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Effect of context and feeling of knowing on recall

Dans l'enseignement des langues, les enseignants ne désirent pas seulement que les apprenants comprennent les mots mais qu'ils puissent les utiliser activement. La première question de cette étude est liée au contexte: est-ce que les mots présentés au début d'une semaine intégrés dans un texte sont-ils mieux retenus la semaine suivante que les mots présentés sous forme de liste que les apprenants doivent eux-mêmes contextualiser. De plus, nous nous sommes demandé si le fait qu'un apprenant pense connaître le mot soit un bon prédicteur de sa capacité à l'utiliser la semaine suivante.

Introduction

The incentive to perform this study stems from Macaro's (2003) questionnaire "What do second language teachers want from research" where he found the topic of vocabulary to be at the top of the list. This study attempts to answer two principal questions. First of all, for the learner, does the additional step of having to apply a context to a set of given words instead of being given the words in a specific context have any effect on how well these words are recalled at a later point in time? Secondly, is a learner's *feeling of knowing* (Nelson, 1996) a good predictor of correct performance on a post-test given at a later date?

Literature review

There have been numerous studies on the role of context in foreign language vocabulary learning (Sternberg, 1987; Daniels 2000; Bensoussan and Laufer 1984). Ellis (1995) proposed a distinction between a strong implicit and a strong explicit hypothesis. In the strong implicit hypothesis, words are acquired unconsciously as they are abstracted through repeated exposure in a range of contexts. In the strong explicit hypothesis, acquisition occurs when a range of strategies such as noting down the language forms, inferring the meaning from context and using various forms of repetition, are explicitly applied to the target language.

Knight (1994) tested two groups of university students of Spanish on words learnt through the context of a text and through no context. She found that students given the words in a context could more often correctly

match the word to its definition than students learning the words without a context directly after the activity as well as two weeks later.

Frantzen (2003) found that context alone is not enough to infer meaning from unknown words – more factors, such as individual factors and text factors played a role. She suggests that students should check their guesses even if they feel certain. Leonesio & Nelson (1990) found that in high school students, the feeling of knowing as well as the confidence concerning this feeling are important predictors of test performance. Later, Nelson (1996) proposed a theory of metacognition in which he distinguished between an objective level of knowledge and a meta-level (often called *metacognitive knowledge* or *introspective level*). Efklides (2001), finally postulated a direct influence of feeling of knowing and confidence estimation on all kinds of memory performance. This is why, perhaps, the additional step of imposing a second context onto a set of words could be a necessary factor in learning as it encourages learners to verify their feeling of knowing.

Liontas (2003, p. 10) investigated the effect on understanding of Vivid Phrase idioms presented in context and those presented without a context. He found that context significantly affected the understanding of these types of idioms but that "guessing from context can be impaired by any of the four factors suggested by Laufner (1997, 31): (a) nonexistence of clues; (b) lack of familiarity with words in which the clues are located; (c) presence of misleading or partial clues; and (d) incompatibility between the reader's schemata and text content." Mondria (2008) argues that words

should not exclusively be learnt in context as the transferring to another context can become problematic if the words have not really been taken up but rather connected to a given context. Furthermore, he found that “it is only when the word meanings are intentionally memorized that the learning effect becomes substantial”. This problem of “episodic perception” (Feuerstein, Rand, Hoffman, & Miller, 1980) has been discussed in the metacognitive literature. Barnett & Ceci (2002) proposed a useful taxonomy of transfer relevant factors, and Büchel & Büchel (2009) have made several suggestions for overcoming the episodic use of applied knowledge.

Research questions

We can see from the above research that generally, context plays a positive role in vocabulary acquisition. The driving question of this study is not “with or without context” but first of all, does the additional step of having to apply a context to a set of given phrasal verbs instead of providing the phrasal verbs in a specific context have any effect on the ability to recall this same set of words a week later? It was hypothesized that learners would recall more phrasal verbs when they had the additional step of having to apply a context to them because this does not neglect context, it creates more opportunities for forming networks. Secondly, are learners who say that they knew words before correctly able to recall them when they are elicited a week later? This is the question about reliability of learner’s feeling of knowing. Based on the metacognitive literature, a medium to good reliability was expected. Finally, it would be interesting to know if the level of reliability of feeling of knowing relates to actual future learning. As feeling of knowing is responsible for selecting good strategies at the right moment, we expect that learners having a reliable

feeling of knowing will also perform better in future learning.

