mediating tools—a depiction that constituted the seeds from which several generations of AT were developed and each of which included three elements: the subject, the object, and mediating artefacts (Artemeva, 2008; Kaptelinin & Nardi, 2006). As a learning theory, AT conceptualizes learning as an expanding process, that is, a social and collective activity rather than an individual action. Effective instruction is, thus, not an individual task "but a *whole cycle of activity generation*, of *learning activity…* [which can] be depicted as the general cycle of expansion," a cycle composed of five phases that help guide pedagogical intervention (Engeström, 1987, p. 173).

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After identifying, in the first phase, a need state which arises when a need cannot be satisfied by the existing activity system, instructors, in the second phase, define the problem, its causes, and possible solutions (Engeström, 1987). The third phase, in turn, involves the identification of the object (i.e., the outcome) in order to develop a new model to help mold the object of the activity. In the fourth phase, the subject of the activity (e.g. a group of students) starts to perform certain actions that are in line with the proposed model of the new activity; in the last phase, the emerging activity system competes with the existing one until it fades away or "succeeds in creating its own social infrastructure" (Engeström, 1987, p. 174).

Engeström's (1987) proposed cycle of expansion was applied to this study as a model in order to identify the 12 participants' need state (difficulties in reporting graphical information), analyse its causes (limited range of formulaic sequences typical of this task) and possible solutions (teaching formulaic sequences explicitly), develop instruments that may model the object of the activity (selecting formulaic sequences typical of the task under investigation and developing instruments), and introduce the instruments and test them.

In addition to introducing a model for pedagogical intervention, Engeström (1987) proposes a cycle for developmental research that has five phases akin to those presented in the general cycle of expansion to guide research design. The researcher, in this cycle, provides a description of the subjects' problem; pinpoints the subsequent developmental phases along with the contradictions that may result from the introduction of new models; identifies a springboard which comprises a language that organizes and models the object; records the contradictions that arise between old and new activity systems and finds solutions for them; and, finally, reports the results (Engeström, 1987). The cycle of developmental research was applied to this study as a heuristic model along with the general cycle of expansion in order to guide the study through its multiple phases and answer the following research questions:

1. Will EAP students acquire formulaic sequences as a result of focused instruction and utilize them when approaching similar writing tasks that relate to different themes?

2. Will focused instruction of formulaic sequences help the participants reduce the number of mistakes they make and receive better evaluation for different reading and writing tasks?

3. Will the increase, if any, in the use of formulaic sequences positively correlate with better evaluation for different writing tasks but negatively correlate with mistakes?

4. In what ways and to what extent, if any, does such an intervention improve the participants' academic writing skills?

5. What are the perspectives of other EAP instructors on such an instructional approach?

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Methods

Design and rationale

To answer the above-listed research questions, a mixed methods study that has an explanatory sequential design with a dominant quantitative phase followed by a qualitative phase (QUAN → qual) was designed, a design that was driven by the objectives of this study (Creswell & Plano Clark, 2011; Dörnyei, 2007). That is, applying AT as a heuristic framework in order to (a) deliver the pedagogical intervention which may highlight the effectiveness of focused instruction of formulaic sequences and (b) explore EAP instructors' perspectives on such an instructional approach necessitates the collection of both qualitative and quantitative data to "overcome the limitations of one method" and "provide a more complete understanding of the research problem" (Creswell & Plano Clark, 2011, p. 8).

Participants

The pool of participants comprised 12 EAP students and three EAP instructors. The 12 EAP students, henceforth referred to as student-participants, were six males and six females from four different first language backgrounds. During the training period, they were all registered in an intermediate EAP program, five courses in total, at a large Canadian community college. Four courses focused on one language skill (i.e., reading, writing, listening, or speaking), but the fifth course, during which the intervention occurred, was an introduction to the academic version of the International English Language Testing System (IELTS) test. The three EAP instructors (two females and one male), hereafter referred to as rater-participants, were teaching EAP at the same college during the training period. The researcher, therefore, used convenience sampling strategies by recruiting the EAP students who were registered in one section; she also applied homogeneous sampling strategies by recruiting three instructors who shared one characteristic, having taught EAP at the same community college for at least six months when the study was conducted (Dörnyei, 2007).

Instruments

The instruments designed for this study can be classified into instruments used for data collection and instruments used during the training period.

Instruments used for data collection. Different types of instruments were designed in order to collect quantitative and qualitative data for this study. The researcher first designed six prompts for quantitative data collection: three different reading prompts and three different writing prompts that presented changing trends over a period of time, whether graphically or textually (see Appendix A for sample reading and writing prompts). The rationale for choosing such a task is to account for the students' needs at this level (i.e., mastering one type of the first writing task for the academic IELTS test). It is worth noting that different reading and writing prompts were assigned at three different points in time in different order: at the beginning of the training period (a pretest), at the end of the training period (a posttest), and fifteen days after the training period (a delayed posttest). Administering different prompts at each stage of data collection in different order aimed at controlling for what Dörnyei (2007) refers to as experience effects (i.e., mastering a task due to

redoing it) and reducing the effects of the task itself, which may affect the student-participants' performance due to the difficulty of the topic or the amount of information reported in a particular prompt. In addition, the researcher designed a rubric to guide the rater-participants' evaluation of the writing tasks. She also developed five interview questions that were used for the qualitative data collection.

