Increasing the effectiveness of teaching L2 formulaic sequences through motivational strategies and mental imagery: A classroom experiment

Duyen Le-Thi[1], Zoltan Dörnyei[2], and Ana Pellicer-Sánchez

[1]FPT University, Vietnam; [2]University of Nottingham, UK; [3]UCL Institute of Education

Abstract

The present study employed a mixed methods quasi-experimental design to investigate the effectiveness of applying motivational strategies and mental imagery (i.e. visionary techniques) to facilitate L2 vocabulary learning. Four treatment sessions were integrated into a six-week language course offered to 150 intermediate students in nine EFL classes, which were divided into three groups: motivational group, visionary group and control group. The target language items involved 56 formulaic sequences occurring in both the students' textbook and the Martinez and Schmitt's (2012) 'Phrase List', and the outcome was assessed by a multiple-choice vocabulary test designed by Le-Thi, Rodgers & Pellicer-Sánchez (2017). The quantitative results were accompanied by qualitative data, aimed at gaining a deeper understanding of the test results. The findings revealed that both motivational strategies and visionary techniques proved effective in increasing the students' receptive knowledge of the form and meaning of the target sequences, and that the visionary condition was superior to the use of motivational strategies. The benefits of

the deeper engagement level associated with mental imagery were corroborated by a delayed posttest. The paper concludes with a theoretical discussion of the benefits of visualisation in vocabulary acquisition.

Key words: motivation, mental imagery, formulaic sequences, mixed methods research, vocabulary

I Introduction

Little justification is needed for the fact that the learning of vocabulary plays an essential part in second language acquisition (SLA) (Webb & Nation, 2017), and over the past decade there has been an increased emphasis within vocabulary studies on examining the acquisition of formulaic sequences (e.g. expressions or conventionalised phrases) in contrast to the study of individual words (Laufer, 2017; Nation, 2013; Schmitt, 2010). The current investigation is consistent with this development as it investigates different ways of enhancing the mastery of formulaic language within a classroom context. In order to foster the effectiveness of vocabulary learning, second language (L2) researchers have experimented with methods to increase the learners' cognitive engagement with the target vocabulary. An influential theory regarding this approach has been Laufer and Hulstijn's (2001) Involvement Load Hypothesis, and there has been a wide variety of research methods utilised to explore it (see below).

However, there has been a paucity of research utilising *motivational techniques* to enhance learners' engagement with vocabulary learning, even though the use of motivational strategies to promote various aspects of SLA has been a prominent area of applied linguistic investigation over the past two decades (e.g., Dörnyei & Ushioda, 2011; Lamb, 2017). This paucity is partly due to the fact that the main strands in vocabulary acquisition research have

been cognitive in nature, and partly because of motivational psychologists' traditional interest in examining the positive incentives and conditions that create a general motivated mindset rather than zooming in on the specific issue of how motivation unfolds in concrete learning behavioural processes such as the mastery of L2 lexis. As a result, while L2 motivation research has accumulated a great deal of knowledge on how goals, visions and various types of positive incentives can impact on learners' general disposition towards learning an L2, there are only a handful of studies available on how motivational factors affect the various cognitive subprocesses involved in mastering an L2 at the micro-level. This issue has been highlighted by Ema Ushioda (2016) in a recent position paper about the state of the art of L2 motivation research:

> this tendency to adopt a fairly broad perspective on L2 learning has meant that our research has had relatively little to say about how motivation interacts with the specific cognitive, metacognitive and psycholinguistic processes of language learning, or with the acquisition of particular features of the target language. (p. 574)

The current paper is intended to fill this void by presenting the results of a quasi-experimental study of vocabulary acquisition that involved three conditions: (a) explicit vocabulary instruction without any principled motivational techniques being added, which served as the control group; and two motivational treatment conditions, in which vocabulary instruction was accompanied by the use of (b) motivational strategies and (c) mental imagery (visionary techniques). Specific visionary techniques are considered a form of motivational influences and are designed based on the construct of vision (Dörnyei & Kubanyiova, 2014) which involves "the potential significance of mental imagery – and especially future self-images – in energising goal-specific behaviour" (Dörnyei, 2014b: 7).

II Background

1 Cognitive methods to increase the effectiveness of L2 vocabulary acquisition

To enhance the effectiveness of vocabulary acquisition, scholars in the past have investigated a variety of *cognitive vocabulary learning strategies* (e.g., Schmitt, 1997), focusing on various aspects of the learners' attention, perception, memory and thinking processes. Within this cognitive strand, one explanation why a particular lexical item is learned better than another is that more attention and engagement is devoted to it (Laufer, 2017; Schmitt, 2008). This argument is consistent with the 'depth of processing hypothesis' by Craik and Lockhart (1972), which holds that the primary determinant of successfully storing information in long-term memory is the degree of shallowness versus depth that characterises the initial processing of the particular information. This idea of depth of processing was operationalised in vocabulary research through Laufer and Hulstijn's (2001) Involvement Load Hypothesis, a construct of learner involvement consisting of three components: (a) *need*, indicating the wish to use a lexical item for task completion; (b) *search*, referring to the attempt to find out the meaning of an item as part of a comprehension or communication task; and (c) *evaluation*, involving the comparison of a target item with other items to ensure its context appropriateness. The hypothesis assumes that a vocabulary learning task with a higher involvement load is more effective than one with a lower load.

Past research evidence has confirmed the main principles of the Involvement Load Hypothesis (e.g., Keating, 2008; Kim, 2008) and the significance of the degree of involvement as a main predictor of learning gains (e.g., Huang, Willson & Eslami, 2012). However, the Involvement Load Hypothesis was developed for *incidental* vocabulary learning contexts, and therefore it does not take into account the impact of *explicit* vocabulary learning/teaching

strategies (Laufer, 2017). In order to offer a broader framework for the enhancement of vocabulary learning, Schmitt (2008) proposed the notion of *engagement*, referring to the degree of involvement with lexical items through exposure, attention, manipulation and time allocation; as such, engagement includes involvement in both incidental and explicit vocabulary learning conditions. Substantial research suggests that various forms of engaging with lexical items do indeed promote the learning of these items, for example through: increased exposure to the item (e.g., Pellicer-Sánchez, 2016); typographic enhancement (e.g., Boers et al., 2017; Szudarski & Carter, 2016); structural elaboration (e.g., Barcroft, 2002); tasks requiring learners to work with the new item (e.g. Pellicer-Sánchez, 2015; Laufer & Rozovski-Roitblat, 2015); using mental imagery as part of the mnemonic keyword method (e.g. Sagarra & Alba, 2006); and employing pictures to elucidate lexical items (e.g. Chen, 1990).

