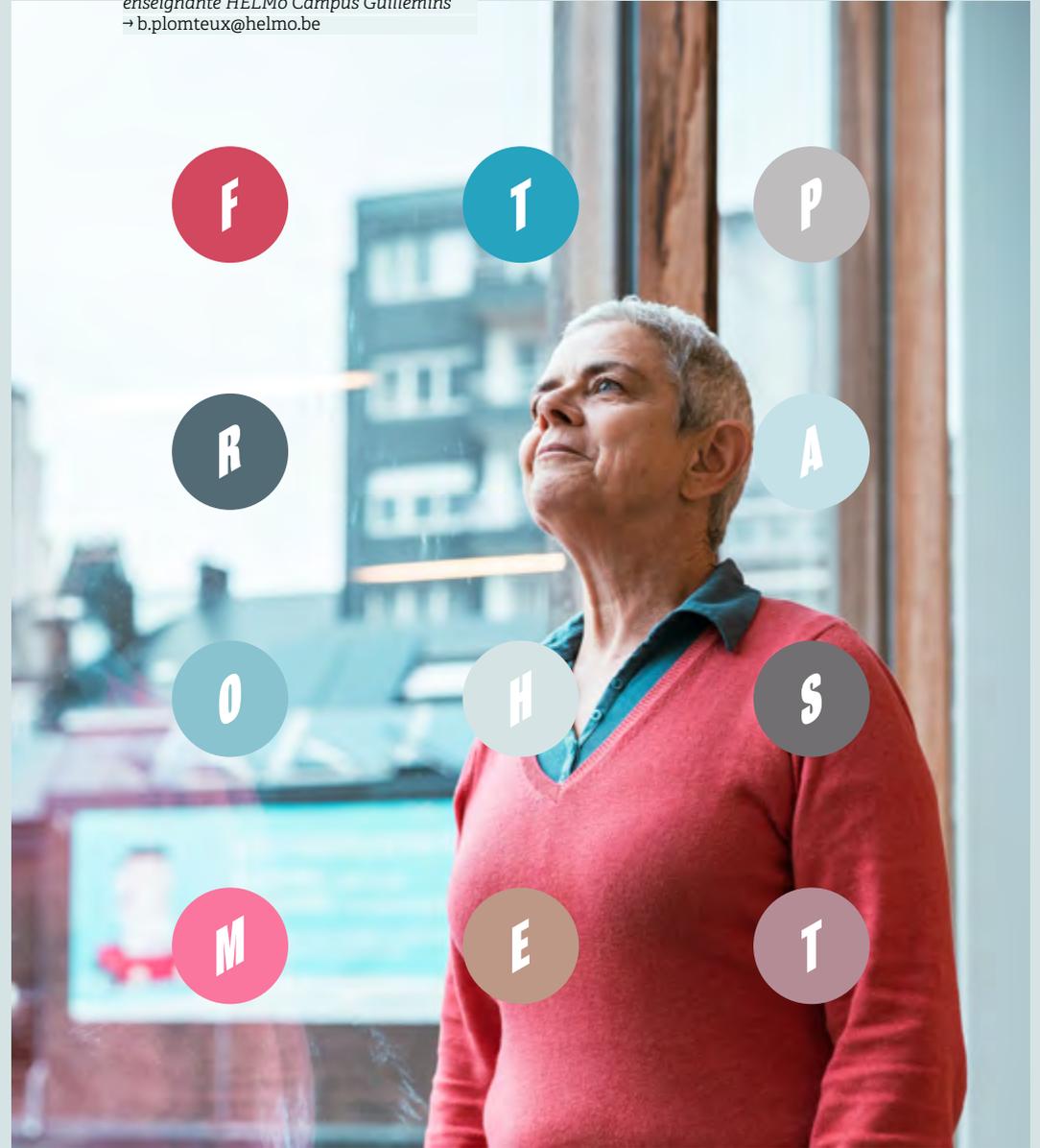


**A GHOST FROM THE PAST  
 — OR A RENEWED OPPORTUNITY?  
 VOCABULARY DRILLING RE-THINKED**

*How advances in neurosciences and the use of online learning possibilities can change vocabulary testing and enhance transfer to a writing task.*

**Brigitte Plomteux**  
 enseignante HELMo Campus Guillemins  
 → b.plomteux@helmo.be



This article is a brief introduction to and summary of a research project, spanning four years, on how online testing of vocabulary had an influence on the use of that vocabulary in a writing task.

**LEARNING  
A LANGUAGE  
= LEARNING VOCABULARY  
(AND MORE ...)**

Language learning involves vocabulary learning. How could a learner indeed express herself without those essential building bricks of the language? No wonder that it takes an important place in language lessons, in learning, and hence testing.

As language learners in a school context, we may remember having to study long vocabulary lists, either themed (family, hobbies, animals, around the house) or linked to a text / dialogue / other piece of language that was part of our language course. And we also probably remember being tested on that vocabulary, and that testing may have been done by having us translate words (more often than phrases), from mother tongue to foreign language or the other way around.