Instruments used during the training period. In addition to the instruments used for data collection, the researcher designed 11 worksheets to introduce 63 formulaic sequences. The target formulaic sequences (see Appendix B) were extracted from lists deemed to be formulaic in previous research (e.g. Hyland, 2008; Simpson-Vlach & Ellis, 2010) and the academic sub-corpus of the Corpus of Contemporary American English (COCA) by checking their frequency (30 occurrences per one million words). The 11 worksheets were modelled on the suggestions of AlHassan and Wood (2015), Lewis (1997), and Wood (2010b), among others, and they presented examples and activities (i.e., sentence writing/rewriting, cloze, and dictogloss) that relate to different topics in order to reduce the possibility of mere memorization of the sentences presented (see Appendix C for sample worksheets).

Procedure

The study consisted of multiple stages during which intervention and data collection took place. Prior to the training period, the researcher, who was also the instructor, had each student-participant complete a reading and a writing task (the pretest) in order to assess the student-participants' comprehension and production of graphical information. The researcher, then, explicitly taught the target formulaic sequences following consciousness-raising, a teaching strategy that is adapted to explicitly address less salient language forms in that a language form is practiced and produced after being explicitly taught (Ellis, 2002). During the training period, which lasted for 10 hours over a two-week period, the student-participants practiced the target formulaic sequences using the 11 worksheets. At the end of the training period, each student-participant was asked to complete a different reading and writing task (the posttest) to identify any improvement in their reading comprehension and writing production. The delayed posttest, in turn, was administered in order to evaluate the student-participants' performance 15 days after the training period.

The collected data were evaluated by different raters. The collected writing samples were blindly evaluated by the three rater-participants (i.e., they did not know which texts were produced before or after the training period) using the rubric designed for this study. The reading tasks, in turn, were evaluated by the researcher and another EAP instructor, hereafter referred to as a co-rater, who did not teach at the same college, in order to eliminate any possible identification of the student-participants based on handwriting and avoid biased evaluation on the part of the researcher. The researcher, then, conducted a semi-structured interview with each rater-participant to obtain feedback on the student-participants' writing and to explore the rater-participants' perspectives on the instructional approach used in this study.

Quantitative data analysis. The collected writing tasks along with the raters' evaluations of the reading and writing tasks were analysed quantitatively. To start with, the writing tasks collected from the student-participants were manually coded following quantitative content analysis, a coding method that is guided by a list of predefined categories to count the frequency and occurrence of words or phrases (Dörnyei, 2007). By applying this coding method, the researcher counted all the target formulaic sequences that the student-participants used in the textual data including the repeated ones (i.e., frequency) and identified the different types of formulaic sequences (i.e., occurrence). Moreover, the mistakes made by each student-participant were also counted. It is worth noting that the term *mistakes* is used to collectively refer to errors—"deviation in learner language which results from lack of knowledge of the correct rule" (Ellis, 1994, p. 701)—and mistakes—"failure to utilize a known system correctly" (Brown, 2000, p. 217)—because investigating the nature of linguistic inaccuracy was beyond the scope of this research study. Furthermore, the raw scores for the frequency and occurrence of the target formulaic sequences, the number of mistakes, and the evaluation of the reading and writing tasks were statistically tested on the Statistical Package for Social Sciences (SPSS) version 22 by computing Cronbach's alpha, descriptive statistics, paired-samples *t*-tests, and correlation coefficients.

Qualitative data analysis. The interviews were analysed based on constructivist grounded theory following line-by-line coding (Charmaz, 2006). The coding process consisted of two phases: after an initial coding phase that helped generate codes for data, the focused coding phase was intended to select the most useful codes; similar codes were grouped into theoretical categories under unifying themes (Charmaz, 2006).

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Findings

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Internal consistency coefficient

Cronbach's alpha was computed on the evaluation of the reading and writing tasks. The results displayed a strong level of internal consistency among the scores for the EAP rater-participants' evaluation of the writing tasks ($a = .85$, $n = 3$) and those for the raters' evaluation of the reading tasks ($a = .97$, $n = 2$).

Descriptive statistics

The mean scores of the frequency and occurrence of formulaic sequences, the evaluation of the reading and writing tasks, and the mistakes made at each production stage were calculated. The results, as shown in Figure 1 and Table 1 below, indicated that the student-participants used more formulaic sequences in, received better evaluation for, and made fewer mistakes in the posttest and the delayed posttest when compared to the pretest.

