

Learning vocabulary through listening

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Learning vocabulary through listening

The role of strategy use and linguistic proficiency

Suzanne Graham & Pengchong Anthony Zhang

University of Reading

This study explored the strategy use of 12 high-school learners of English within a vocabulary teaching intervention which exposed three groups of learners to one of three types of oral vocabulary explanations: L2 explanations; codeswitched explanations (CS); and contrastive focus-on-form explanations (CFoF) giving cross-linguistic information. Unlike previous studies of vocabulary interventions, which have tended to focus solely on quantitative outcome measures and therefore give arguably limited insights into why different interventions have the impact that they do, the study implemented stimulated recall interviews to explore strategy use in order to better understand the learning outcomes from the intervention. A qualitative analysis was undertaken to explore how learners used strategies and whether patterns of use emerged by intervention group and proficiency level. Compared with the CS and L2 groups, learners from the CFoF group attended more specifically to the target words and engaged in more metacognitive reflection and evaluation of the explanations, leading potentially to deeper processing and hence greater vocabulary gains. Such strategy use also seemed, however, to explain their smaller gains in listening comprehension. Finally, strategic behaviour was found to be related to levels of vocabulary knowledge and listening proficiency. The value of exploring qualitative data on strategy use for evaluating the effects of an intervention is discussed, alongside the theoretical and pedagogical implications of these findings.

Keywords: listening, vocabulary learning, strategy use, proficiency

Introduction

Improving the vocabulary knowledge of second language learners is an important goal for teachers, in view of the close relationship between vocabulary knowledge

and all language skills. One consequence is an increasingly wide range of interventions designed to consider how such knowledge can be developed alongside the skills themselves (Clenton & Booth, 2020). Evidence suggests that pedagogical activities used alongside a focus on meaning to enhance the salience of items (Sharwood Smith, 1991) and hence noticing (Schmidt, 1990) can maximise vocabulary learning from written and aural input that is used for broader, communicative learning purposes. The focus of such research has however tended to be on quantitative outcome measures, which, while important, give few if any insights into why different interventions have the impact that they do. In this paper we argue that exploring the strategies learners report employing during the intervention can make an important contribution to gaining those insights. The latter might be especially important for understanding why the outcomes from vocabulary learning interventions vary according to learner individual differences. In other words, we need to understand who benefits from what kind of intervention and why.

This article draws on data collected as part of a wider study (Zhang, 2018), that explored the extent to which learners of different L2 proficiency levels benefited from different types of attention-enhancing pedagogical activities for vocabulary learning. That study established that levels of listening proficiency and vocabulary knowledge influenced how much learners benefited from different kinds of vocabulary instruction (Zhang & Graham, 2020a, b). A fuller understanding of those findings, however, can come from an exploration of the strategies learners of varying proficiency levels reported employing during the pedagogical activities. A range of strategic behaviour may be elicited by different pedagogical tasks (Macaro, 2017) and may vary across proficiency levels (Graham et al., 2010), a phenomenon which analyses of test data are less able to illuminate. This study therefore extends Zhang and Graham (2020a, b) and explores the strategies used by L2 learners of different levels of prior vocabulary knowledge (PVK) and listening proficiency in response to three types of vocabulary explanations after listening to oral input: explanations in the L2, codeswitched explanations, and those that give contrastive focus-on-form information. In doing so it provides new knowledge by illuminating why and in what way the interventions implemented had the impacts they did on learners of different proficiency levels.

Vocabulary learning through listening and proficiency

In formal learning contexts such as schools, listening to the teacher is likely one of the most frequently accessed sources of aural input. Furthermore, such input may be 'enhanced' by the teacher in some way, in order to focus learners' attention

on certain aspects of language. For example, they may emphasise orally certain words, repeat them, or explain their meaning. Different forms of input enhancement may vary in the degrees of 'involvement load' (Hulstijn & Laufer, 2001) they prompt, however, in terms of whether they stimulate 'need', 'search', and 'evaluation' and at what level. In other words, the extent to which learners have to understand a given item for task completion (need), seek out the item's meaning (search), or consider whether a given meaning or use for a word is the most appropriate one for a certain context (evaluation) matters. The level of 'evaluation' is considered to be especially important (Hulstijn & Laufer, 2001), as more evaluation usually brings with it deeper processing and therefore is more likely to lead to better learning outcomes. Interestingly, and of relevance for this study, 'involvement load' seems to have only been investigated quantitatively (see for example Yanagisawa & Webb, 2022) without considering whether activities designed to have different levels of 'load' really do prompt learners to engage in different kinds of mental processing. Likewise, very few if any studies have explored 'involvement load' in relation to vocabulary learning through listening.

Several previous studies have reported that more vocabulary learning occurs through listening among higher proficiency learners (e.g. Suárez & Gesa, 2019; Vidal, 2011), potentially because such learners, and especially those with a larger vocabulary size, understand more of the input and hence are in a stronger position to learn from it. By contrast, no proficiency effect was found in a study that explored vocabulary learning from aural input with post-listening activities among adolescent learners (Hennebry et al., 2013). The study was followed up by a qualitative investigation (Macaro, 2017) that used stimulated recall interviews to explore the strategies used by 24 learners to understand their teacher's L2 vocabulary explanations. Learners reported employing a limited range of strategies, largely searching for L1 cognates, regardless of whether the target word had an English cognate or not. The study acknowledged, however, that although the 24 interviewees represented a wide range of proficiency levels, it did not explore whether learners of different proficiency behaved differently in strategy use and whether such differences resulted in different vocabulary learning progress.