That is, of course, an easy and straightforward way of testing vocabulary knowledge, and also of marking it. You know the word? Good, you get good marks! You don't? Sorry, but you fail your test.

But when moving from testing vocabulary that way to having students write an essay, there often was a huge gap: the results in vocabulary tests were not a good predictor of the results in (use of vocabulary in) essay writing. There seemed to be a problem of transfer from lists to text, with a resulting frustration for the student: why were good marks in vocabulary tests not matched by good marks in essay writing? The same goes for the teacher, who was confronted with the same frustration.

**SHIFT FROM  
LANGUAGE-CENTRED  
TO COMMUNICATION-  
CENTRED TASKS**

In the history of language teaching, to cut a long story short, a shift occurred somewhere in the middle of the 20th century from a focus on language (the grammar-translation method) to a focus on communication, with task-based language teaching as a result<sup>1</sup>. The focus shifted to strategies, skills, getting the message across "no matter how" to put it rather crudely.

But alas, the results in language proficiency were not as expected<sup>2</sup>: maybe the learner, having to focus on the content of the message less than on its formulation, did not get enough explicit teaching<sup>3</sup> in order to achieve good results.

**DAMN,  
WE FORGOT  
THE BRAIN!**

Two major developments / evolutions plead for a renewed interest in vocabulary drilling.

First of all, there is the dramatically expanding knowledge on how our brain works, and in this particular case, of how vocabulary is stored in memory and can be retrieved<sup>4</sup>. In this scientific area where change occurs faster than we can report, there are interesting findings about "words in the mind" for the language teacher. Creating connections, better known to neuroscientists as syn-

napses, seems to play an essential role in the process of learning and storing. For the teaching and exercising of vocabulary, that means moving from the classical bilingual lists to seeing words in their environment, with their different forms, collocations, derivatives, combinations and more. That way, the words are connected not only with a translation, but with a more comprehensive view of their uses and forms, thus creating the wanted synaptic connections. This can be seen as a vocabulary-based application of the Hebbian law of "what fires together wires together"<sup>5</sup>.

These findings can have dramatic implications on the teaching and testing of vocabulary: for example, matching exercises to practice collocations, true/false exercises to



test comprehension of the word (and reinforcing synaptic links between the word and its partners), the obvious gap fill exercises, connecting beginning and ending of sentences, and more than we can name here.

Putting these findings into practice however, by creating more exercises, and testing more and differently, would require far more time and energy than the typical language teacher has at her disposal.



**LEARNING MANAGEMENT SYSTEMS: BRAIN SCIENCE MEETS BUSY AND LAZY TEACHER**

Of course, the busy and lazy teacher still has a lot of work to do, moving from the theoretical knowledge developed on vocabulary structure and storage to creating numerous exercises using this knowledge: if we want learners to practice until their vocabulary is safely stored and can be easily retrieved, we need to create a huge database of questions (the one on which this study is based includes more than 2500 questions) so as to avoid too much pure repetition<sup>6</sup> that would prevent the creation of more synaptic connections, and instead, making spaced repetition the norm. But the advantages are numerous and obvious: no more precious classroom time spent testing, no more teacher time wasted doing correction work that doesn't need the teacher's expertise: the answer is coded with the question, with various possibilities of commenting or guiding. From now on, students could quit lists and rote learning, train themselves doing tests, get immediate correction and feedback, and classroom time could be spent doing more communicative activities, which remain the ultimate goal.

Fortunately, there seems to be a solution at hand, a system that can help combine findings on those "words in the mind" with limited time for teacher and learner in the classroom, and for the teacher in time spent doing correction work.

Indeed, LMS (Learning Management Systems) offer unseen possibilities regarding online testing of, among others, vocabulary. Once questions are coded in the question bank, the learning system, in this case HELMo Learn, can create endless variations of tests, with the possibilities of unlimited number of attempts to immediate and automated correction to personalized feedback.

**WHERE ARE WE NOW?**

It is now time to go back to the study mentioned in the introduction to this article. To see if online tests actually had the expected effect of better storage and better retrieval, I compared students' dialogues written for their exam before and after implementing a system of online tests. Students are third year foreign trade, and have had a Dutch course since their first year in our school.

And the results are encouraging: the graph below shows the increase in vocabulary use in the written dialogue, from an average of 9.5 items used in the year before online testing was implemented, to 14.7 and 12.6 in the two subsequent years. And the results of the third year are even more encouraging, and deserve special attention: the students in that year not only had had the same system of online testing as those of the two previous years, but also online tests in their second year. In this group, mean deviation is lower than in the other three, meaning even more online testing seems to have long-lasting effects.

Another figure deserves our attention: there was a substantial drop in the number of students who didn't even attempt to write the dialogue in their exam. That figure dropped from 7 out of 41 students (17%) in the year before online testing was implemented to respectively 0, 3 and 1 in

the following years (less than 5% for each group). Of course, there still is a gap between writing a dialogue that is full of mistakes of any kind and writing a dialogue that can be considered as matching expectations, but the gap between not even bothering, or being able to give it a try and writing something is even huger.

All these results seem to confirm that better knowledge of how vocabulary works and use of online testing are definitely a path to explore further.



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