Table 1

Mean Scores at Three Different Points in Time

	PRETEST	POSTTEST	DELAYED POSTTEST
Frequency	7.41	22.33	17.60
Occurrence	4.58	9.77	7.80
1st Rater	27.91	35.22	35.90
2nd Rater	29.83	36.38	35.35
3rd Rater	23	35.88	30.60
Reading (R)	12.91	18.75	18.25
Reading (CR)	13.75	19.06	19
Mistakes	15.16	10.55	9.10

Figure 1. Mean scores
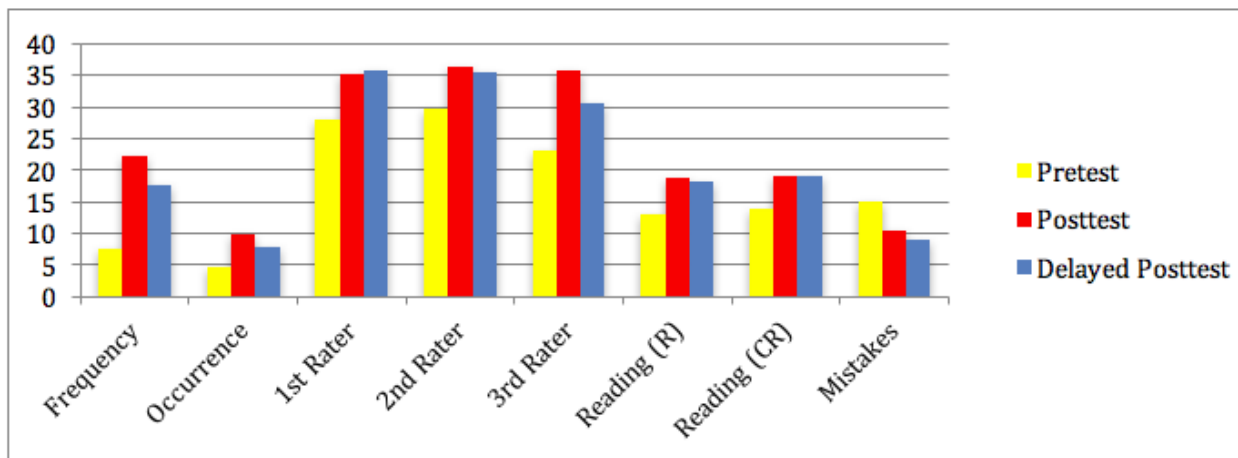
Paired-samples *t*-tests. In order to reveal whether the differences in the mean scores represented in Figure 1 above were statistically significant and, hence, answer the first two research questions guiding this study, eight paired-samples *t*-tests were computed[1].

To answer the first research question, two paired-samples *t*-tests were computed on the raw scores for the frequency and occurrence of the target formulaic sequences. The results of the paired-samples *t*-test computed on the scores for the frequency of the target formulaic sequences indicated that the increase in the number of formulaic sequences used in the posttest (M = 22.33, SD = 7.38) was statistically significant when compared with the pretest (M = 7.41, SD = 3.67); $t(8)$ = -4.81, p = .001 and the magnitude of the difference was very large (η^2 = .74). Another statistically significant increase was detected in the delayed posttest (M = 17.60, SD = 5.91) when compared to the pretest (M = 7.41, SD = 3.67); $t(9)$ = -3.90, p = .004, and the magnitude of the difference was very large

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1   Note that no correction for multiple correlations was performed because the tests were few, preplanned, and motivated by the design of the experiment.

(η^2 = .62). Furthermore, the absence of any statistically significant difference in the scores for the frequency of the target formulaic sequences in the posttest and the delayed posttest (p> .05) indicated that the student-participants utilized approximately the same number of formulaic sequences in their production after the training period.

Another paired-samples t-test run on the raw scores for the occurrence of the target formulaic sequences showed that the increase in the number of formulaic sequences used by the student-participants after the training period was due to utilizing different types of formulaic sequences rather than repeating the same ones in their writing production. This can be inferred from the statistically significant increase in the scores for the occurrence of the target formulaic sequences in the posttest (M = 9.77, SD = 3.23); $t(8)$ = -3.57, p = .007, (η^2 = .61) and the delayed posttest (M = 7.80, SD = 1.81); $t(9)$ = -3.30, p = .009, (η^2 = .44) when compared with the pretest (M = 4.58, SD = 2.10). Moreover, the student-participants' use of different types of formulaic sequences after the training period was relatively stable (p > .05).

To answer the second research question, paired-samples t-tests were computed on the scores for the number of mistakes and the evaluation of the reading and writing tasks. The results of the paired-samples t-test computed on the scores for the mistakes made indicated that the student-participants made fewer mistakes after the training period, which is evident in the statistically significant decrease in the scores for the mistakes made from (M = 15.16, SD = 6.79) for the pretest to (M = 10.55, SD = 4.66); $t(8)$ = 3.31, p = .01, (η^2 = .57) for the posttest and again to (M = 9.10, SD = 4.30); $t(9)$ = 2.83, p = .02, (η^2 = .47) for the delayed posttest. More importantly, the absence of any statistically significant difference in the scores for the posttest and the delayed posttest (p > .05) indicated that the participants' performance after the training period remained relatively stable.