While most vocabulary learning studies traditionally focused on the acquisition of single words, recent studies have examined the effectiveness of different forms of engagement for the acquisition of formulaic sequences (see Pellicer-Sánchez & Boers, 2019; Boers & Lindstromberg, 2012; Wood, 2015 for reviews). Formulaic sequences are defined by Wray (2002) as "a sequence, continuous or discontinuous, of words or other meaning elements, which is, or appears to be, prefabricated: that is, stored and retrieved whole from memory at the time of use, rather than being subject to generation or analysis by the language grammar" (p.9). Research has shown that engagement through increased exposure to formulaic sequences in different input modalities facilitates their acquisition, for example through reading (e.g., Pellicer-Sánchez, 2017), reading-while-listening (e.g., Webb, Newton, & Chang, 2013), and viewing (e.g., Puimège & Peters, 2019). However, repeated exposure to sequences in the input does not guarantee learning, as learners might not pay attention to the lexical items when processing the input for meaning (Pellicer-Sánchez & Boers, 2019). Typographical enhancement has been one

of the methods examined to increase attention to formulaic sequences. The few available studies suggest that different types of typographical enhancement promote the learning of formulaic sequences, including underlining (e.g., Boers, Demecheleer, He, Deconinck, Stengers, & Eyckmans, 2017; Szudarski & Carter, 2016), and bolding (e.g., Choi, 2017; Peters, 2012). Explicitly instructing learners to engage with the formulaic sequences in a text has also been shown to be effective in promoting their acquisition (e.g., Stengers, Boers, Housen, & Eyckmans, 2010). Plenty of evidence suggests that engagement with formulaic sequences through decontextualized, explicit, form-focused activities promotes their learning (e.g., Alali & Schmitt, 2012; Colovic-Markovic, 2019; Peters & Pauwels, 2015; Webb & Kagimoto, 2009), with some studies suggesting that engagement through explicit activities is more beneficial than engagement through repeated encounters in a text (e.g., Laufer & Girsai, 2008; Szudarski, 2012). Finally, studies have shown that directing learners' attention to the sound patterns of sequences, such as alliteration (e.g. Boers, Lindstromberg, & Eyckmans, 2014) and assonance (e.g., Lindstromberg & Boers, 2008), makes them more memorable and promotes their learning.

2 Motivational strategies and vocabulary learning

Learners' engagement with lexical items can also be enhanced through motivational techniques. It is a well-known fact in educational psychology that motivation can "facilitate or constrain cognition and learning" (Pintrich, 2003, p. 103). Accordingly, the study of L2 motivation has had a long history in the field of SLA (cf. Boo, Dörnyei & Ryan, 2015; Csizér, 2017), and since the 1990s there has been a special emphasis placed on exploring methods to improve the motivational disposition of language learners (cf. Lamb, 2017). The most comprehensive framework of motivational strategies has been developed by Dörnyei (2001), focusing on two broad types of strategies (for summaries, see Dörnyei, 2014a):

(a) techniques related to promoting the *individual learning experience* (e.g. arousing the learners' curiosity and attention, making the teaching materials relevant to them as well as increasing the learners' satisfaction and confidence),

(b) strategies concerning the quality of the *corporate experience of the learner group*, drawing on the various group-building approaches developed within the field of group dynamics.

The validity of the motivational strategies proposed by Dörnyei (2001) has been analysed through two main approaches: (a) by comparing teachers' reports of their perceived and actual use of strategies through a questionnaire survey (e.g., Cheng & Dörnyei, 2007; Dörnyei & Csizér, 1998); (b) and by measuring their concrete impact through student survey data (e.g., Papi & Abdollahzadeh, 2012), classroom observation (e.g., Guilloteaux & Dörnyei, 2008) and quasi-experimental designs (e.g., Alrabai, 2014). The findings have indicated that although motivational strategies display culture-specific variation, some of the basic motivational principles tend to be universal and have a significant effect on learning.

In 2005 Dörnyei proposed a new approach to conceptualising L2 motivation, conceived within an L2 motivational self system (Dörnyei, 2009), whose key elements – the Ideal L2 self and the Ought-to L2 self – focused on the learners' self-generated *images* of themselves in the future (Dörnyei, 2014b). Such imagined self-representations – or future self-guides – fall under the rubric of *mental imagery*, and they were subsequently also discussed within a broader framework of "vision" (Dörnyei & Chan, 2013). This new conceptualisation offered considerable practical implications, because mental imagery is an important internal resource that can be intentionally harnessed (Taylor, Pham, Rivkin & Armor, 1998). However, it was also found that, in order for vision to exert its full motivational impact, a number of conditions need

to be satisfied. Crucially, the learner's self-image needs to be sufficiently elaborated and vivid, and it needs to be accompanied by relevant procedural strategies that the generated energy can be channelled into (Dörnyei, 2014b). Identifying such conditions has opened up a novel avenue for designing specific visionary techniques whose objective is to help release the power of vision. Following this approach, Dörnyei and Kubanyiova (2014) proposed a vision-inspired motivational practice for L2 teaching, consisting of six key components: creating the vision, strengthening the vision, substantiating the vision, transforming the vision into action, keeping the vision alive, and counterbalancing the vision.

Over the past decade, several intervention studies have been conducted worldwide to examine how visionary thinking can be fostered in L2 learners across different age groups (e.g., Mackay, 2014; Magid & Chan, 2012; Sampson, 2012). The treatment in these studies involved applying guided imagery and/or guided narratives to bolster the participants' vision so that they would develop clearer and more specific images of their ideal selves, and the findings typically converged on the conclusion that the training increased the participants' motivation. However, the general orientation of these studies in terms of rather broad target outcomes was consistent with the issue already raised about L2 motivation research regarding the absence of studies linking motivational factors and specific learning processes more directly. Therefore, Ushioda's (2016) concerns about the insufficient specificity in L2 motivation studies do apply to investigations involving visionary – and more generally, motivational – strategies, and our study aims at addressing this concern.

Despite the potential of motivational strategies and visionary techniques for language learning, as demonstrated above, there have been only a handful of studies investigating L2 motivation in connection with vocabulary acquisition. Gardner and MacIntyre (1991) investigated the effects of integrative and instrumental motivation on French/English vocabulary

and found that both integrative and instrumental motivation (with and without monetary incentive) had positive effects on learning, but when the incentive was removed, those in the instrumental condition did not spend as much time as they did with the incentive being present. Tremblay, Goldberg and Gardner (1995) examined the impact of trait motivation (i.e. relatively stable motivational dispositions) and state motivation (i.e. the motivational condition at a particular time) on vocabulary learning. Their most prominent result was that although trait motivation was associated with state motivation, it had no direct impact on the learning of the target words. In contrast, state motivation had positive effects on learning.