Method

This study was carried out over the course of five weeks with thirteen adult learners studying specifically for the Cambridge Proficiency Exam. Each week, learners were presented with a set of five or six phrasal verbs that appear on the Cambridge Proficiency Exam. These phrasal verbs were chosen from the exam materials and appeared in the Listening Section, Reading Section or were demanded in the Use of English section.

In two of the weeks, learners were given the list of target words and asked to try to create sentences with these words and put them in a context themselves. They could then ask the teacher or ask each other for help in finding an appropriate context for the phrasal verb. At the end of the lesson, the learners were given a grid and asked to choose from: “I knew this one before the lesson”, “I learned this one from a peer”, “I learned this one from the teacher” or “Other” (see Appendix 1, p. 16).

In the other three weeks, learners were given the words in the context of a text. They were then asked to try to transfer the phrasal verbs to other contexts. They could do this alone or in groups and had to fill out the table in Appendix 2: “I knew this one before”, “I figured it out from the context”, “I had help from the teacher”, “I had help from a friend” (see Appendix 2, p. 16). Moreover, during all five weeks, learners were asked if they had looked at the words during the week and if so, how.

Each of the five subsequent weeks, a gap fill test was given at the beginning of class (see Appendices 1 and 2, p. 16) that asked the learners to write in the appropriate phrasal verb. Clues as to the meaning of the phrasal verb were given as well. The gap fills were

corrected by the instructor and in the correction phase, items which were lexically correct – meaning both the verb and the preposition were correct - but perhaps not conjugated correctly were counted as “correct”. For example, if a learner wrote “patched up” instead of “patching up”, it was considered correct.

Results

The results from 2 of the 13 learners were not included into the statistic analyses because these two learners only attended class once and thus there was only one post-test available for them. Therefore the sample size of learners was 11. Over the course of the five weeks, a total of 27 words were presented and tested.

Hypothesis - context

As we postulated in the hypotheses that the context (context applied by the learners versus context given through a text) would influence performance, we first looked for the relation between context and performance. We were interested to know if there was a correlation between the type of context phrasal verbs were presented in in the weeks where they were given through a text as compared to the weeks where the word meanings were searched for by the learner, and the learners’ performance on the post-test administered the following week. As the first variable has only a nominal level (given or applied) and no normal distribution, a nonparametric statistical test was used. The significance of the correlation (p) was tested on the basis of a two-tailed distribution because we did not start from a strongly directed prediction. The correlation between the context given words and the performance on the post-test was positive but the result is non-significant ($R_{\text{Spearman}} = .131$; $p_{2\text{-tailed}} = .514$). As can be expected, the correlation between context applied

words and test performance was on the same level, but this time the correlation was negative ($R_{\text{Spearman}} = -.131$). This means that the context as defined in this study does not have a strong influence on performance. Nevertheless, it seems that learning phrasal verbs in a context given by the teacher has a more positive learning effect than the learning situation in which the learner has to search for a context him or herself.

A univariate ANOVA with type of context as factor and performance as dependent variable confirms these findings. We see a small difference in the means ($M_{\text{given}} = 56.36$; $M_{\text{applied}} = 45.94$) but the difference is non-significant ($F = 1.00$; $p = 0.327$).

For several reasons, these results should be interpreted with caution. First of all, although the two correlations go in different directions, they are non-significant. Secondly, the sample of participants as well as the sample of learned words is rather small. Finally, the learned words as well as the performance tests are not the same in the two conditions. Although the form of the five tests is the same, it can not be excluded that the level of difficulty is different. The same is true for the learned words.