It is relevant to explore the strategies learners use to understand the input in which items are embedded as well as those they use to remember items, as the selection, combination, and pattern of using different strategies may result in different vocabulary learning outcomes from spoken input. Furthermore, previous research, summarised in Graham et al. (2008), suggests that strategy use varies across learners of different listening proficiency levels, with metacognitive strategy use increasing with higher listening proficiency. In a later study, Graham et al. (2010) also illustrated the complexity of the relationship between linguistic knowledge and strategy use, with lower levels of linguistic knowledge restricting some

learners in the study in how effectively they could employ strategies in combinations. Such an interaction between linguistic knowledge and strategy use may have implications for how much vocabulary is learnt through listening, particularly in relation to how learners process the vocabulary to which they are exposed. This is an issue which, to our knowledge, has not yet been investigated.

In summary, the above discussion highlights that proficiency level does often, but not always, influence how much vocabulary is learnt from aural input, but that insights into why that is the case are limited. Additionally, previous studies have taken a largely quantitative approach. As argued by Hennebry et al. (2013), exploring qualitatively how learners try to understand the vocabulary explanations they receive may provide additional evidence regarding any differences in learning related to proficiency level and may shed light on whether different teaching approaches induce different kinds of processing of language by listeners. This study therefore seeks to address that question through a qualitative analysis of strategy use in the context of a vocabulary teaching intervention.

The present study

We explored the impact of both listening proficiency and prior vocabulary knowledge (PVK) on vocabulary learning within different forms of instruction (Zhang & Graham, 2020b). We also explored how listening proficiency developed during the different interventions (Zhang & Graham, 2020a). Four classes (137 learners), all first-year high school EFL learners (aged 15–16) from one school in China, were randomly assigned to a No Explanation (NE) group, L2 group, Codeswitching (CS) group, or Contrastive Focus on Form (CFoF) group, and participated in a six-week classroom intervention in which 60 lexical items (18 nouns, 13 verbs, 12 adjectives and 17 collocations) were taught. The approaches used in the ‘explanations’ groups were selected based on those implemented in other similar studies of vocabulary instruction but not previously all compared: L2, codeswitched explanations (as in Tian & Macaro, 2012), and CFoF as developed by Laufer and Girsai (2008). These authors contrasted CFoF with approaches like codeswitching that “simply state the meaning of L2 words”; targeting instead “learners’ understanding of the similarities and differences between their L1 and L2 in terms of individual words and the overall lexical system”, through the explicit highlighting of such differences (p.696). All three types of explanations targeted meaning, form, and use (Nation, 2022) by not only giving learners an explanation of what items meant but also an illustration of their use and a written version of the item displayed on a PowerPoint slide. For the L2 group, explanations were completely in the language being learnt, namely English and an additional example sentence was given; in

the CS group, teacher explanations used both Chinese (L1) and English, followed by an additional example sentence; in the CFoF group, after giving the meaning of the word in the L1, the teacher explained in the L2 the way in which the word functioned differently in the two languages. See Figure 1.

‘Making a fist and shaking it almost always means that someone is angry and *threatening* another person’

L2 explanation: Here, *threaten* is a verb, which means ‘to tell someone that you will kill or hurt them or cause problems if they do not do what you want’. An example sentence for this word can be ‘They threatened to kill him unless he did as they asked.’

CS explanation: Here, *threaten* is a verb, which means ‘恐吓’. An example sentence for this word can be ‘They threatened to kill him unless he did as they asked.’

CFoF explanation: Here, *threaten* is a verb, which means ‘恐吓’. In Chinese, ‘恐吓’ can be used both as a noun and a verb. In English, however, ‘threat’ is the noun version for ‘threaten’. They are different words.

Figure 1. Examples of each type of explanation

As reported fully in Zhang and Graham (2020a, b), participants first completed a listening pre-test and an aural General English Vocabulary Test (GEVT) which also included the items taught in the intervention by way of a pre-test. Each group then had six intervention sessions (one per week, 10 vocabulary items taught per session). In each session they listened to a passage, followed by explanations of the items by their teacher (unless they were in the NE group, where they just listened to the passage and answered comprehension questions). All learners were tested on the 10 items at the end of each session, in an aural test of meaning recall, and then on all items again in combined delayed posttest two weeks later. They also completed a listening post-test. Findings reported in Zhang and Graham (2020b) indicated that listening proficiency (LP) was a more important factor influencing vocabulary learning through aural input than PVK was, with most notable gains for learners with high listening proficiency and low PVK. High LP / low PVK learners learnt more under the CS than under the L2 condition. The CFoF approach was the most helpful for learning regardless of learners’ PVK and listening proficiency, whereas the NE approach was the least helpful. Listening proficiency, however (Zhang & Graham, 2020a) gave rather different results: only the NE group showed significant improvement, as well as making significantly greater pre- to post-test improvement than the CFoF and the L2 groups did. Additionally, the CFoF group, who had the greatest vocabulary gains, improved the least in listening. Finally, learners from all groups with the lowest vocabulary scores at the start made

the most progress in listening, suggesting that vocabulary instruction helped their listening.

Both studies (Zhang & Graham, 2020a, b) in their conclusions point to the importance of activities that encouraged deeper processing of the language to which they were exposed, with reference to 'Involvement Load' (Hulstijn & Laufer, 2001) as discussed above. Enhanced 'Involvement' may have come from listening input and activities that required some degree of strategic behaviour, as long as they were not too far beyond the learners' level of vocabulary knowledge and listening proficiency. The current paper explores that question by investigating whether any differences in vocabulary learning gains were related to learners' strategic behaviour in response to the different types of teacher's explanations, and the extent to which strategy use also varied by proficiency level.

The following questions were therefore proposed:

1. When learners listen to different kinds of teacher explanations of target vocabulary items, does their strategy use vary according to the type of vocabulary explanation they have experienced?
2. Are any differences in strategy use related to learners' listening proficiency and how much they benefit from the intervention they experienced?