Drawing on self-regulatory strategies by Dörnyei (2001), Tseng, Dörnyei and Schmitt (2006) developed and validated a construct to measure 'Self-Regulatory Capacity in Vocabulary Learning' involving five components: commitment control, metacognitive control, satiation control, emotion control, and environmental control. The underlying assumption was the belief that "the essential aspect of empowering learners is to set into motion the self-regulatory process rather than to offer instruction of a set of strategies" (p. 95). Following up on this study, Tseng and Schmitt (2008) developed a process model of motivated vocabulary learning, integrating a variety of motivational elements – most importantly, interest and desires, goal setting, self-regulation and strategic learning – into a vocabulary learning task.

Recently, Papi (2018) examined the predicting power of regulatory fit theory (Higgins, 2000) in incidental vocabulary acquisition. Participants were classified according to their regulatory-focus dispositions: prevention-focus learners (who study mainly to avoid negative consequences) and promotion-focused learners (who study mainly for their own interest and progress) and were asked to complete a reading/writing task in either a gain or loss condition. In the gain condition, participants started with zero points and had to gain 75 points to enter a drawing, whereas in the loss condition, they started with 100 points and had to avoid losing more

than 25 points. The findings revealed that prevention-focused individuals learned significantly more lexical items in the loss condition than in the gain condition, whereas the vocabulary scores of the promotion-focused individuals did not significantly differ in the two conditions.

III The present study

As reviewed above, the effectiveness of methods to enhance vocabulary learning has mainly been examined in relation to learners' cognitive engagement with lexical items. Despite the widespread recognition of the significant role of motivational strategies in promoting second language learning, only a handful of studies have attempted to establish this connection between motivation and vocabulary learning. Importantly, existing studies were mainly concerned with elaborating on the theoretical basis of motivated vocabulary learning, whereas the present study approaches the subject from an instructional perspective.

Our main objective was to examine the mediating effects of motivational strategies and visionary techniques in the learning of L2 formulaic sequences, combining cognitive and motivational processes within instructed L2 learning. The investigation is a follow-up to a classroom experiment of vocabulary learning (Le-Thi, Rodgers, & Pellicer-Sánchez, 2017), which included explicit vocabulary teaching procedures as the treatment condition and confirmed that they produced significantly more learning gains than the traditional way of teaching formulaic language by means of doing textbook exercises and tasks. For the current study, we set the successful component of that first vocabulary teaching experiment as the control condition and examined how the students' learning could be further enhanced through motivational means.

For the motivational treatment we devised two conditions: the first – 'motivational condition' – included the application of a number of established motivational strategies from

Dörnyei's (2001) taxonomy; the second – 'visionary condition' – incorporated recent developments of L2 motivation research by employing mental imagery in the learning process. Thus, to reiterate, the current study compared the effectiveness of three conditions: (a) explicit vocabulary teaching, (b) explicit vocabulary teaching augmented by traditional motivational strategies, and (c) explicit vocabulary teaching augmented by visionary techniques. Participants' vocabulary knowledge was assessed before the experiment (pretest), after the experiment (posttest), and three weeks after the experiment (delayed posttest). To gain further insights into the motivational and learning processes and students' opinions on their learning experiences and the effectiveness of the techniques, we also added focus group interviews – thereby producing a mixed methods design. We formulated three specific research questions:

1. Do the motivational techniques applied in the motivation-specific treatment increase the effectiveness of explicit vocabulary teaching of L2 formulaic sequences, as demonstrated in the vocabulary test scores?
2. What are students' opinions about their learning experiences in the two motivational treatments, as manifested in the focus group interviews?
3. Are there any differences between the impact of traditional motivational strategies and visionary techniques utilising mental imagery on the acquisition of L2 formulaic sequences, as reflected in both quantitative and qualitative findings?

IV Methods

1 Participants

199 EFL Vietnamese university students in nine language classes participated in this study. Forty-nine participants were excluded from the quantitative analysis because they were absent from some of the sessions. The age of the 150 remaining participants (120 males and 30 females)

ranged from 19 to 25 (M = 19.29). Prior to the experiment, they took part in an end-of-term exam, involving the four language skills. All participants had passed this exam, which corresponded to an intermediate level of proficiency according to the university syllabus. They were then placed into the fifth level of the university's five-level General English course. The nine classes of intermediate level students were kept intact and were randomly assigned to one of the three conditions (i.e. motivation group = 62, visionary group = 51, control group= 37). Sixty-three participants, 40 in the visionary and 23 in the motivational conditions, volunteered for focus group interviews and were divided into seven focus groups based on their original language classes. Since the focus of the study was to explore differences between the visionary group and the motivational group, interviews were conducted with these two groups only.

2 Instruments

A multiple-choice test was used to measure the learning of 56 target formulaic sequences (see Appendix A) that occurred in both the students' textbook *Summit 2* (Saslow & Ascher, 2006) and Martinez and Schmitt's (2012) 'Phrase List'. The test was the same instrument developed and used by Le-Thi, Rodgers and Pellicer-Sánchez (2017) and was used as the pre-, post-, and delayed-posttest with the order of the items being altered for each testing time.

The test was created to measure learners' ability to recognize the form and meaning of the sequences presented in sentence contexts. For each item, participants were presented with an incomplete sentence and they had to complete the gap with one out of the six forms provided (i.e. the correct formulaic sequence and five distractors). The sentences used in the test were adapted from those used in the experimental conditions. An example of an item on this test is shown in Table 1. The distractors of the test were created based on the procedure for creating vocabulary test items used by Nagy, Herman, and Anderson (1987), in which distractors were

designed to be at varying levels of difficulty. At the lowest level of difficulty, the meanings and the parts of speech of the distractors are as different from those of the target items as possible. At the intermediate level, the parts of speech of the distractors are almost the same, but the meanings are considerably different. At the highest level, the meanings represented by the distractors are similar to or closely associated with the meaning of the target word. Research has shown that developing knowledge of formulaic sequences is challenging for learners and that recall knowledge of lexical items is always more difficult to acquire than recognition knowledge (e.g., González-Fernández & Schmitt, 2019). Measuring recall knowledge of the target sequences could have resulted in little knowledge being developed. Thus, assessing receptive knowledge was deemed more appropriate for the purposes of this study.

The test items were piloted first with a speaker of English as first language (L1) who was asked to identify any ambiguous items that could be answered selecting more than one of the six options given. The identified items were then modified. The revised test items were then piloted with two Vietnamese L2 speakers of English. They were university students with ages similar to the participants in the experiment (20 and 25 years old). These two participants did not report any issues with any of the test items. All participants in the pilot were able to complete the test within 40-50 minutes.

Table 1. *Example of an item from the cloze test with distractor explanations*

Stem: *The charity ___ public donations.*	
Options	Distractor Explanation
A. *about to*	Formulaic sequence is one of the the target items, but does not fit syntactically in the sentence.