Hypothesis - metacognition

As argued in the first part of this paper, there is no one way of presenting words that could be declared as the best way for all learners. The effectiveness of a context depends on different metacognitive variables. One of the most important is probably the learners' feeling of knowing (Nelson, 1996; Efklides 2001). If the learner is convinced that s/he already knows a word, s/he will not apply many strategies to re-learn it. But if s/he feels that s/he does not really master the word, s/he will look for a strategy to learn it or to reinforce the knowledge of the word. Nevertheless, it was demonstrated (e.g. Leonasio & Nelson, 1990) that

the feeling of knowing is not very reliable in high school students. We therefore tested the reliability of the feeling of knowing with respect to the words used for the testing of the first hypothesis.

First of all, we looked for the relation between the fact that a learner said "I knew this word before" during the first week and the fact that s/he proved this knowledge in a gap-fill test given one week later. Therefore, we looked for the relation between the feeling of knowing of the 11 learners with their real knowledge proven in the test. As we expected a positive relation between the two factors, we applied a one-tailed distribution for testing the significance of the correlation. We found a highly significant nonparametric correlation ($R_{\text{Spearman}} = 0.766$; $p_{1\text{-tailed}} = 0.003$). This means that most learners were able to predict their knowledge of the words. We observed nevertheless that learners had a tendency to overestimate their knowledge: 7 learners overestimated it, meaning they said they knew a word but they got it wrong on the post-test, whereas only 4 learners underestimated it – they said they didn't know the word but they got it correct in the post-test.

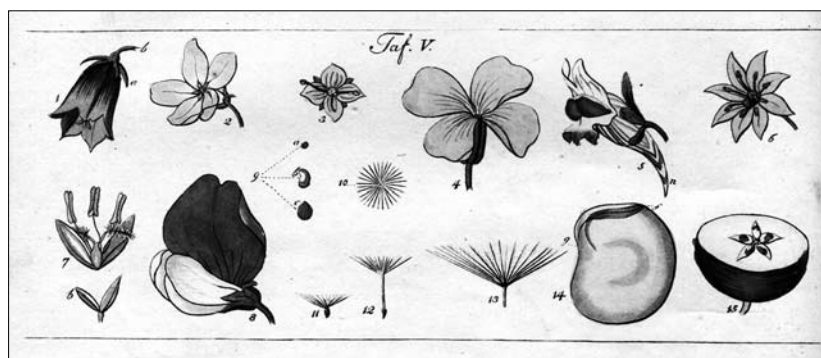
In a second step we examined if learners with a realistic estimation of their own knowledge also performed better over all of the 5 post-tests. For that purpose, for every learner we calculated the relation between the number of words positively estimated and the number of words mastered in the test

that followed one week later. We then formed two subgroups: a first group of 6 learners having a relation above the median, and 5 learners having a relation below the median. We found that the first group used more correct words in the five posttests ($M = 55.50$) than the second one ($M = 33.8$). But the ANOVA with group as factor and post-test as dependent variable missed the level of significance ($F=2.85$; $p=0.13$). Nevertheless, test power was low to medium. With a larger sample, we could expect to find a significant difference. This result confirms that the feeling of knowing is not only a good predictor of the estimated words, but also of words that had not been estimated before.

Some qualitative observations

It is of interest that some phrasal verbs, such as *swivel around* and *patch up*, were recalled correctly by many learners perhaps because of the fun element (there is no exact German equivalent, they are not cognates).

Learners were asked on the post-test if they had reviewed the words over the course of the week. 4 learners mentioned rereading the words, 3 mentioned using word cards, 2 mentioned having used the dictionary, and 1 mentioned listing. It is not surprising that the two people who for every post-test said they had done something with these phrasal verbs during the course of the week (wrote sample sentences....) are the learners



who consistently performed the best.

Limitations

First of all, due to the small sample size and the short duration of the study, the results can only hint at suggestions. Moreover, the means of post-testing could have measured knowledge of the target words in different ways. This study looks at elicitation in one way, through a definition of the word in the written form and a gap-fill test, which may not be enough to really know whether a learner would be able to produce the word or not.

Issues for further research

This study looks very generally at the role of context, with respect to the word's meaning as well as with respect to the feeling of knowing which represents a metacognitive variable. As Frantzen (2003) indicates, checking guesses even within a context supports learning, then it would also be interesting to look at how learners apply context to a set of target words, double-check the meaning of these words through dictionary use, peer testing or comparing contexts and then checking recall at a later date.

