

Learner attitudes towards data-driven learning: investigating the effect of teaching contexts

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Abstract. Concordance-based Data-Driven Learning (DDL) aims to help second language learners infer language usage rules from language usage regularities. A number of DDL pedagogical treatments have focussed on phraseological units such as collocations, widely recognised as a central component of second language learning. This study evaluates DDL effects from an emic perspective, reflecting the learners' perceived usefulness of the approach, as opposed to etic perspectives, representing changes in language competence as a result of the approach. It compares a group of Chinese learners and a group of Belgian learners of Italian as a Second Language/ Foreign Language (SL/FL). The findings indicate that the Belgian students seem to have gained familiarity with the approach faster than the Chinese, though the latter seems to perceive greater long-term benefits of the approach, and are more favourable to future mobile phone applications. The study aims to shed light on possible learner-related differences in DDL treatments and on the insightfulness of emic data in assessing DDL effects.

Keywords: data-driven learning, collocations, Italian.

1. Introduction

When investigating the effects of DDL, i.e. the direct and immediate use of corpus data by language learners (Leech, 1997; Meunier, 2010), one important perspective is the emic perspective, which aims to reflect the learners' personal attitudes towards the approach.

Previous research has highlighted the learners' positive attitudes towards the perceived relevance and authenticity of corpus data, and the empowering effect

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of the inductive learning that is often associated with DDL (Chambers, 2007). Nevertheless, little attention seems to have been devoted so far to the potential effects that different teaching contexts may have when adopting DDL materials and strategies.

This paper examines learner attitudes towards DDL for learning collocations, comparing a larger sample of Chinese learners and a smaller sample of Belgian learners of Italian as an SL/FL.

2. Method

2.1. Participant samples and DDL treatment

All participants in this study were university students of Italian as an SL/FL. The larger sample of Chinese learners consisted of 123 participants, which were distributed in eight classes with a range of 13-17 per class. Their level, as assessed by the university placement tests, was pre-intermediate, and they were part of an eight-week long intervention, with one one-hour lesson a week. The smaller sample of Belgian learners consisted of 22 participants, divided into an elementary class of ten, and an intermediate class of 12, with an exposure of one one-hour lesson each. Various activities were developed for both samples on the basis of concordance lines extracted from the native Perugia Corpus (PEC) (Spina, 2014), and focussed on verb-noun collocations (see [supplementary materials](#) for a sample activity).

2.2. Questionnaire construction and administration

The questionnaire items analysed in this study are part of a larger questionnaire made of eight Likert scale items and four open questions. The results for the Chinese participant sample were partly published in Forti (2017). This paper reports on results for the four Likert scale items dealing specifically with features of the DDL treatment.

The Likert scale items were developed according to the recommendations contained in Dörnyei and Taguchi (2010), with items being formulated either positively or negatively in order to avoid single-sided choices. The values of the scale were operationalised as follows: 1, totally disagree; 2, disagree; 3, partially disagree; 4, partially agree; 5, agree; and 6, totally agree.

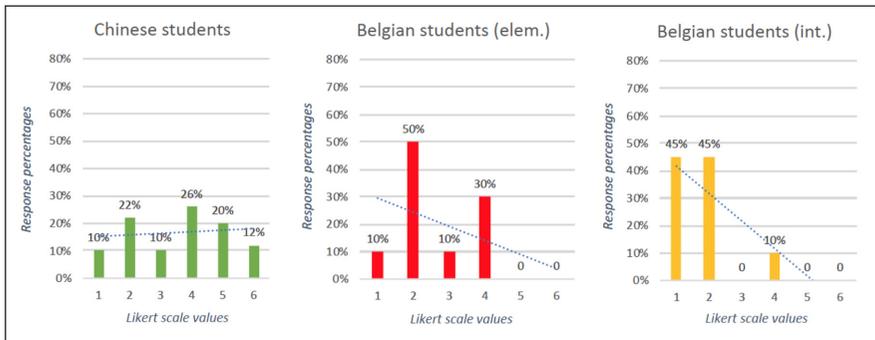
The questionnaire was distributed in class at the end of the pedagogical intervention, in pen-and-paper modality.

3. Results and discussion

Fifty questionnaires were collected from the Chinese students, while ten and 12 questionnaires were collected from the Belgian elementary and intermediate students respectively. For questionnaire items two and four, one Belgian intermediate student selected three values, so these two responses were removed.

Figure 1 shows a bar chart with response percentages and trend lines for each group. The figure relates to item one, focussing on whether the concordance-based work was deemed confusing. The Chinese group seems to exhibit the greatest difficulties ($M=3.60$; $SD=1.97$), followed by the Belgian elementary ($M=2.60$; $SD=1.57$) and the Belgian intermediate ($M=1.73$; $SD=1.67$) students. The different inclination of the trend lines characterising the Chinese and Belgian data indicate how the two groups differed in this respect.

Figure 1. Item 1: Reading groups of sentences containing the same combination confused me



In Figure 2, we see the results dealing with whether observing the groups of sentences containing the same combination was perceived as helpful to understand how to use that combination in the future. In this case, we notice very similar trend lines in the three groups, with the starkest results obtained for the Chinese group ($M=5.20$; $SD=3.48$), followed by the Belgian elementary ($M=4.90$; $SD=2.90$) and the Belgian intermediate ($M=4.83$; $SD=2.48$) students.