B. *relies on*	Correct answer.
C. *based on*	*Base* is somewhat similar in meaning to *rely*. Meaning of *based on* is somewhat related to *relies on*, but this word group does not fit syntactically in the sentence.
D. *known to*	Formulaic sequence occurring both in the Phrase List and in the textbook. Its meaning is different from that of the answer, and it does not make sense in the sentence.
E. *keeps up*	Formulaic sequence occurring both in the Phrase List and in the textbook. Meaning could somewhat fit the sentence, but it does not fit syntactically in the sentence.
F. *most likely*	Formulaic sequence occurring both in the Phrase List and in the textbook. Selection is random.

The focus group interview questions elicited the students' reflections and opinions on the motivational learning activities. Aligning with the second research question, the main purpose of the interviews was to identify learners' opinions about their learning experiences and the effectiveness of the motivational techniques applied (or for the lack thereof). Data from the focus group interviews was also used to further examine potential differences between the motivational and visionary groups, in response to the third research question.

3 Procedure

The language course consisted of 90 hours of classroom instruction, three hours per day, five days a week, over six weeks, and the experiment was embedded in the middle four weeks of the course. The experimental time was spread over seven sessions, four for teaching and three for

testing. All experimental sessions and groups were taught by the same teacher (first researcher). Table 2 presents this overall experimental procedure for the three groups. Outside the treatment sessions, all groups received the same type and amount of English language instruction.

Table 2. *Experimental procedure for teaching of formulaic sequences in each of the three groups (control, motivational and visionary groups) incorporated into the language program*

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 9
Pretest	Session 1	Session 2	Session 3	Session 4	Posttest	Delayed Posttest
60 minutes	55 minutes	55 minutes	55 minutes	55 minutes	60 minutes	60 minutes

During the four 55-minute weekly teaching sessions, the three groups had the same amount of time (40 minutes) for the explicit instruction of the target items, and each had an additional 15 minutes for other activities also related to the target items learned. The 40 minutes of each session in the three groups were dedicated to the explicit vocabulary teaching procedures (see below), without any specific motivational techniques being deliberately incorporated. This amount of explicit instruction in a session is common practice in this classroom context for the teaching of grammar, sentence structures, and vocabulary. It is important to note that, although there were 56 target items in the intervention sessions, a percentage of these items was already known by learners (see Table 4), resulting in a lower number of items to be learned. The three groups differed on what they did in the 15 minutes. The control group spent these 15 minutes going through the responses of the test-like activities completed in the explicit teaching part, and discussing the difficulties they had encountered in learning the target items. These activities did not deliberately follow any motivational principles. Participants in the motivational and visionary

groups spent these 15 minutes completing the motivational tasks that were designed following ideas and techniques from Dörnyei (2001) for the motivational condition and from Dörnyei and Kubanyiova (2014) for the visionary condition; the main elements of these treatments are summarised in Table 3.

The general 40-minute explicit vocabulary teaching procedure applied to all three groups was as follows: In the first teaching session, the form and meaning of the items were presented (through PowerPoint) in the direction of L2 to L1. Each sequence was presented in a sentence with a word of the sequence missing (e.g. His support cannot be taken for *g*_____). The teacher (and first researcher) read the sentence and asked the participants to guess the missing word. If no correct response was immediately given, the teacher provided the missing word with its letters presented in a random order (e.g. His support cannot be taken for *gtdearn*) and asked the participants to once again supply the missing word. The full sequence was then presented with the target item's translation. This activity was followed by a matching exercise. The same procedure was used in the second session, but in the direction of L1 to L2.

In the third and fourth sessions, word cards were used, with each sentence containing a sequence on one side and its Vietnamese translation on the other. In this session, the participants worked in pairs to recall the form and meaning of the sequences in the direction of L2 to L1, and to make a short sentence for each item. In session four, a similar procedure was used but in the direction of L1 to L2. The teacher managed the activities by giving instructions, arranging seating and pairing, giving commands, and monitoring the time. To avoid the possibility that the participants might revise the target items outside the classroom, they were asked not to take notes during the treatment sessions; neither were they informed about the next teaching session or about the posttests. While we recognize that note taking would be allowed in a normal classroom context, allowing students to take notes would have made it difficult to control for participants'

engagement with the target items. Focus group interviews took place immediately after the last teaching session and lasted on average 100 minutes each. During the interviews, participants were not asked to engage with specific instances of the formulaic sequences. It could be argued that participation in the focus group interviews could have highlighted the value of the formulaic sequences, consequently affecting test results. However, descriptive statistics showed very similar pre-posttest gains for students participating in the focus groups (visionary group: *M* = 61.06, *SD* = 20.43; motivational group: *M* = 48.18, *SD* = 23.08) and those who did not take part in the interviews (visionary group: M = 60.42, SD = 13.80; motivational group: *M* = 52.30, *SD* = 22.87).

Table 3. *Main elements of the motivational content of the two motivational treatment conditions (Ss = students)*

Motivational strategies	**Visionary techniques**
• Teacher establishes rapport with the Ss and Ss are put at ease. • Ss are made aware of the instrumental value of formulaic sequences. • Ss set specific goals for themselves of mastering the target formulaic sequences in each lesson. • Ss write their goals down on colourful sticky notes, expressing their commitment by adding resolutions (e.g.	• Ss are explained the rationale for and possible benefits of visualisation and are given practice in the process. • After processing each item, Ss are asked to imagine their future selves conducting a short interaction in either a professional or an everyday situation, incorporating the target formulaic sequence into a single relevant sentence. The visualization task is briefly carried out

I'll learn them all!) and even decorating them with drawings. • Ss monitor their own progress in each lesson and celebrate fulfilling their goals through fun activities such as drumming on the tables and jumping up and down. • Ss take part in group-competition games and final group scores are displayed on the board. • Ss also "compete" within pairs, comparing with each other how many correct answers they have. • Before each learning episode, Ss are reminded of their strengths and abilities through a task that recalls some past accomplishments. • Ss are encouraged to attribute their failures (if any) to a lack of effort or concentration instead of insufficient ability.	either in silence as individual work or communicatively in pair-work interactions. • The visualisation is done sometimes with and sometimes without accompanying pictures as visual aids, provided either digitally or in print. • After the visualisation, Ss record on a chart the emotional reaction caused by their use of mental imagery. • In pair work, Ss also record the emotions of their partners as reflected by their facial expressions and body language. • To make their visions more plausible, Ss are shown pictures of successful role models whom they know and with whom they share a similar background. • Ss are reminded of the obstacles that their future selves may encounter by doing a problem-solving task.

The motivational strategies and visionary techniques (each took 15 minutes per session in addition to the 40 minutes of explicit learning) served as a motivational tool to foster engagement in the explicit learning activities. The duration of each activity in the treatment was

carefully controlled for by the teacher and first author to ensure that the explicit learning and the visionary/motivational components of the treatment would not exceed the allocated time.