Overall, we were interested in looking specifically at how learners used strategies and whether patterns of use emerged by intervention group, proficiency level, and how much was learnt in the intervention.

Method

Participants and procedures

Twelve learners were selected from the original 137 in Zhang and Graham (2020a, b), two high and two low proficiency level learners from each intervention group. Proficiency levels were based on scores from the General English Vocabulary Test (GEVT) and listening test that learners completed before the intervention (Table 1). A composite score from these two tests was created by converting scores into z scores and then combining them. Next, learners were rearranged in ascending order of their composite test scores and were divided into 'Low' and 'High' proficiency levels. In other words, a median split approach was used. However, mindful of the potential shortcomings of using a median split (Iacobucci et al., 2015), extra attention was paid to learners at the borderline, making sure that those with very similar scores were in the same proficiency group. An independent sample *t*-test showed that the High-level learners significantly outperformed the

Low-level learners in the composite test scores ($p < .001$). Once the two proficiency groups were established in this way, the four learners from each intervention group were selected on the basis that they had consented to take part in the interview as well as the tests and intervention, and that the combined scores for each of the four selected students were comparable across the intervention groups (see Table 1).

Table 1. Overview of interviewees' test scores

Student code	Group	Proficiency level	Combined GEVT/ listening	Vocabulary pre-test	Vocabulary post-test	Vocabulary delayed post-test
L2H1	L2	High	100.00 (60 + 40)	11.00	33.00	21.00
L2H2			90.00 (55 + 35)	8.00	24.00	14.00
L2L1		Low	65.00 (45 + 20)	8.00	24.00	10.00
L2L2			47.00 (37 + 10)	4.00	7.00	6.00
CSH1	CS	High	101.00 (66 + 35)	21.00	56.00	29.00
CSH2			79.00 (59 + 20)	14.00	50.00	25.00
CSL1		Low	63.00 (48 + 15)	4.00	39.00	5.00
CSL2			43.00 (43 + 0)	15.00	36.00	7.00
CFoFH1	CFoF	High	110.00 (60 + 50)	7.00	59.00	32.00
CFoFH2			78.00 (53 + 25)	6.00	53.00	34.00
CFoFL1		Low	62.00 (47 + 15)	6.00	49.00	34.00
CFoFL2			53.00 (43 + 10)	6.00	52.00	17.00

Note. The students' intervention group is shown first (L2, CS, CFoF) followed by proficiency level (L or H) and then student number (1 to 2).

Initial insights came from an observation of the vocabulary learning gains of this sub-sample of learners. Proficiency level did seem to make some difference to how much learners benefited from each intervention type, although the size of the sub-sample needs to be remembered. The greatest benefits for both short-term learning and long-term retention seemed to be for the two high proficiency level CFoF learners. Their gains contrast with those of the L2 group high proficiency learners. Furthermore, the low proficiency learners in that group made the least progress in vocabulary. Yet there was an indication of short-term learning for the low proficiency learners in the CS group, even though this largely disappeared by the time of the delayed post-test. Finally, also worth noting is that in the CS and CFoF groups, the two high proficiency learners differed in terms of listening scores.

Stimulated recall interviews

These learners completed individual 20-minute stimulated recall interviews immediately after the delayed post-test, in order to gain insights into the strategic behaviour they had employed in response to the vocabulary explanations experienced in intervention sessions shortly before.

Stimuli for the interview were based on six of the taught target lexical items (one from each intervention session) so that each type or word class was represented and reflected around 10% of the items taught: two nouns (*association*, *tourism*), two collocations (*figure out*, *at ease*), one verb (*threaten*), and one adjective (*convincing*). The length allocated to the SRI limited the number of stimuli presented. Learners first watched a video clip from a lesson showing the teacher explaining a target lexical item and were then asked about what they were thinking during the explanation and how they tried to understand it. There was also discussion around whether they tried to learn the target items and if so, how. These two sets of questions were posed in order to observe the distinction drawn by Nyikos and Fan (2007) between vocabulary comprehension strategies (VCS) and vocabulary learning strategies (VLS), a procedure also adopted by Macaro (2017).

Data analysis

The 12 stimulated recall interviews were transcribed and translated from Chinese into English by the second author. A coding scheme, combining both inductive and deductive approaches (Gu, 2014), was applied to identify learners' strategy use, employing NVivo 11. The second author then drew up an initial code book comprising meaningful instances of strategy use (with examples and definitions) emerging from an overview of all transcripts, with reference to existing strategy taxonomies for vocabulary (Schmitt, 1997) and listening comprehension (Vandergrift & Goh, 2012). The initial code book was then sent to the first author for comments, after which it was further modified to generate a second code book. Two researchers then used this to independently code three randomly selected transcripts (one from each intervention condition), resulting in an inter-rater reliability rate of 83.33%. Differences in coding were resolved through discussion, which then led to further modification of the code book to generate a final code book (see Appendix). This was then applied to the coding of all 12 transcripts. The number of instances of different types of strategies reported by interviewees in each intervention group and by proficiency level were firstly obtained. In recognition, however that such an analysis 'cannot capture how a

given strategy is used or the particular combinations of strategies used to build meaning [nor] the effective use of a strategy, such as the accuracy of an inference, an appropriate connection to prior knowledge or the depth of summarization' (Vandergrift, 2003, p. 477), the quantitative analysis was supplemented by a qualitative analysis looking specifically at how learners used strategies and whether patterns of use emerged by intervention group, proficiency level, and how much vocabulary was learnt by students.