The paired-samples t-tests computed on the scores for the researcher's and the co-rater's evaluations of the reading tasks collected from the student-participants at three different points in time indicated that the increase in the mean scores for both the researcher's and the co-rater's evaluation was statistically significant. In other words, the researcher assigned higher grades for the posttest (M = 18.75, SD = 2.31); $t(7)$ = -2.56, p = .03, (η^2 = .48) and the delayed posttest (M = 18.25, SD = 3.73); $t(9)$ = -2.86, p = .019, (η^2 = .47) when compared to the pretest (M = 12.91, SD = 6.29). Similarly, the co-rater assigned better evaluation for the posttest (M = 19.06, SD = 1.86); $t(7)$ = -2.60, p = .35, (η^2 = .46) and the delayed posttest (M = 19, SD = 2.41); $t(9)$ = -2.97, p = .01, (η^2 = .49) when compared to the pretest (M = 13.75, SD = 6.16). Moreover, the absence of any statistically significant difference in the scores for both the researcher's and the co-rater's evaluation of the posttest and the delayed posttest (p > .05) indicated that the student-participants received very similar evaluations for the two reading tasks they completed after the training period.

As for the evaluation which the student-participants received for the writing tasks they completed at three different points in time, the increase in the scores for the first and third rater-participants' evaluation of the posttest and delayed posttest was statistically

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significant. That is, there was a statistically significant increase in the scores for the first rater-participant's evaluation from ($M = 27.91$, $SD = 5.35$) for the pretest to ($M = 35.22$, $SD = 5.11$); $t(8) = -2.62$, $p = .031$, ($\eta^2 = .46$) for the posttest and to ($M = 35.90$, $SD = 6.47$); $t(9) = -5.66$, $p = .000$, ($\eta^2 = .78$) for the delayed posttest. Likewise, the difference in the scores for the evaluation assigned by the third rater-participant for the posttest ($M = 35.88$, $SD = 4.01$); $t(8) = -4.64$, $p = .002$, ($\eta^2 = .72$) and the delayed posttest ($M = 30.60$, $SD = 8.88$); $t(9) = -3.34$, $p = .009$, ($\eta^2 = .55$) was statistically significant when compared to the pretest ($M = 23$, $SD = 5.75$).

Different results were obtained when computing a paired-samples t-test on the scores for the evaluation of the second rater-participant. While the difference in the scores for the second rater-participant's evaluation of the posttest was not statistically significant when compared to the pretest ($p > .05$), there was a statistically significant increase in the scores for her evaluation of the delayed posttest ($M = 35.35$, $SD = 4.80$); $t(9) = -3.58$, $p = .007$, ($\eta^2 = .58$) when compared with the pretest ($M = 29.83$, $SD = 5.10$). Moreover, the absence of any statistically significant difference in the scores for the three rater-participants' evaluation of the posttest and the delayed posttest ($p > .05$) demonstrated that the student-participants received very similar grades for the two writing tasks they completed after the training period.

Correlation coefficients. Four correlation coefficients were computed to identify any possible association between the above-mentioned variables and, thus, answer the third research question guiding this study.

Pearson product-moment correlation coefficients. Three Pearson product-moment correlation coefficients were computed on the frequency and occurrence of the target formulaic sequences and the evaluation of the three rater-participants. The first, compared the raw scores for the frequency of the target formulaic sequences with the first rater-participant's evaluation. It revealed a strong positive correlation that was statistically significant ($r = .56$, $p < .05$, $n = 31$), suggesting that 31% of the increase in the first rater-participant's evaluation was associated with an increase in the frequency of the target formulaic sequences. There was another significant positive correlation between the occurrence of the target formulaic sequences and the first rater-participant's evaluation ($r = .46$, $p < .05$, $n = 31$), indicating that 21% of the increase in her evaluation correlated with the increase in the occurrence of the target formulaic sequences.

Very similar results were obtained for the second and the third rater-participants' evaluation of the writing tasks. In other words, there was a statistically significant positive correlation between the frequency of the target formulaic sequences and the evaluation of the second rater-participant ($r = .68$, $p < .05$, $n = 31$), with 46% of association between the variables, and the occurrence of the target formulaic sequences and her evaluation ($r = .59$, $p < .05$, $n = 31$), with a 34% association. Likewise, there was a statistically significant strong positive correlation between the frequency and occurrence of the target formulaic sequences and the evaluation of the third rater-participant ($r = .70$, $p < .05$, $n = 31$) and

(r = .62, p < .05, n = 31) respectively, indicating that 49% of the increase in the evaluation was associated with the increase in the frequency of the target formulaic sequences and 38% of the increase in the evaluation correlated with the increase in the occurrence of the target formulaic sequences.

Spearman's rho. Because of normality violations, Spearman's rho was carried out to reveal any possible association between the frequency and occurrence of the target formulaic sequences and the number of mistakes made at each production stage. The results revealed a statistically significant negative correlation between the frequency of the target formulaic sequences and the number of mistakes made in writing (r_s = -.56, p < .05, n = 31), suggesting that 31% of the decrease in mistakes was associated with the increase in the frequency of the target formulaic sequences. Another statistically significant negative correlation was identified between the occurrence of the target formulaic sequences and the number of mistakes (r_s = -.40, p < .05, n = 31), indicating that 16% of the decrease in the mistakes correlated with the increase in the occurrence of the target formulaic sequences.