Figure 2. Item 2: The observation of groups of sentences containing the same combination has helped me to understand how to use that combination in the future

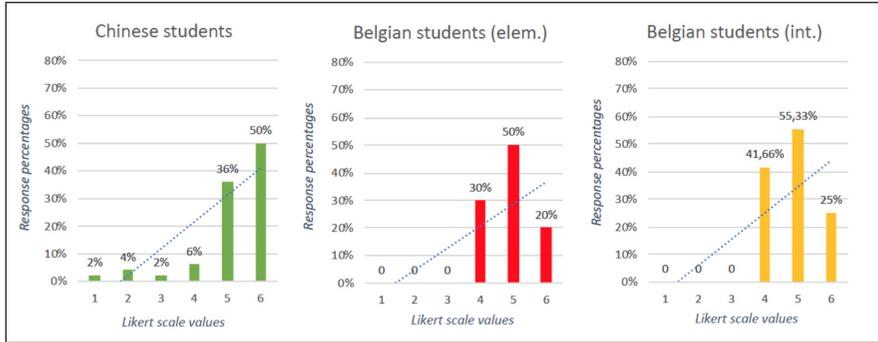
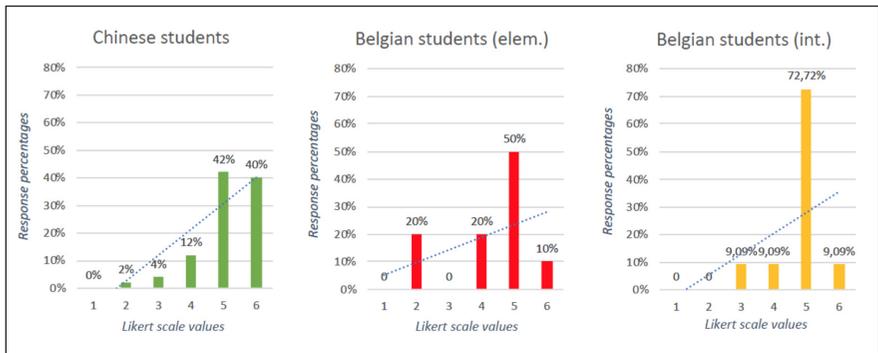


Figure 3 shows the results for the item dealing with the perception of DDL activities being able to help the students make fewer errors in the future. Once more, the trend lines in the three groups show a similar inclination, with the Chinese feeling more confident about the helpfulness of the approach ($M=5.14$; $SD=3.24$), followed by the Belgian intermediate ($M=4.82$; $SD=3.02$) and the Belgian elementary ($M=4.30$; $SD=2.43$) students.

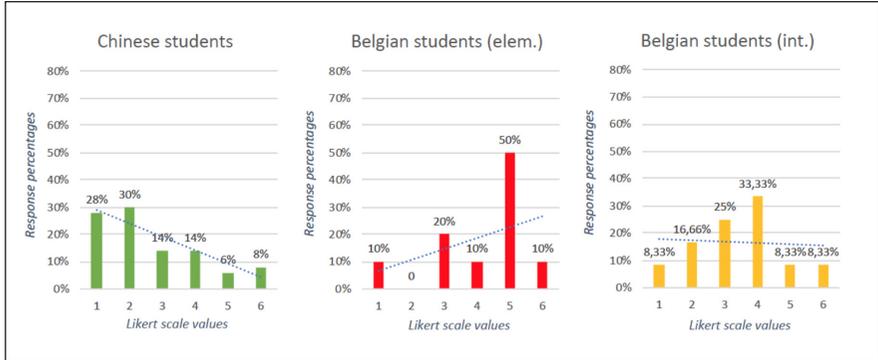
Figure 3. Item 3: The groups of sentences will help me make fewer errors in the future



The last Likert scale item (Figure 4) was aimed at gaining insight into the perceived usefulness of a new app with groups of sentences as the output of a query involving word combinations. Here, we notice quite different trend lines in the response percentages, when comparing the Chinese ($M=2.64$; $SD=2.54$)

and the Belgian elementary ($M=4.20$; $SD=2.32$) students, with the Belgian intermediate students occupying more of a middle ground ($M=3.42$; $SD=1.29$).

Figure 4. Item 4: A new smartphone application with groups of sentences for word combinations would be useless



In sum, Belgian students have less trouble with the groups of sentences, as they seem to feel not as confused as the Chinese. This might be due to French belonging to a language family that is genealogically closer to Italian, especially in terms of reading system. However, the Belgian students do not seem to perceive DDL as useful as the Chinese do, which might also be due to the vicinity with the language being learned, and perhaps with the very limited exposure they had to the approach.

On the other hand, Chinese students seem to be more favourable to the idea of a concordance-based app in comparison to both groups of Belgian students. This might be due to a possible increased familiarity that the Chinese learners have with mobile phones, in comparison to the Belgian students.

4. Conclusions

In this paper, we briefly outlined some results related to a DDL pedagogical intervention which took place in two different teaching contexts. The results are based on emic data, aiming to elicit the learners' perceptions in relation to the usefulness of the approach.

The findings indicate that the Belgian learners were generally more comfortable with the proposed concordance work, although the Chinese perceived its usefulness

more distinctly. Furthermore, the Chinese students seem more favourable to the idea of an app with a concordance-based version of DDL, in comparison to the Belgian students.

The study would definitely benefit from more fine-grained and sophisticated statistical analyses, as well as from an integration of other open-ended questions which were also contained in the administered questionnaire. The hope is, however, that this study can shed light not only on the possible differences in assessing the effects of a specific DDL treatment in different populations of students, but also on the importance of emic data in gaining insight into how DDL is perceived by those who it is meant to help.

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6. Supplementary materials

<https://research-publishing.box.com/s/k87ww3zl2c0a3im0g4ykvo7dzarf8me3>

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