4 Analysis

For the quantitative data, dichotomous scoring (1 for a correct answer and 0 for an incorrect) was used for each test item, followed by the calculation of both absolute and relative mean gains. Absolute gains were calculated by deducting the pretest from the posttest score. The *relative gains* were used so as to take into account the varying knowledge of the target items at the pretest and, consequently, the different learning opportunities amongst the participants (i.e. the different number of target items that they did not know at the start of the programme), using the following formula (Webb & Chang, 2015): *Relative gain = (posttest mean score – pretest mean score)/ (1 - pretest mean score) x 100.* The same calculation was used for the relative gains between the pretest and the delayed posttest, producing two sets of relative gains (pre-post relative gains, and pre-delayed relative gains). Descriptive statistics are presented for raw test scores, absolute and relative gains. Differences among scores in the three tests are first explored by means of repeated measures ANOVAs with testing session as the independent variable and raw test scores as dependent variable. In order to compare the relative gains across the three conditions, a one-way analysis of variance was conducted. Effect sizes were computed using the formula: *Eta squared = sum of squares between-groups/ total sum of squares,* with a small effect being .01, a moderate .06, and a large .14 (cf. Dörnyei, 2007).

The qualitative data was collected from the seven focus group interviews (conducted in Vietnamese). The interview transcripts were translated into English and then analysed through content analysis involving initial and secondary coding (cf. Dörnyei, 2007b) to identify emerging patterns. As is well known, an inherent characteristic of such a process is that qualitative

research outcomes are a joint function of the respondents' personal accounts and the researcher's subjective interpretation, which makes the notion of 'reliability' in terms of potential replicability less relevant than in quantitative paradigms. However, we shall see below that the interpretive aspect of our study focused primarily on two broad and robust themes – the effects of the techniques employed in the intervention and any suggestions for further improvements – and these themes allowed for relatively consistent mapping.

V Results

RQ 1: Do the motivational techniques increase the effectiveness of explicit vocabulary teaching of L2 formulaic sequences, as demonstrated in the vocabulary test scores?

The descriptive statistics of the test scores across the three testing sessions (pretest, posttest, delayed posttest) are reported in Table 4. A repeated measures ANOVA was first conducted to explore differences in the scores at the three testing sessions within each treatment group. Results (Table 5) show significant gains in learners' knowledge of formulaic language for the two treatment conditions. Post-hoc comparisons showed that for the motivational and visionary groups the posttest scores were significantly higher than those of the pretest and the delayed posttest scores. The control group also experienced a significant increase in knowledge of formulaic sequences, with scores in the posttest being significantly higher than those in the pretest. All effect sizes were large. No significant differences were found between the posttest and delayed posttest scores in the control group.

Table 4. *Descriptive statistics of the test mean scores (percentage points, max = 1) in the three conditions. Mean number of words known in each condition and each testing time in brackets (max = 56).*

	Motivational group (n= 62)			Visionary group (n = 51)			Control group (n = 37)		
	Pretest	Posttest	Delayed[1]	Pretest	Posttest	Delayed	Pretest	Posttest	Delayed
Mean	0.36	0.68	0.63	0.38	0.75	0.71	0.31	0.51	0.53
	(20.02)	(38.13)	(35.32)	(21.51)	(42.25)	(39.88)	(17.24)	(28.46)	(29.43)
SD	0.11	0.16	0.20	0.13	0.14	0.19	0.09	0.17	0.19
	(6.28)	(8.92)	(11.32)	(07.32)	07.73)	(10.44)	(05.19)	(09.82)	(10.82)
Range	0.55	0.71	0.82	0.41	0.54	0.73	0.48	0.68	0.75
	(31)	(40)	(46)	(23)	(30)	(41)	(27)	(38)	(42)
Minimum	0.14	0.29	0.14	0.20	0.43	0.27	0.18	0.16	0.21
Maximum	0.70	1.00	0.96	0.61	0.96	1.00	0.66	0.84	0.96

Note. [1]Delayed = Delayed posttest

Table 5. *Repeated Measures ANOVAs for the test mean scores (max = 1) of the three testing times (pretest, posttest, and delayed posttests) in the three conditions*

	F[a]	Effect size[b]	Post hoc[c]
Motivational Group	(1.77, 107. 87) = 121.88***	.666	PO > DE > PR
Visionary group	(2, 100) = 235.14***	.825	PO > DE > PR
Control group	(2, 72) = 41.83***	.537	PO, DE > PR

Note. PR = Pretest, PO = posttest, DE = delayed posttest;
[a]Greenhouse-Geisser values reported when assumption of Sphericity violated, [b]Partial Eta squared., [c]LSD; a comma means a nonsignificant difference.
*** $p < .001$

The results reported above showed that learners acquired knowledge of formulaic sequences in the three conditions and that in the case of the motivational and visionary groups there was a

significant decrease in scores from the posttest to the delayed posttest. To examine the effect of the motivational treatment on the students' mastery of formulaic language, a one-way ANOVA was conducted with relative gains as dependent variable and treatment condition (3 levels) as the independent, between-groups variable. Results in Table 6 show that the relative pre-post gains of both motivation-specific treatment conditions significantly exceed those obtained in the control group, thereby providing evidence that the motivational techniques applied in our experimental study were successful in facilitating vocabulary learning. Effect sizes were large in the case of pre-post gains. Results of the pre-delayed gains are reported in response to the third research question.

Table 6. *ANOVAs for mean gains (pre-post gains and pre-delayed gains; SD in brackets) with the relative gains being compared across conditions*

	Motivational group		Visionary group		Control group				
	Absolute gains	Relative gains (%)	Absolute gains	Relative gains (%)	Absolute gains	Relative gains (%)	F	Effect size[1]	Post hoc[2]
Pre-Post	0.32 (0.15)	50.77 (22.85)	0.37 (0.13)	60.92 (19.07)	0.20 (0.14)	29.90 (19.07)	23.13***	.239	V > M > C
Pre-Delayed	0.27 (0.20)	41.85 (37.20)	0.33 (0.15)	55.17 (24.88)	0.22 (0.17)	32.36 (25.56)	6.17**	.077	V > M, C

Note. V = Visionary group, M = Motivational group, C = Control group

***p* < .01, ****p*<.001

[1]Eta squared; [2]LSD; a comma means a nonsignificant difference

RQ 2. What are students' opinions about their learning experiences in the two motivational treatments, as manifested in the focus group interviews?

The analysis of the interview data (see Tables 7 and 8) revealed interesting patterns and insights about the students' learning experiences in the two motivational treatments and their opinions about their effectiveness for the acquisition of formulaic sequences.