Findings

Research Question 1: Strategy use in response to different kinds of vocabulary explanations

Our research question explored what strategies learners used in response to the explanations for the target items in each of the three experimental conditions. An initial, quantitative overview was obtained of the number of instances of different types of strategies reported by learners from the three groups. The type of strategy used differed between the three groups (Figure 2), suggesting that the interventions prompted different types of focal attention, either a more global focus on the listening input as a whole, or one largely focused more narrowly on the target vocabulary items. Learners from the L2 group reported using *translation*, *selective attention to known words* and *linguistic inferencing* more frequently than learners from the other two groups did, as well as more strategies in total. They were also the only group to use *summarisation*. These strategies came from both the Listening Comprehension and Vocabulary Learning sections of the coding framework, suggesting a more global focus. The number of instances of using *repetition*, *making connections*, and *force* were reported most frequently by the participants from the CS group, who were also the only group to use the *keyword strategy* and *searching*. All of these strategies came from the Vocabulary Learning section of the coding framework, indicating a narrower focus. The same was true of learners from the CFoF group, who tended to use the vocabulary learning strategy *waiting* (for the teacher's explanation) more, alongside relatively high instances of *translation* and *making judgement*.

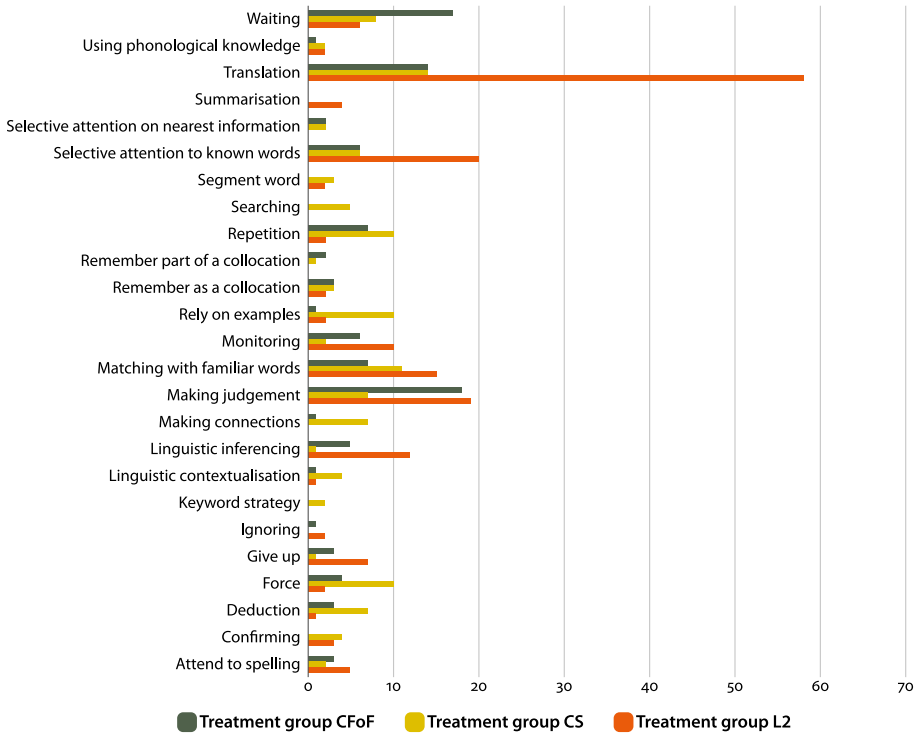


Figure 2. Quantitative overview of strategy use by intervention group

Qualitative analysis: Strategy patterns by intervention group

The quantitative overview did not, however, reveal how exactly the strategies were used, i.e., whether there were any particular patterns of strategy use within one particular intervention group. Further qualitative analysis with the 12 interview transcripts found that there were two patterns of strategy use in the L2 group, and one type of combination of strategies in the CS and one in the CFoF group.

The L2 group

In this group one pattern was the combination of *matching with familiar words* and *translation*, while the other was combining *selective attention to known words*, *translation* and *making judgement*. *Selective attention* and *matching* both involved familiar or known words but the former involved a degree of intentionality or forward-planning absent from the latter. The first of these patterns is shown in the

following example from L2S1HS, a more skilled learner in the L2 group, in relation to the word *tourism*:

Listening segment 1: With all these attractions, no wonder *tourism* is increasing.

Vocabulary explanation: *Tourism*, which is a noun, means ‘the industry of sightseeing and holidays’.

An example sentence for this word can be ‘The tourism in China is developing.’

R: So when you first heard the sentence including the word “tourism”, did you catch the word?

L2H1: Yes.

R: What did you do then?

L2H1: I guessed it would have something related to “旅游”(tour).

R: So what you did was to link tourism with the familiar word tour, is that correct?

L2H1: Yes. I was quite sure that the word should have something to do with “旅游”(tour).

When L2H1 first heard the sentence, she realized that there was an unknown vocabulary item. She then matched the unfamiliar item with a familiar item ‘tour’. At the same time, there was an on-going process of translating the English word ‘tour’ to its L1 meaning in her mind. She continued:

R: So how did you figure out it was actually “旅游业”(tourism).

L2H1: With the help of your English explanation. I noticed that in your explanation, there is “industry”, and I realised that it was “工业”(industry). So I supposed the meaning of the word could be “旅游业”(tourism).

R: You actually translated the meaning of the word into Chinese?

L2H1: Yes, I only translated the familiar part of your English explanation into Chinese.

L2H1’s attention was firstly focused on the word ‘industry’ which was familiar to her which she then translated into the L1. Instead of understanding the remaining part of the explanation, she linked ‘industry’ with ‘tour’ which she had guessed previously and successfully worked out the L1 meaning of *tourism*.

She was, however, still struggling with the L2 explanation provided and moved to *making judgement* on that, having discovered that the direct translation of that explanation did not seem quite right to her (“does not match the word itself”, which she had initially interpreted as ‘tour industry’ (旅游工业)). Indeed

she seemed content to arrive at a global understanding, aided by further application of the *matching with familiar words* strategy only rather than consciously striving to commit the word to memory, as the following suggests:

L2H1: I still think your explanation does not match the word itself.