Furthermore, regardless of the mass of literature about strategies, as well as literature stating that it is not the quality of the strategies but the quantity used, it would also be interesting to delve further into the usefulness of strategies to learn words presented in and out of contexts. E.g., is the teacher a more valid source of learning words than peers due to his or her role as a correct model? Could it be simply that suggesting revision strategies, and peer pressure in asking learners to look at the words in different ways over the course of a week provide motivation and wider range of strategy use by the individual?

Last but not least, this research has demonstrated the very important role of metacognitive variables. It would

be interesting to study the question of what language teachers can do to make learner more metacognitive, especially to improve the reliability of the feeling of knowing.

Though in this study context did not play a significant role on performance, it does show a positive tendency towards teachers presenting words in some sort of context as compared to simply listing them. Moreover, actively encouraging additional work on the contextualized words, through dictionary work or peer testing, and allowing class time for such endeavors, should lead to increased performance on the part of the learner at a later date – focused time in class is more beneficial than expecting the learner to do these things for homework. Furthermore, allowing learners to estimate their knowledge of a word could be a good predictor of performance on a post-test and this step also encourages the learner to think on the metacognitive level – “If I don't know the word, then how can I learn it best?”. Moreover, it encourages the teacher to think about how to strategically teach vocabulary and to prioritize which words need more work.

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Appendix 1

Week 1: No context, first find out meaning then apply to context.				
Slip of paper handed out after ca. 10 minutes of language learning.				Name:
	I knew this one before the lesson	I learned this one from a peer	I learned the meaning from the teacher	Other
lash out at				
get along with				
let someone down				
get someone down				
look up to				
patch up				
Test administered the following week				Name:
(1) to respect (2) to have smooth relations with (3) to attack in speech or writing (4) to disappoint (5) to make depressed (6) to repair	<p>Personality report: You (1)_____ many famous stars such as Brittany Spears and Eminem because they are so cool and you want to be like them. You don't however, (2) _____ teenagers very well who like these people, too. In fact, you often (3)_____ those youngsters by screaming names at them at the Main Station in Zürich. This behavior, however, is dangerous because you might (4)_____ your sister, who thinks you are wonderful and wants to be just like you, once she realizes that it is you doing this.</p> <p>On a happier note, the weather, which has (5)_____ (you) recently, is getting better. It's so good, in fact, that you'll feel so much happier and thus be able to (6)_____ a relationship that was in need of a bit of work.</p>			
Did you look at these during the week? If so, how?				

Appendix 2

Week 2: Context given in a text. Text presented in class: We have called off our February 4 th meeting to hold an open forum on truancy. Our school is cracking down on truancy. If your child does not come to school, she will fall behind in her studies. You don't want your child to be left behind ! You want her to have a chance! A letter to parents of children who stand out for not attending school regularly will be sent off in the next few weeks and we will ask that you take immediate action.					
Slip of paper handed out after ca. 10 minutes of language learning.					Name:
	I knew this one before	I figured it out from the context	I had help from a friend	I had help from the teacher	Other
called off					
cracking down on					
fall behind					
left behind					
sent off					
stand out					
Test administered the following week					Name:
(1) get serious about, take "legal" action. (2) to cancel (3) to be forgotten (4) to be disqualified (5) to excel, to be unique (6) to lag, to go slowly	<p>Governments all over the world are really starting to (1)_____ spam. Therefore, a new, international organization has been formed to counter this problem, but unfortunately the first meeting was (2)_____ due to the fact that the new president was (3)_____ at the airport and didn't make it on time. Moreover, the vice president was (4)_____ the committee because it was found out that he's actually the leader of the spam mafia.</p> <p>Work, however, is still being done to battle the problem. The Chinese really (5)_____ because of their new, exceptional "anti-spam" campaign which punishes spammers with life imprisonment. Japan is trying not to (6)_____ China because they don't want the Chinese to be better than them.</p>				
Did you look at these during the week? If so, how?					