In a nutshell, the quantitative results indicated that focused instruction of formulaic sequences helped the student-participants (a) successfully acquire a considerable number of the target formulaic sequences, (b) augment their writing production with different types of formulaic sequences, (c) reduce the number of mistakes they made, and (d) receive better evaluation for the reading and writing tasks they completed after the training period. Moreover, using more formulaic sequences in the student-participants' writing production was associated with higher grades and fewer mistakes.

Qualitative results

The qualitative analysis of the interviews revealed some commonalities and contradictions in the rater-participants' responses to the questions about the level and areas of improvement in the student-participants' writing production and their perspectives on the effectiveness of an explicit instructional approach to formulaic sequences. These responses were clustered under two unifying themes: improved writing proficiency and different perspectives on focused instruction of formulaic sequences. This answered the fourth and fifth research questions, respectively.

Improved writing proficiency. Despite the fact that the three rater-participants explained that some of the texts produced by the student-participants were of better quality than others, they disagreed on the level and areas of improvement. That is, while the first and the third rater-participants thought that there was an obvious improvement in some written texts, the second rater-participant noted that there was limited improvement in the students' writing. For example, after revealing the order in which the writing samples were collected to Mike, the third rater-participant, during the interview, he referred to an obvious improvement in the student's writing: "So the first sample [the posttest] I gave a really high score, the second sample [the delayed posttest] was good, and the third sample [the pretest] was really poor and weak…so the student really improved!" Similarly, Tina,

the first rater-participant, explained that most of the students showed an improvement in their writing samples: "Absolutely! I would say in 90% of the papers that I went through I saw a huge improvement." On the other hand, DG, the second rater-participant, explained that the student-participants' writing skills slightly improved.

As for the areas of improvement, the three rater-participants disagreed on the aspects that improved the most in the students-participants' writing. Tina said that, in some writing samples, the student-participants exhibited better performance in regards to content and lexical choice, but a limited syntactic improvement: "In terms of content, in terms of context-required words... in terms of language usage, they had huge improvement... to me, it was so impressive, but... in terms of grammar, I would not say it was a huge improvement." Mike, in turn, suggested that some writing samples showed obvious improvement in structure, lexical choice and content: "There were some I would definitely say crossed not only the content but also the language used to express that content... In a way, the language was good, the structure was good, and they actually answered the question." DG, however, explained that there was some improvement in grammar: "I did see some improvement in grammar."

Different perspectives on focused instruction of formulaic sequences. The interviews revealed the three rater-participants' different perspectives on an explicit instructional approach to formulaic sequences in EAP programs. Tina thought that such a teaching approach is highly effective for teaching reading, writing and speaking, but not listening:

The phrase is so useful and I would love to use it for my students.... I would say it is transferable from writing to reading comprehension and speaking as well.... Compared to speaking or I would say writing, it could have less effect [on listening].

DG, on the other hand, noted that such an instructional approach may have some advantages, but she emphasized the importance of time and stress-free contexts to learn the target language. As she put it, "You know, teaching itself has its benefits, but they also need time to work with it, and they need time to make errors and feel comfortable without having the fear of having the red mark all over the place."

To Mike, the effectiveness of teaching formulaic sequences is register-bound; that is, it might be effective in some writing tasks but not others. He also added that only by applying it to other writing tasks and analysing its effects could one reach a conclusion: "Reports, maybe, yes, because reports are pretty similar, so it makes sense to teach that register-related phrases, but I don't know about the other writing tasks..., but, like I said, it needs to be tried on different writing tasks."

Teachers of English as a Second Language Association of Ontario

Discussion

Successful acquisition of formulaic sequences

The results suggested that an explicit instructional approach to formulaic sequences enhanced their acquisition and promoted the student-participants' tendency to use different formulaic sequences in their writing production. Such effectiveness can be inferred from the statistically significant increase in the frequency and occurrence of the target formulaic sequences in the posttest and the delayed posttest when compared to the pretest. Such an increase was also obvious to the first and third rater-participants. Mike, for example, explained that similar phrases were used by almost all the participants: "Mostly, what I saw they used ah… the vocabulary was very similar." These results adduce further evidence in support of the effectiveness of an explicit instructional approach to formulaic sequences in augmenting their acquisition and promoting L2 users' tendency to utilize them in language production (Boers & Lindstromberg, 2009). They are also in line with Engeström's (1987) suggestion that using interventional instruments (e.g. worksheets) represents an "aspect of guided or even imposed acquisition" regardless of the type of tasks in which the subject is involved (p. 154).

The manual coding also revealed the student-participants' ability to successfully use the formulaic sequences that are typical of the writing task (e.g. *increased dramatically*) rather than randomly using memorized formulaic sequences from the worksheets. In other words, the worksheets included formulaic sequences relating to reporting graphical information and other writing tasks (e.g. compare/contrast essays); however, the student-participants only used those that were typical of reporting graphical information. Such a tendency is particularly important because, as Handl (2008) suggests, the inaccurate use of formulaic sequences has negative effects on students' writing akin to those of avoiding them.