R: Since you were not allowed to write down the meaning of the word, what did you do to remember the word?

L2H1: I actually did not make any efforts to remember it. Firstly, I knew the word tourist, so I could link tourism with tourist. Second, I was very confident that tourism means ‘旅游业’ (*tourism*). So I think I have remembered that word.

Similar patterns were found for L2L1, a less skilled participant, this time illustrated through the phrase *figure out*.

Listening segment 2: She also discovered how chimps communicate with each other, and her study of their body language helped her *figure out* their social system.

Vocabulary explanation: *Figure out* means ‘understand sb./sth. by thinking.’ An example sentence for this collocation can be ‘Can you figure out this difficult question?’

R: Did you recognise *figure out* when you heard this sentence in my class?

L2L1: Yes, it seems that the pronunciation is very familiar to me...maybe I have heard about this collocation before.

R: What did you do when I was explaining this collocation to you?

L2L1: I tried to translate the English meaning that you provided into Chinese...but I failed. I knew that in your explanation, ‘understand’ should be a familiar word to me, but I couldn’t remember the exact Chinese meaning for ‘understand’...your explanation is too long...very difficult to me.

The student initially tried to match *figure out* with a potential familiar vocabulary item which has similar pronunciation (*matching with familiar words*). When provided with the L2 explanation, she tried to translate the L2 explanation word by word into Chinese (*translation*). She failed, however, as she forgot the L1 translation of the word ‘understand’ used in the L2 explanation, although she claimed that ‘understand’ was a familiar word to her (*selective attention to known words*). At the same time, she also felt that the L2 explanation provided by the teacher was too long and difficult, most likely because of her low level of existing vocabulary knowledge. Therefore, she treated the vocabulary explanation in a fairly passive way and was likely to *give up* at the end.

Thus, while the higher proficiency L2 learner was more active and successful in their strategy use than the lower proficiency L2 learner in terms of understand-

ing the teacher's explanation, in neither student was there clear evidence of successfully committing the target item to memory.

The CS group

One type of strategy combination was found in this group, where largely the opposite of what was noted for the L2 group emerged. That is to say, their focus was less on understanding the listening segment and more on committing the explained vocabulary item to memory. All four CS participants tended to combine *waiting*, *force* and *repetition*, with only CSH1 going beyond these strategies (see *Strategy use by proficiency level* section). The following extracts relate to the word *threaten*.

The identified combination of strategies and focus on memorisation can be illustrated through an excerpt from the interview with higher proficiency learner CSH2, who did however have lower listening proficiency:

Listening segment 3: Making a fist and shaking it almost always means that someone is angry and *threatening* another person.

Vocabulary explanation: Here, *threaten* is a verb, which means '恐吓'. In Chinese, '恐吓' can be used both as a noun and a verb. In English, however, 'threat' is the noun version for 'threaten.' They are different words.

R: What did you do when I played the listening segment including the word *threaten*?

CSH2: I remember that I actually did not clearly recognise what was in the listening segment. Therefore, what I did was to wait for you to explain.

...

R: What were you thinking after I explained this word to you?

CSH2: I recognised that this word was unfamiliar to me and I forced myself to remember it.

R: How exactly did you force yourself to remember?

CSH2: I repeated both the pronunciation of the word and its Chinese meaning many times.

R: You repeated them? In your mind or orally?

CSH2: Orally in a very low voice. In my opinion, reading out the word and its meaning can help me remember, especially when they were repeated orally for many times.

After the listening material was played by the teacher, the student failed to catch any information and did not understand the sentence. Therefore, she used the strategy *waiting* and waited for the teacher to provide the translation rather than arriving at one herself, perhaps because she had worked out from earlier intervention sessions that the teacher gave L1 explanations in due course. The student therefore seemed to intentionally pay attention largely to the L1 explanation, with less focus on understanding the L2 listening passage. The student then *forced* herself to remember the word by reading it out and its corresponding Chinese meaning several times (*repetition*).

The above combination of strategy use was also reported by lower proficiency student CSL2 in relation to the phrase *at ease* that occurred in the fourth intervention session.

Listening segment 4: Its function is to show happiness and put people *at ease*.

Vocabulary instruction: At ease is a collocation which means ‘自由自在, 放松’. An example sentence for this can be ‘He felt completely at ease.’

R: Did you recognise the collocation *at ease* when you heard it for the first time?

CSL2: Yes, I did.

R: What did you do then?

CSL2: Nothing.

R: Just recognised it and did nothing?

CSL2: Yes, and waited for you to explain.

...

R: So what did you do to cope with my explanation?

CSL2: Forced myself to remember.

R: How exactly did you force yourself to remember?

CSL2: I linked the Chinese meaning and the English word and read them out for a few times.

While this students’ focus on vocabulary learning rather than understanding and the combination of strategies here is very similar to that seen in CSL2, the higher proficiency learner, commenting that “*reading out the word and its meaning can help me remember, especially when they were repeated orally for many times*”, arguably displayed a higher degree of evaluation of self and strategy use. Notable also is that both of these CS learners had relatively low listening proficiency, even CSH2 who was in the higher proficiency group overall, perhaps further explaining their focus on vocabulary learning rather than on understanding of the passage.

CFoF group

In the CFoF group, one strategy use pattern was reported by the four interviewees: *selective attention to known words*, *waiting* and *translation*. These individual strategies were also used by the other two intervention groups, but combined with different strategies. In particular, the L2 group used *selective attention to known words* and *translation* in conjunction with *making judgement* rather than *waiting*.

The first example given relates to the item *threaten*.

Listening segment 3: Making a fist and shaking it almost always means that someone is angry and *threatening* another person.