Table 7. *Emerging themes in the motivational focus group interviews and the number of times the themes were mentioned in the interviews*

Main themes	Sub-themes		N	Percentage
Effects of the motivational strategies			**34**	**100%**
	Positive attitudes towards the motivational learning situations		11	32.3%
	Learning outcomes	*Use*	*3*	*9%*
		Recall	*1*	*3%*
		Recognize	*2*	*6%*
		Subtotal:	6	17.6%
	Awareness of the instrumental values of the target items		2	5.5%
	Self-confidence		2	5.5%
	Intended effort		2	5.5%
	Limitations of the motivational strategies applied		11	32.3%
Suggestions for improvement			**11**	**100%**
	Reducing the number of items		4	36.4%

	Providing more opportunities for using the target items	4	36.4%
	Using pictures or videos	2	18.2%
	Students setting their own learning goals without being coerced or suggested by the teacher	1	9%

Note. *N* = Numbers of times the themes were mentioned; N in the sub-themes were mentioned by different students; *Use* = Students said they (could) use(d) some items; *Recall* = Students said they could remember the learned items very well; *Recognize* = Students said they knew the learned items well; *Self-confidence* = Students said after the treatment they felt more confident about learning vocabulary or did not find it difficult to learn the sequences; *Intended effort* = Students said after the experiment they had intention to come up with a specific plan for their English learning and make an effort to learn English.

Table 8. *Emerging themes in the visionary focus group interviews and number of times the themes were mentioned in the interviews*

Main themes	Sub-themes	N	Percentage
Ability to visualize		**5**	**100%**
	Being able to visualize vividly	3	60%
	Being able to visualize as instructed	1	20%
	Optimal time for visualization	1	20%
Factors facilitating visualization		**56**	**100%**
	Pictures	9	16%
	Prompted language contexts	6	10.7%

	Congruences between the situations (i.e. pictures or/and prompted language contexts) and the students' current concerns or past experiences	*Current concerns (goals, expectations, interests)*	*24*	*42.9%*
		Past experiences	*6*	*10.7%*
		Subtotal:	30	53.5%
	Peers		3	5.4%
	Students feeling relaxed		3	5.4%
	Importance of frequent reminders		2	3.6%
	Relaxing music		1	1.8%
	Students' willingness to visualize		1	1.8%
	Students' vocabulary knowledge		1	1.8%
Effects of the visionary techniques			**44**	**100%**
	Positive attitudes towards the visionary learning situations		13	29.5%
	Learning outcomes	*Use*	*5*	*11.4%*
		Recall	*3*	*6.8%*
		Subtotal:	8	18.2%

	Feared possible selves having positive impact on learning motivation	6	13.6%
	Intended effort	3	6.8%
	Better engagement	3	6.8%
	Improvement in generic visionary skills	3	6.8%
	Limitations of the visionary techniques applied	8	18.2%
Suggestions for improvement		**22**	**100%**
	Students selecting pictures or prompted language contexts by themselves	8	36.4%
	Combining target items and prompted language contexts in the same topic, scene or story	6	27.3%
	Using motiving images such as videos or movies to support visualization	4	18.2%
	Using games and competitions	3	13.6%
	Allowing more time for visualization	1	4.5%

Note. *Prompted language contexts* = The sentence contexts accompanied with the target items; *Engagement* = The students said the techniques helped them concentrate on learning better than before

Learners in both motivational groups talked about two main common themes: effects of the techniques and suggestions for improvements (see Tables 7 and 8). Regarding the effects of the intervention techniques, a common theme in both groups was the positive attitudes towards the learning situations. The positive impact of both motivational and visionary conditions was explicitly recognised, with common subthemes being positive attitudes towards the learning situations, intended plans and learning outcomes. For example, concerning their positive attitudes towards the motivational learning situations, one student stated:

> I liked it when the class was divided into two groups to fight each other. In this way people could support each other. Those who knew the answers could have a chance to speak up, and those who didn't could listen to the sequences (Participant M12, motivational condition).

Similarly, as illustrated by the first quote below, the game-like character of the goal-setting procedure was also well received, while the overall success of the motivational condition is affirmed by the second quote:

> I did not feel pressured when setting goals and realizing them by playing games. I would have felt more stressed if the teacher had asked me to learn a particular number of items by heart. The games made me feel excited because I had a set of goals and I could direct my efforts towards achieving them (Participant M6, motivational condition).

> In the final session, I felt excited because I could remember most items, and I could answer my friend's questions quickly (Participant M15, motivational condition).

The visionary techniques were new to most students, and we were curious to see whether the preparatory tasks could bring the learners sufficiently on board for the personalised imagery to exert its positive impact. The data from the focus group interviews indicate that this was indeed the case. This was illustrated in the following two quotes, with the second student stating that he even applied the visionary techniques to other areas of his life successfully.

> The visualizing activities helped me create goals to direct myself to…. I visualized myself talking to people of high positions or travelling abroad. I wanted to speak English better. I have to make efforts to learn better so that I can achieve the goal. And I set goals for myself (Participant V1, visionary condition).

> I found this technique very exciting because I used to learn vocabulary by writing them on paper which was boring. Learning with pictures like this is interesting.… This method is not only applicable to learning English, but it can be helpful in directing my future. I created images or a movie in which I was the main character. I also tried to create happy images…. They were powerful. This helped me be more positive…. I saw myself in the future. I had clear directions, and it was motivating. At that time, I could overcome the most difficult moments (Participant V6, visionary condition).

Similarly, as a result of the visionary treatment, students even reported an improvement in generic visionary skills:

> After the experiment, I felt that the knowledge of all the sequences and my ability to visualize had improved. This program worked well for me (Participant V18, visionary condition).

In brief, the results of the focus group interviews attest to the fact that both motivational techniques appear effective in fostering the benefits of explicit teaching of the target formulaic

sequences, further supporting the quantitative findings. Participants in both conditions also made interesting suggestions concerning the presentation of vocabulary items and the use of visual aids. Participants in the visionary condition suggested using dynamic images such as those in videos or computer games, "such as watching people travelling in Venice and visualizing ourselves travelling in Venice" (Participant V4). Learners in this group also suggested combining a series of images and their accompanying target items into a more extended context (as opposed to learning and visualizing multiple images in separate short contexts) or letting the participants themselves select the images and create their own contexts (rather than using preselected images and contexts). Similarly, the participants in the motivational condition suggested using pictures, movies, or activities allowing for the use of the target items in extended contexts. As one participant explained, "You should use sequences in pictures or larger contexts …you could make videos of funny conversations in which the sequences occur" (Participant M5, motivational condition).

RQ3: Are there any differences between the impact of traditional motivational strategies and visionary techniques utilising mental imagery on the acquisition of L2 formulaic sequences, as reflected in both quantitative and qualitative findings?

Results in Table 6 show that both the pre-post and the pre-delayed gains of the visionary condition were superior to those of the motivational condition. In fact, in the delayed posttest only the learning gains of the visionary group exceeded those of the control group. The results offer consistent indication that the visionary treatment offered a more effective way of engaging with the target vocabulary items than the motivational condition.