Formulaic sequences and better achievement

The results of the study showed that the student-participants received higher grades for the reading and writing tasks produced after the training period. These results were evident in the statistically significant increase in the scores for almost all the raters' evaluation of the reading and writing tasks. More importantly, the increase in the scores for the rater-participants' evaluation of the writing tasks was associated with the increase in the frequency and occurrence of the target formulaic sequences. Not only do such results confirm Wray's (2002) suggestion that a rich repertoire of formulaic sequences may improve L2 users' reading and writing proficiency, but they also support Engeström's (1987) view that "reading and writing are such abstract or indirect instruments that they cannot be learned by simply participating in work activity" (p. 109).

Formulaic sequences and increased linguistic accuracy

The results indicated that the student-participants exhibited increased linguistic accuracy, both grammatical and lexical, in the writing tasks produced after the training period. This was evident in the statistically significant decrease in the scores for the number of mistakes made in the posttest and delayed posttest. Moreover, the decrease in the mistakes negatively correlated with the increase in

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the frequency and occurrence of the target formulaic sequences. The increased linguistic accuracy was reflected on by the rater-participants who, as mentioned above, explained that there was a significant improvement in the choice of lexis and a limited improvement in grammar, a finding that echoes Willis' (2003) suggestion that teaching formulaic sequences to EAP students can reduce their lexical and grammatical errors and Engeström's (1999) explication that mediating tools can help the subject model the object.

Implications, Limitations, and Future Directions

This research study suggests some pedagogical implications for EAP instructors and curriculum designers. It might be suggested that EAP instructors should develop some thematic worksheets that explicitly tackle the use and function of formulaic sequences to promote the acquisition of this language phenomenon and raise EAP students' awareness of the use of different formulaic sequences that relate to different themes. As for curriculum designers, including this language phenomenon in textbooks might not only help achieve the objective outlined above, but it may also provide other instructors who are still unaware or resistant to this teaching approach with the opportunity to test its effectiveness in improving the performance of their students.

It is worth noting that this research study has some limitations. First, being a pilot study, the results of this research study are not generalizable because of the small sample size. Second, without a control group, it is difficult to determine whether the improvement identified in the participants' performance after the training period could be solely attributed to the training period or other factors, such as receiving instruction in other courses. The fact that the researcher is also the instructor in this study is the third limitation; that is, it is not clear if other instructors, who have different teaching styles and philosophy, used the same materials in their classroom, the same results would be obtained.

The study also provides some suggestions for future research. This study should be replicated on a larger sample size in order to obtain generalizable results. An investigation of the effectiveness of focused instruction of formulaic sequences in other writing tasks (e.g. essay writing) is as well needed. Last but not least, the apparent contradiction in the rater-participants' views on such a teaching approach entails that a research study should be devoted to this aspect only.

Conclusion

By using AT to guide the pedagogical intervention implemented in this study and to interpret the findings, this mixed methods research study has yielded some insights into the effectiveness of focused instruction of formulaic sequences in augmenting their acquisition and improving 12 EAP students' academic reading and writing skills. It has as well explored the areas of improvements from the perspective of three EAP instructors and their contradictory views of such an instructional approach. Although the results of this pilot research study cannot be generalized because of the small sample size, they have provided some pedagogical implications for both practitioners and curriculum developers.

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Whether other practitioners will adapt this teaching approach remains an open question for future research to answer.

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Appendix A: Sample Prompts for Data Collection

Reading Prompt 1

Read the following text and draw a line graph representing the data presented in the text. Use the chart below.