Vocabulary explanation: Here, *threaten* is a verb, which means ‘恐吓’. In Chinese, ‘恐吓’ can be used both as a noun and a verb. In English, however, ‘threat’ is the noun version for ‘threaten.’ They are different words.

R: What did you do when you heard the sentence including *threaten*?

CFoFH1: I recognised that there was an unfamiliar word to me and I linked this word (*threaten*) with ‘angry’ in the same sentence. ...

R: What was on your mind at the time when I was explaining the word to you?

CFoFH1: You gave us another word *threat* which means ‘威胁’. I followed your instruction and thought about *threaten*, which means ‘恐吓’. The two Chinese meanings are connected ... The two words have a similar Chinese meaning but are different in forms.

When listening to the sentence including the target word, CFoFH1, a more skilled learner, firstly linked it with ‘angry, a familiar word for her (*selective attention on known words*). She then waited for and listened to the teacher’s explanation (*waiting*). During this period, she reflected on the individual vocabulary items, linking *threaten* with ‘threat’, thus evaluating and processing individual lexical items at quite a deep level. She also seemed to try to go beyond the teacher’s explanation by using the *translation* strategy when she tried to compare and contrast both the meaning and form of the words herself.

Furthermore, the strategy the CFoF learners used most frequently was *making judgement* (for an example see CFoFH1 as discussed in relation to Research Question 2). This involved them evaluating the usefulness of the teacher’s explanation and as such might be considered a metacognitive strategy. Thus while the CFoF group seemed to firstly rely more on receiving information about the item’s meaning and use rather than trying to work this out themselves through their frequent use of *waiting*, they then followed this up with strategies for focusing on the

word itself and evaluating its meaning. Overall, one might call their approach a focused one, concentrating on vocabulary learning rather than on overall understanding of the listening passage, in contrast most clearly with the L2 group.

Research Question 2: Strategy use by proficiency level

In addition to differences by intervention group, there were also instances of differences in strategy use by proficiency level. On a quantitative level, high proficiency learners reported a greater number of instances of different types of strategies than low proficiency learners.

More qualitatively, high proficiency learners in the CFoF and L2 group seemed to be prompted by the teacher's explanations to adopt fairly complex processing. For example, CFoFH1 combined *selective attention to known words*, *translation* and *summarisation*, as outlined above. By contrast, the CFoF and L2 conditions seemed to provide information of a complexity that was sometimes too great for the low proficiency learners, which was then reflected in their strategy use. This can be illustrated by comparing how two learners from the CFoF group with different proficiency levels reacted quite differently to not fully understanding the teacher's explanation:

Explanation: *Here, in the structure 'noun. + association', it means '协会'. However, it has a different meaning '联合' when used as 'association with sb./sth.'*

R: What were you thinking when you first heard the sentence including the target word?

CFoFH1: I recognised this word. I felt I had heard the word before but couldn't remember the Chinese meaning of the word (...) I tried to guess the meaning of the word and also tried to guess the meaning of 'student association.'
[*matching with familiar words*
+translation+linguistic inferencing]

CFoFL1: I felt that I knew this word before, yet I cannot remember the meaning. (...) I tried to search for the Chinese meaning of the word in my mind, (...) but I failed. [*matching with familiar words +translation*]

R: What were you thinking when I was explaining the word to you?

CFoFH1: I felt that the first part of your explanation was useful. However, the second part was not useful. (...) I could simply remember the first structure because there was 'student association' in the listening passage. However, I kind of felt that the second structure was irrelevant in this occasion.
[*making judgement+ monitoring*]

CFoFL1: (Silence)

R: Just listening?

CFoFL1: Yes. [*give up+waiting*]

R: Did you do anything else?

CFoFL1: (silence)

R: Did you do anything to help you remember?

CFoFH1: I remembered 'student association' as '学生会 (student association)'. [*remember as a collocation +translation*]

CFoFL1: I felt the word was too long and too difficult to remember. [*give up*]

Both students felt that they knew the target word [*matching with familiar words*] but failed to recall its Chinese meaning [*translation*]. Yet while CFoFH1 actively turned to the context to guess the meaning [*linguistic inferencing*], CFoFL1 gave up at this stage, responding with silence. In addition, while CFoFL1 said she was *waiting* for the teacher to explain, CFoFH1 *made a judgement* about the teacher's explanation and engaged in *monitoring*, commenting that the second part of the explanation was not relevant for understanding the target item. To learn the word she remembered it as a collocation [*remember as a collocation*], how it had featured in the listening passage, while CFoFL1 just gave up [*give up*], commenting that the word was too long.

By contrast, in the CFoF group there were instances of learners with lower levels of listening proficiency being helped by the teacher's explanation, as in the following example from CFoFH2, who had high PVK but low listening proficiency. Even though the latter did not permit her to recognise the collocation *at ease* within the listening passage itself, she applied strategies to help her remember it that seemed prompted by the teacher's explanation:

R: Did you recognise the collocation "at ease" when you heard it for the first time?

CFoFH2: No, I didn't.

R: So what was on your mind when I showed the sentence to you?

CFoFH2: I thought about "ease" and "easy". [*matching with familiar words*]

R: Well, did you actually form this link before I explained this word to you?

CFoFH2: Yes. When I first saw "ease", I can think about "easy". [*matching with familiar words*]

R: So what was on your mind when I was explaining this word to you?