The difference between the visionary and motivational treatments was also reflected in the focus group interviews, and the overall tenor of the focus group participants' accounts was again consistent with these results: while the generally positive appraisal of the motivational group was often qualified by 'buts', the visionary treatment tended to receive more uniform endorsement and more diverse and positive effects. The following two quotes exemplify the students' reaction in the motivational group:

> I was interested in answering questions in the PowerPoint presentation because the activity motivated me to learn. I felt competitive when answering questions in games. I could answer some questions, so it was pretty interesting. After the experiment, I could remember almost all the sequences. But it was still difficult for me to use them in communication such as in writing and speaking. (Participant M3, motivational condition)

> I found the introduction of the sequences very helpful. I had always wanted to learn sequences like these. I set goals and determined to be able to use them all... But until now I can only use some of them. I haven't been able to use long sequences. (Participant M4, motivational condition)

Moreover, a third student mentioned that for him the same group competition element, which was mostly appreciated by others, was problematic:

> Although I could learn the sequences with my classmates in the word card activities, I found it hard to catch up with many of them in the game activities when the groups competed with each other…. They were fast learners. They took part in the games and answered the questions quickly… But the sequences were new to me, so in the games I failed to gain any score for my group. I felt I lagged behind my friends. (Participant M9, motivational condition)

In contrast, the visionary treatment not only generated a motivating climate in the class but was also associated with more effective learning outcomes and fewer limitations regarding the techniques applied. It is noteworthy, for example, that in the following quote Participant V9 uses the term ‘automatically’ three times, implying successful proceduralization of the lexical items:

> In the recent writing progress test, I wrote the sequences automatically. I didn’t have to try hard to think about them but used them quite naturally…. I used them automatically, without thinking about having to use them. Maybe because we learned them again and again, and I could automatically use some of these phrases when I had a chance.

Participant V8 directly linked visualization and language use to each other:

> When seeing the pictures relevant to my future career such as being at meetings, I found it easy to visualize. Looking at these pictures, I immediately visualized being a manager or someone like that. I could easily visualize what and how I was talking… And I could say the sentences easily. I could visualize quite a lot of situations like these.

Participant V14’s account is notable not only because it directly related learning to visualisation, but because of the detailed justification of why she found visualisation appealing:

> Using pictures of familiar situations could help me memorize vocabulary better because they were linked to something I already knew... I could also visualize my future self-images because I wanted to be like the people in the pictures. I wanted to own that company. I wanted to be like the leader who stood out, chairing the meeting. And I also wanted to be in luxurious places such as the party. I could memorize these situations and images because they were what I wanted... These images gave me strong feelings.

Finally, Participant V39's account of explaining the motivational capacity of visualization is so clear and to the point that if we had not conducted the interviews ourselves we would be wondering whether a too explicit introduction was involved in the interview:

> When visualizing my future self-image, it was like a magnet that attracted me to that direction, giving me motivation to move forward to that direction. If I had not visualized, there would have been no goal to direct myself. I think this can also propel me to succeed in learning in the future.

VI Discussion

In answer to the first research question, the findings indicate that the application of motivational techniques promoted the acquisition of receptive knowledge of form and meaning of the target sequences. The significant differences in the learning gains between the experimental and control groups were further supported by qualitative data obtained from focus group interviews. What makes this increase particularly noteworthy is that it represents a positive improvement over and above a highly effective vocabulary teaching practice (as evidenced by Le-Thi, Rodgers, and Pellicer-Sánchez', 2017, study) that was adopted for the control group to serve as a baseline. That is, the motivational intervention was shown to have the capacity to enhance the gains achieved by a successful cognitive approach to formulaic language acquisition. In response to the second research question, analysis of the focus group interview data confirmed the effectiveness of the motivational treatments for the acquisition of formulaic sequences.

The effectiveness of the motivational treatment observed in the current investigation is consistent with the findings of the past studies that provided empirical confirmation of the positive impact of motivational strategies on student motivation and learning (e.g., Alrabai, 2014; Guilloteaux & Dörnyei, 2008). Visionary techniques have also been reported in the literature to be effective at enhancing language learning motivation (see Dörnyei & Kubanyiova,

2014; Lamb, 2017), but previous intervention programmes did not tend to employ pictures as part of their toolkit to evoke mental imagery. We used such visual aids because they provided a way of guiding the students' visualisation according to the specific target items, and the positive reception of the use of colour pictures by the learners indicated the feasibility of the method.

Our third research question concerned the comparison of two types of motivational intervention, the first employing traditionally established motivational strategies (discussed in Dörnyei, 2001), the second utilising visionary techniques that have emerged from research on the L2 Motivational Self System over the past decade (e.g., Dörnyei, 2009; Dörnyei & Kubanyiova, 2014). This comparison produced intriguing results in two respects. First, while both motivation-specific treatment conditions delivered a significant increase in motivated learning and subsequent achievement, we found a marked difference between their effectiveness in favour of the visionary condition. Furthermore, not only did visionary strategies lead to quantitatively superior vocabulary learning, but they also appeared to result in better retention of target lexical items, as attested to by the pre-delayed relative gains. In other words, visionary strategies delivered all-round better outcomes, and this warrants a more detailed look at what features of these techniques generated the benefits.

Visionary versus traditional motivational strategies

Why did visionary strategies work better than the other, well-established motivational strategies that were used in the motivational condition? The qualitative data (summarized in Tables 7 and 8) showed that there are at least three main reasons: (a) a wider appeal, (b) deeper learner engagement and (c) cognitive processing advantages.

Wider appeal. Our data from the focus group interviews suggest that the visionary techniques had a wider appeal than some of the motivational strategies applied in the motivational group, with the students of the visionary condition mentioning their abilities to visualize, and factors facilitating their visualizations. There were also fewer perceived limitations of the visionary treatment than the motivational treatment. We have already seen an interview extract which indicated that even the generally popular group competition element did not suit every participant. While game/quiz-like tasks were likely to appeal to those who were at least reasonably good at answering questions promptly and thereby scoring points for their teams, not everybody fell into this category. In the focus group interviews another participant also expressed doubts about the goal-setting component; as she stated, it felt forced to be asked to set a learning goal in class and therefore she lost interest in the activity. Even fun activities such as drawing on colourful sticky notes or drumming on the table were likely to appeal to some students more than others. That is, while the overall sum of the treatment in the motivational condition had positive effects, not all the constituent tasks were uniform in this respect.

In contrast, the visionary tasks were reported to feel safer and more commonly engaging by our participants. This may have to do with the versatile nature of visualisation, as mental images can be related to the students' ambitions, expectations, interests or even their concerns and problems. For example, some participants in the focus group interviews said that they liked visualizing their future professional self-images because at that time their career goals were their priorities, while some others expressed their preference for visualizing communicating with family members or international friends. Yet some other learners related the visualized self-images to past experiences. One participant, for example, stated that recalling memories helped him during the visualisation process, and he found it more challenging to work with scenes that

could not be related to such a concrete past dimension. In sum, it transpires from our study that, if students see the point and if they are given sufficient preparation, they tend to enjoy using their creative imagination.