Britain and Canada are primary English-speaking destinations for many international students. These two countries have increasingly attracted international students from several countries since the early 21st century. The number of international students registered in British universities, for example, gradually increased from 30,000 to 75,000 between 2000 and 2006. After this gradual increase, it dramatically increased to 120,000 over a two-year period, tailing off after 2010. In addition to Britain, international student enrollment in Canadian universities has also increased since 2004. After remaining stable between 2000 and 2004 at about 45,000, there was a sharp increase (from 45,000 to 134,000) in enrollment rates in Canadian universities between 2005 and 2010. In sum, enrollment rates of international students in both Australian and American universities continued to increase, especially in the last five years.
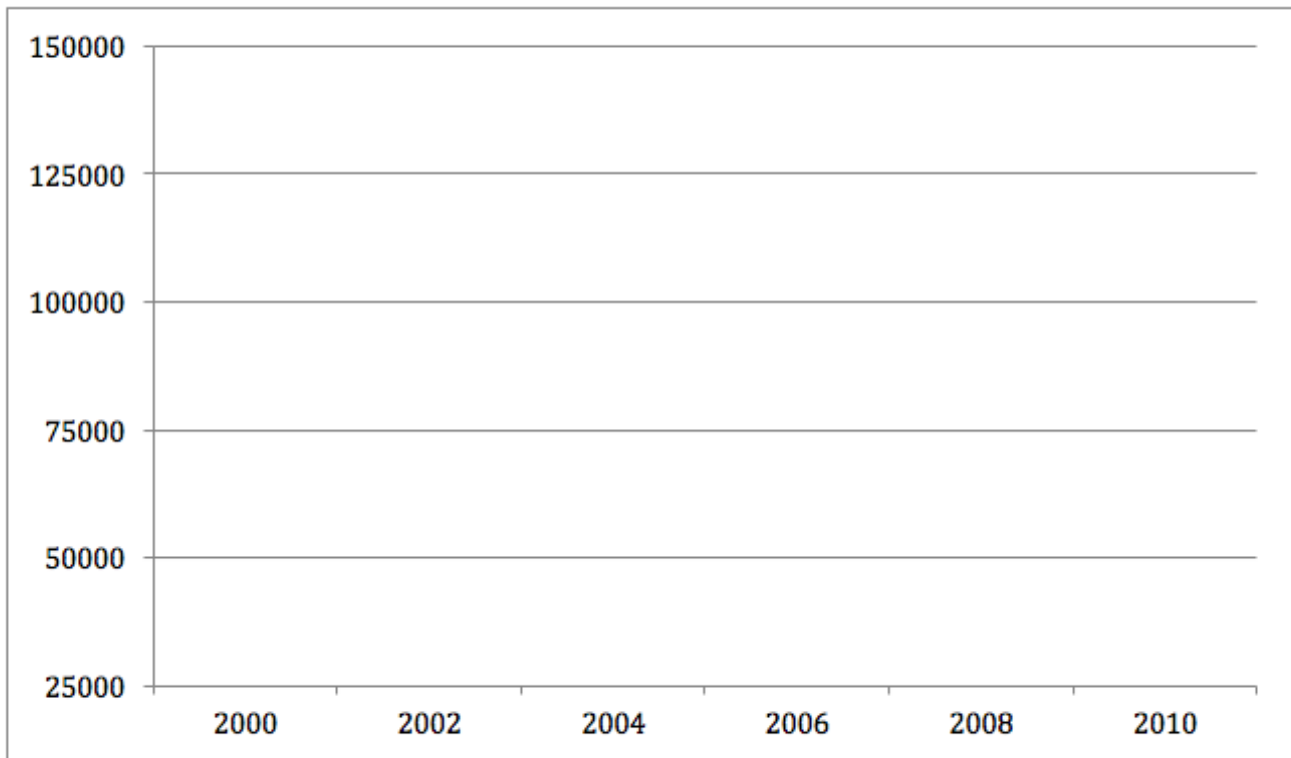
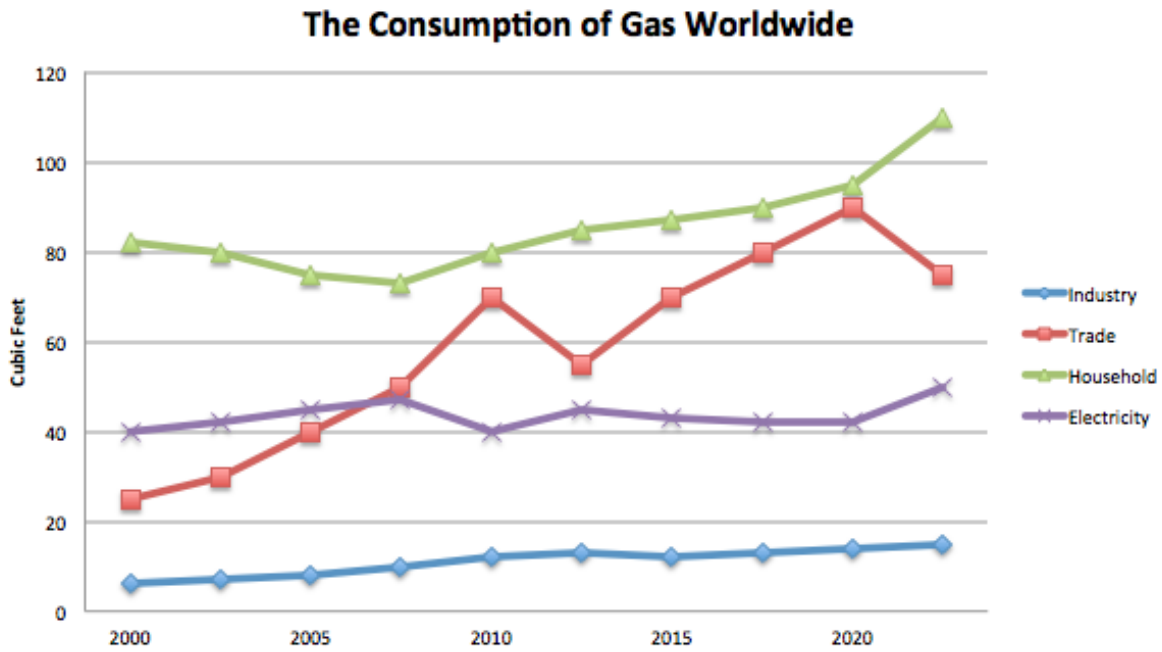Adapted from:

Institute of International Education

http://www.iie.org/Blog/2012/October/US-Australia

Writing Prompt 1

Write a paragraph in which you summarize the trends presented in the following chart.