CFoFH2: You also mentioned that "ease" came from "easy", which gave me a deep impression because this confirmed my hypothesis. [*making judgement*] Then, I used the Chinese meaning of "easy" to help me remember the meaning of this collocation. [*translation*]

Rather differently, and as outlined earlier, low proficiency learners in the L2 group seemed to have benefited the least from the intervention. Their ability to use a range of strategies flexibly and in effective combinations seemed often to be hampered by their failure to understand enough of the input in the first

place, either from the passage or the teacher's explanation, as in the following, which contrasts responses from a low and a high proficiency learner:

Explanation: Here, *association* is a noun which means 'club, society'. Therefore in this sentence, 'university student association' means university student club or university student society

L2H1: I recognised there was this unfamiliar vocabulary item and tried to guess the meaning of the item in the sentence. [*linguistic inferencing*] (...) I thought the word might have something to do with '社会的 (*social*)'. [*matching with familiar words + translation*]

L2L2: Nothing, I think. [give up] (...) Just wait for your explanation. [*waiting*]

R: What did you do then?

L2H1: When I put '社会的 (*social*)' back into the sentence, I felt the Chinese meaning of the whole sentence did not make sense. (...) I actually felt the same way when I tried to put the Chinese meaning of the vocabulary explanation that you provided back to the sentence. [*confirming + translation + monitoring*]

L2L2: I tried to figure out the Chinese translation of your explanation. [*translation*] However, I had no idea what your explanation meant, so I ignored it [*ignoring*]

The use of a combination of different strategies by the more proficient L2H1 – identifying an unfamiliar item; using *linguistic inferencing* to work out its meaning from the context; matching the target word with a familiar word; translating that word into Chinese, and finally evaluating and *monitoring* her interpretation – contrasts with the much more limited strategy use of learner L2L2. She reportedly did nothing after listening to the sentence, except waiting for the teacher's explanation [*give up + waiting*], presumably because her lower vocabulary size and listening proficiency meant that she understood little of it and hence had little with which to be 'strategic'. Although she tried to translate the English meaning of the word provided into Chinese, she failed to do so and decided just to ignore that part.

Finally, for the CS group, there were differences between learners of higher and lower listening proficiency in terms of whether they attended just to the teacher's explanation or also used strategies to make sense of target items within the listening passage itself, or to relate the explanation to what was heard, as indicated below. Here, CSH2 was overall considered to be high proficiency, but her listening proficiency was relatively low:

Explanation: *threaten* is a verb, which means 恐吓. An example sentence for this word can be 'They threatened to kill him unless he did as they asked.'

R: did you recognise the word 'threaten' when you heard the listening passage in my class?

CSH1: I felt that I was familiar with it although I was not sure about its meaning. **CSH2** No, I didn't.

R: What did you do then?

CSH1: I would love to know the meaning of it. So I wait for you to explain.

CSH2: Because I didn't clearly recognise the sentence you played, so I just wait.

R: As you said before, you might replace it with something you knew, did you do that?

R: After I showed you the sentence, what were you thinking then?

CSH1: Yes. In the original sentence, there is "angry". And this word is a verb. So I guess it must have something related to "anger". [*linguistic contextualisation + linguistic inferencing*]

CSH2: I recognised that the word is unfamiliar to me.

R: You actually use the sentence to guess the meaning of the word?

R: Ok. after I explained the word to you, what were you thinking about?

CSH1: Yes.

CSH2: I forced myself to remember this word. [*force*]

R: How did you cope with my explanation?

R: How exactly did you force yourself to do so?

CSH1: I felt that the example sentence that you provided was very easy to remember for me. [*making judgement*]
So I actually used the example sentence to help me to remember. [*rely on examples*]

CSH2: Repeat both the pronunciation of the words and the Chinese meaning for many times. [*repetition*]

R: Did you feel confident to use it correctly in the future?

CSH1: Yes, I am sure I will use it.

R: Did you refer back to the original sentence?

CSH1: Yes. As I said before, this is what I usually do. After I know the unfamiliar word in a sentence, I will go back to the sentence and think about the Chinese meaning of the whole sentence. [*linguistic contextualisation + translation*]

Here, CSH2 used few strategies apart from *force* and *repetition*, especially noticeable in comparison with the variety used by CSH1.

Discussion

Our research questions explored learners' strategy use when listening to different kinds of teacher explanations of target vocabulary items, whether those strategies

varied according to the type of vocabulary explanation and learner proficiency, and whether any differences in strategy use related to gains in vocabulary and listening proficiency. Our qualitative analysis showed that the attentional direction (Ellis, 1999) of learners from the CFoF group in general seemed to be on the target words, made more salient by the cross-linguistic information provided and hence encouraging greater 'noticing' (Schmidt, 1990) and deeper thinking about them. In addition, *making judgement* was used frequently by the CFoF group, implying greater evaluation of lexical items, and hence greater involvement load as per Hulstijn and Laufer (2001) and thence better learning, especially when learners had higher levels of PVK. The L2 group, as well as using more strategies in total than learners in other two groups, also focused more on global understanding than committing vocabulary to memory. The opposite was the case for the CS group who focused on memorisation and reported a narrower range of arguably more passive strategies.

Turning to pre-existing proficiency, having a larger vocabulary size is recognised as being related to better comprehension (e.g. Webb, 2021). Perhaps unsurprisingly therefore, more proficient learners who knew more words to start with likely had greater understanding of the listening input and the teacher's oral explanations as a whole. That then may have enabled them to engage in more advanced strategic behaviour, using a combination of different strategies, compared with the less proficient learners, especially within the L2 and CFoF groups. Additionally, the findings in Zhang and Graham (2020b) indicated that, regardless of the intervention condition, the higher learners' listening proficiency was before the intervention, the greater short-term vocabulary gains they made; also, that learners with a lower level of listening proficiency were helped more by the CFoF approach. The latter may have occurred because they gained information from the cross-linguistic explanations information that they were less able to extract from the listening passage alone, as in the example given from CFoFH2. In turn, however, the information provided by the teacher may have obviated the need for the learners in the CFoF group to try to gain an overall understanding of the listening passage, which may explain why they saw the smallest gains in listening proficiency (Zhang & Graham, 2020a). Finally, Zhang and Graham (2020b) also found that in the CS group, more proficient listeners benefited the most for vocabulary learning, perhaps because they were able to supplement the basic information given in the teacher's L1 translation of the word with information gained from the listening passage regarding its use, which learners with a lower level of listening proficiency were unable to do. This was illustrated in the contrasting examples of strategy use from CSH1 and CSH2. In other words, taken together these findings indicate that the strategies learners use depends on a combination of both learner factors (such as PVK) and the teaching they experience. The more sup-

port offered by the teacher (higher in the case of the CFoF group, and lower for the L2 group), the more learners need to apply strategic behaviour.

