

Is it possible to learn a grammar rule in a new language without being consciously aware of it?

What this research was about and why it is important

Second language researchers have long debated whether students must consciously focus on a particular feature of a language, for example a new grammar rule, in order to learn it. Some studies have suggested learning cannot happen without *noticing*, that is without the learner being consciously aware that learning of a *specific* facet of language has occurred. However, other researchers suggest that while noticing may be necessary for simple memorization of new information, language learning requires students to develop a deeper understanding of how rules may be applied to new linguistic situations, and learners may be able to develop this understanding without consciously focusing on doing so. The current study tested whether students would be able to learn an *additional* meaning of a known grammatical rule they were exposed to through reading, but which they had not been explicitly taught, thus exploring how students connect grammar rules with the *various meanings* they express. The results suggest that exposure to the rule was sufficient for the students to learn the additional meaning, even though most of them *were not consciously aware* they had done so.

What the researchers did

- The researchers performed two highly similar experiments, the first with 41, and the second with 24, students from Cambridge University, who were native speakers of a wide range of different languages.
- The students were asked to learn four invented words (*gi, ul, ro, ne*), which they were told had the same meaning as ‘*the*’ and were used before a noun. They were told two of the words (*gi & ro*) indicated that the noun was nearby (e.g. *the little boy patted gi dog* – i.e. the dog must be near to the boy), and two (*ul & ne*) indicated that the noun was far away. However, the students were **not told** about the words’ additional meanings; specifically, (*gi & ul*) were only used with nouns that are living (e.g. *dog*), while (*ro & ne*) were only used with nouns that are non-living (e.g. *sofa*).
- The studies each had several phases:
 - **A language background questionnaire and a short-term memory test**
 - **A teaching phase:** students were taught the meaning of the four words, then shown six blocks of 24 sentences. They listened to a recording of each sentence and indicated whether the noun in the sentence was nearby or far away, according to which word it contained. They then repeated the sentence aloud, and visualized the situation it described.
 - **A testing phase:** During the test, the students were shown 16 previously unseen word - noun combinations. First, they read part of a sentence which described a situation, and then had to choose between two options to complete the sentence (e.g. *The zookeeper struggled to control - gi monkey OR ro monkey*). Notice that both *gi* and *ro* indicate the monkey is close to the zookeeper; however, according to the untaught rule, *gi* is the ‘correct’ answer, as the monkey is living. Later, they were asked what guided their answer. If they did not mention the living vs non-living rule, they were told a rule existed which dictated the answer, shown the test items again and asked to find the rule. If they were still unable to find the rule, they were told what it was and asked if they had at any point been aware of it.

What the researchers found

- The vast majority of the students in both studies did **not** report having noticed the living vs non-living rule, even after having searched for it once they had been told there was a rule.
- Unsurprisingly, those students who did notice the rule answered more test questions correctly. However, even those students who **did not notice** the rule answered the questions correctly more often than would be expected if they had just been guessing (i.e. more than 50%). This suggests that despite not having consciously noticed the additional rule, most of the students had nonetheless managed to learn it.
- Students whose native languages distinguish grammatically between genders (e.g. **le** vs. **la** in French) appeared to have an advantage over other students in detecting the rule, suggesting this previous grammatical knowledge may have helped.

Things to consider

- A student’s ability to learn a new word or rule without consciously noticing it might depend on how often they are exposed to it as well as if it appears in an otherwise complicated or simple text, i.e. if its meaning is made easy to see.
- It should be noted that this study focused on a highly grammatical feature of language. Whether these findings would apply to other areas of language learning, such as vocabulary, is not clear.

How to cite this summary: Wagstaffe, J.P & Williams, J. N. (2019) Is it possible to learn a grammar rule in a new language without being consciously aware of it? OASIS Summary of Williams (2005) in *Studies in Second Language Acquisition* <https://oasis-database.org>

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