The Consumption of Gas Worldwide

Appendix B: List of Formulaic Sequences

Table B1

List of Formulaic Sequence

SENTENCE BUILDERS	DISCOURSE MARKERS	COLLOCATIONS
The (A) of (B)	In other words	Significant increase
Over a period of	In addition to	Dramatic increase
Between (A) and (B)	In conclusion	Rapid increase
From (A) to (B)	In sum	Sharp increase
Play(s) an important role	In summary	Slight increase
(Due to) the fact that	In a nutshell	Increase dramatically Increase
As a result of	To sum up	significantly
The reason for	To conclude	Significant decrease Dramatic
It is clear	For example	decrease
As/It can be seen/noted	For instance	Sharp decrease
(A) and (B)	Such as	Slight decrease
(A) as well as (B)	At the same time	Decrease significantly Decrease
Both (A) and (B)	According to the	slightly
Both of these	As shown in	Decrease dramatically
There is a/an/not	On the one hand	Steady decline
There are a number (of)	On the other hand	Sharp decline
It has been (adverb) noted/believed/		Significant decline
asserted		Rapid decline
It is important to		Gradual decline
It is necessary		Dramatic decline
It is possible to		Remain stable
The (A) shows/demonstrates/presents		Remain the same
Not only… but also		Rise and fall
		The fluctuation in the price
		Prices fluctuate

Note. These formulaic sequences are extracted from lists proposed by Biber, Conrad and Cortes (2004), Hyland (2008), Lewis (1997), and Simpson-Vlach and Ellis (2010) as well as the academic sub-corpus of the COCA

Appendix C: Sample Worksheets

Worksheet 1: Practice

I. Rewrite the following sentences using the transition phrases in brackets.

1. John's wedding is next week. He is very excited. (***In other words***)

....

2. The change in the temperature brings about several artificial changes to the habitats of wild animals. People are not safe because of the depletion of the ozone layer. (***In addition to A***)

....

3. There are different forms of plagiarism. Copying other writers words with proper citation and submitting classmates' work as one's own are both forms of plagiarism. (***For instance***)

....

4. I like action movies. I like *Face off* and *Mission Impossible*. (***Such as***)

....

5. It can be seen that eating too much sugar and salt can have serious negative effects on people's health. (***In sum***)

....

6. The graph shows the rise and fall in the prices of different products. (***Add a period of time using from... to..../ 1900–2000***)

....

7. The number of international students increased significantly between 2005 and 2007. (***According to the graph***)

....

Worksheet 2: Cloze Activity

Complete the following text using the words in the box. Add punctuation marks if necessary.

> it has been generally believed that for example in conclusion in addition to in other words public events and achievements both the accuracy and the credibility

………………………………people read newspapers in order to know the world current affairs, and they read magazines for entertainment purposes. Although people expect to find articles on the private lives of celebrities in magazines, such stories which are neither informative nor useful increasingly appear in newspapers. ………………… stories that feature the people's private lives should not be in newspapers. If newspapers want to publish stories about celebrities, they should focus on the achievements of those famous people. ………………… if there is an article about a princess, it should be about her charity work because such a story is likely to increase public awareness of important problems. ……………… focusing on ………………, journalists should write about facts only, not rumors. If newspapers publish rumors, readers may question ……………………………… of all types of information reported in them. ………………, newspapers should concentrate on real news and important events rather than personal lives of celebrities.

Adapted from

http://www.ielts-exam.net/ielts_writing_samples_task_2/698/

Worksheet 3: Dictogloss

Complete the following paragraph with the exact phrases provided in the dictation. Add punctuation marks if necessary.

_____ the increase in the population of three different countries _____. _____ the population of country A _____between 1970 and 1980 from 15000000 to 35000000. _____ the population of country B _____ to just under 36000000. The population of _____remained relatively stable between 1980 and 2000. _____, country C's population _____between from 1970 to 1980. There was, then, _____ in the population of country C by nearly 50% between 1980 and 2000, with the greatest real increase in 1998, when the population reached 125000000. _____, while _____ increased between 1970 and 2000, the most significant increase in the population was that of country C.

Complete Text for Dictation

The line graph shows the increase in the population of three different countries over a thirty-year period. According to the graph, the population of country A dramatically increased between 1970 and 1980 from 15000000 to 35000000. In addition to country A, the population of country B increased significantly to just under 36000000. The population of both country A and country B remained relatively stable between 1980 and 2000. On the other hand, country C's population remained the same from 1970 to 1980. There was, then, a rapid increase in the population of country C by nearly 50% between 1980 and 2000, with the greatest real increase in 1998, when the population reached 125000000. In conclusion, while the population of the three countries increased between 1970 and 2000, the most significant increase in the population was that of country C.

Adapted from http://www.ielts-exam.net/academic_writing_samples_task_1/809/

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