Deeper learner engagement: In our study, visionary tasks appeared to display the capacity to engage learners more deeply than the other motivational strategies applied. Three students in the visionary group said that the images helped them to concentrate better and paid more attention to the learning activities. According to educational psychological theories of student engagement, the notion of engagement is best perceived as a multidimensional construct, comprising a behavioural, a cognitive and an emotional dimension. As Fredricks, Blumenfeld and Paris (2004) describe, behavioural engagement concerns active *participation in academic tasks*, emotional engagement refers to students' *affective reactions* in the classroom (e.g. happiness or anxiety), and cognitive engagement is usually defined in terms of *psychological investment* in one's studies as well as *strategic learning*, especially through using 'deep strategies' that exert more mental effort and create more connection among ideas than surface-level strategy use. Our data suggest that it is particularly the latter two components – emotional and cognitive engagement – where visionary techniques have an advantage.

Regarding *cognitive engagement*, personalising and mentally enacting the use of target lexical items would unquestionably count as a 'deep strategy', leading to what Noel Entwistle has famously called 'deep learning' (e.g., Entwistle, 2013). Deeper engagement is reflected in sustained attention to the target items and in the way the items are manipulated. *Positive emotions* are known to be correlated with motivated learning behaviours (MacIntyre & Vincze, 2017), and a key characteristic of visualisation is that it can induce intense feelings (e.g. in our dataset a participant felt very emotional when describing a meeting with an old friend in a bar

during a pictorially aided visualisation exercise). Mental imagery can also serve as a visual aid to prepare even for encountering obstacles and setbacks, thereby easing worries and giving students hope (e.g., a respondent described how imagining being a character in a visualized situation helped lift his mood). Finally, imagining feared scenarios might lead to a feeling of unease and anxiety that might supply extra motivation to engage with the task more intensively so as to avoid such undesirable outcomes.

Cognitive processing advantages. The third area where visionary strategies exceed more traditional motivational strategies is related to the cognitive engagement discussed briefly above, but because it draws on Paivio's dual coding theory (e.g. Paivio, 2010), it makes sense to address it separately. The central tenet of Paivio's theory is that the mental representation and processing of lexemes are multimodal (verbal and visual). The relevance of this to our study is that using mental imagery specifically focusing on verbal targets (i.e. lexis) can create a visual code (in addition to the verbal one) to represent the target item, and external nonverbal stimuli such as pictures can activate and thus strengthen both (i.e. verbal and visual) mental representations. In the visionary procedure of the present study, the participants learnt formulaic sequences presented in sentence contexts and accompanied by pictures that created visual contexts. This combination of verbal and nonverbal input provided an optimal environment for dual coding to run its full course. In this sense, visionary strategies directly affected the cognitive processes underlying vocabulary acquisition. As shown in Table 8, students reported a range of factors facilitating visualization and positive effects of the visionary techniques on their learning.

The findings of the present study have shed light into the effectiveness of motivational techniques for the acquisition of formulaic sequences. However, there are important limitations that should be considered. This study only measured the acquisition of receptive knowledge of

the target items. Future studies should examine the acquisition of other lexical aspects, such as recall knowledge of the form and meaning. Furthermore, these findings are restricted to intermediate learners of English in an EFL setting. It would be interesting to examine other ESL contexts where learners might receive more exposure to the language outside the classroom context. Concerning the explicit teaching procedure, the first stage could have resulted in incorrect guesses. In this study, feedback was provided to correct potentially incorrect guesses but future studies should explore the potential effect that making correct or incorrect guesses may have on learning gains. In addition, the visionary techniques employed in the present study only utilized pictures for visualization activities. Future studies should examine the effectiveness of other visual aids, such as animated videos or virtual reality, to facilitate visualization. Finally, it is important to note that, while our examination focused on receptive knowledge of a set of formulaic sequences, it is likely that the treatment sessions had other benefits that were not measured, such as the acquisition of other components of lexical knowledge, increased awareness of the formulaic features of the language, and increased language learning motivation.

VIII Conclusion

The findings of the present study are twofold. First, the converging quantitative and qualitative results have confirmed that motivational engagement with the process of learning L2 vocabulary – in this case, formulaic sequences – can produce significant learning gains which are beyond the gains from explicit instruction. These results therefore establish a valuable link between heightened motivational states and improved cognitive intake, corroborating Laufer and Hulstijn's Involvement Load Hypothesis regarding the benefit of increased engagement in learning. Furthermore, the establishment of direct motivational impact on the acquisition of lexis

is consistent with Ushioda's (2016) call for examining language learning motivation 'through a small lens' and offers support to this research direction.

The second important finding of our study concerns the remarkable performance of visionary strategies in improving lexical knowledge. We argued that this all-round advantage can be attributed to at least three reasons: (a) the wider (or at least more even) appeal of visualisation tasks in our sample, (b) a deeper level of affective and cognitive engagement, and (c) the capacity of mental imagery and visual aids to create an optimal environment for the dual coding of lexical information.

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Appendix A

Target Formulaic Sequences and Their Frequency of Occurrence in the Textbook

		Frequency of incidental exposure in textbook input	Frequency of explicit exposure in exercises
1	account for	1	0
2	all sorts of	1	0
3	as for	1	0
4	catch up	1	0
5	common sense	1	1
6	from time to time	1	0
7	in advance	1	0
8	in common	1	0
9	in conjunction with	1	0
10	in particular	1	0
11	in spite of	1	0
12	in the first place	1	0
13	in time	1	3
14	large scale	1	0
15	look forward to	1	0
16	no wonder	1	0
17	nothing but	1	0

18	on average	1	0
19	take for granted	1	0
20	take into account	1	0
21	that sort of thing	1	0
22	the other day	1	0
23	what if	1	0
24	at once	2	0
25	happen to	2	0
26	in a way	2	0
27	in return	2	0
28	key to	2	0
29	no longer	2	0
30	on the other hand	2	2
31	provided that	2	1
32	rely on	2	0
33	rid of	2	0
34	short of	2	0
35	turn up	2	0
36	appeal to	3	0
37	limited to	3	0
38	when it comes to	3	0
39	after all	4	0
40	in need	4	0
41	it takes	4	0
42	tend to	4	0
43	make sense	5	3
44	manage to	5	0
45	a great deal	6	0
46	fail to	6	0
47	supposed to	6	0
48	as a result	7	4
49	carry out	7	4
50	come up with	7	5
51	in other words	7	0
52	those who	7	0
53	about to	8	0
54	likely to	8	0
55	rather than	8	0
56	lead to	9	0