Our analysis of strategy use thus enabled us to better understand the quantitative findings of Zhang and Graham (2020a, b), giving insights into the impact of PVK, listening proficiency and intervention conditions on vocabulary learning as revealed by the strategies learners used as they responded to the teacher's vocabulary explanations. While overall the CFoF approach led to the greatest vocabulary gains, it was much less helpful for developing listening proficiency. The analysis of strategy use by the CFoF group indicated that the intervention encouraged learners to focus on the target lexical items much more than trying to understand the original listening passage. Perhaps for that reason, CFoF also emerged as potentially helpful for learners with weaker listening skills, who were able to gain rich information about lexical items without needing to understand the original passage so fully. Somewhat differently, the learners who made the smallest vocabulary gains were the low proficiency L2 learners, whose strategy use indicated that they struggled to make sense of either the passage or the teacher's explanations. The higher proficiency learners in the L2 group, who made the smallest gains of all the higher proficiency learners who were interviewed, also seemed to focus less on vocabulary items and more on trying to make sense of the original passage.

There are some limitations to our study, largely in relation to the challenges of using stimulated recall interviews with adolescent, relatively low proficiency learners, whose responses to the interviewer tended to be short, with an unwillingness or low capacity to elaborate further. Future studies with such learners might want to consider incorporating stimulated recall with such approaches as focus group interviews with such learners to gain further insights. In addition, future research might usefully explore the use of stimulated recall to gain insights into listening strategy use in different learning contexts, such as content-focused settings. While there is important new emerging evidence of the central role of listening strategy use for processing content knowledge (Zhou et al., 2023), using stimulated recall rather than broader tools such as retrospective interviews would provide clearer insights into strategy use in relation to specific aspects of the input learners encounter, as studies are beginning to show (Fung & Lo, 2023; Zhou & Thompson, 2023). In spite of the above limitations, our study, does, however, advance the field by showing the merits of using a qualitative analysis of strategy use to help better understand the impact of classroom-based interventions, and also, likely for the first time, to provide qualitative insights into the role of 'involvement load' (Hustijn & Laufer, 2001) for vocabulary learning. Finally, it also highlights the need for teachers to consider strategy-focused interventions to help learners to develop the most appropriate strategies to use in response to the teacher's vocabulary explanations.

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Appendix 1

Code book (Based on Schmitt, 1997; Vandergrift & Goh, 2012, p. 277–284)

No.	Strategy	Definition
Part 1		
1	Linguistic inferencing*	“Using known words in an utterance to guess the meaning of unknown words.”

No.	Strategy	Definition
2	Matching with familiar words	Matching with known or familiar words to assist in understanding and/or task completion.
3	Monitoring*	“Checking, verifying, or correcting one’s comprehension or performance in the course of a task.”
4	Translation*	“Rendering ideas from one language to L1 in a relatively verbatim manner.”
5	Selective attention to nearest information	Attending to language input or situational details within a fairly short input distance from the target item to assist in understanding and/or task completion.
6	Linguistic contextualisation*	“Relating a word or a phrase heard to an environment where the word has appeared before.”
7	Deduction*	“Consciously applying learned or self-developed rules to understand the target language.”
Part 2		Vocabulary learning strategies
8	Attend to spelling	Try to spell the unfamiliar words.
9	Give up	Think of nothing, blank in mind.
10	Selective attention to known words	Attending to known or familiar words in the language input that assist in understanding and/or task completion.
11	Ignoring	Ignore the vocabulary explanation provided.
12	Summarisation	Use a simple L1 word to summarise the English explanation.
13	Searching	Search for other familiar words which have similar meanings.
14	Confirming	Refer back to the original sentence to confirm the meaning.
15	Makings judgement	Evaluating the vocabulary explanation provided.
16	Waiting	Waiting for explanation, verification, rephrasing, or examples about the language and/or task.
17	Using phonological knowledge	Use the pronunciation of the vocabulary item to remember.
18	Repetition	Repeat the vocabulary item and its meaning verbally for several times.
19	Force	Force oneself to remember the vocabulary meaning provided.
20	Segment word	Segment a word according to its pronunciation to assist remembering.
21	Remember as a collocation	Remember the meaning of a collocation which includes the target single word.

No.	Strategy	Definition
22	Making connections	Connect to familiar words to remember.
23	Rely on examples	Use an example sentence or phrase including the new vocabulary item.
24	Keyword strategy	Generate an L1 word “that is similar in sound or appearance to the new foreign language word; and development of an interactive image involving that keyword and the definition of the new word”. (Lawson & Hogben, 1998, p. 179)
25	Remember part of a collocation	Remember part of a vocabulary item to assist remembering of the whole collocation.

Note.

* – listening comprehension strategies developed by Vandergrift & Goh (2012), p. 277–284

Address for correspondence

Suzanne Graham
Institute of Education
University of Reading
London Road Campus
4 Redlands Road
Reading, RG1 5EX
UK

s.j.graham@reading.ac.uk
<https://orcid.org/0000-0002-7743-3977>

Co-author information

Pengchong Anthony Zhang
Institute of Education
University of Reading
UK

anthony.zhang@reading.ac.uk
<https://orcid.org/0000-0002-2136-4984>

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