



Commentary on Vilkaitė-Lozdienė & Dinigevičius (2024) and Maie & Yi (2024)

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Introduction

The current piece is a commentary on two studies published in *Vocabulary Learning and Instruction* (Volume 13, Number 1, 2024) which focus on multi-word expressions (MWEs) from two distinct yet complementary perspectives – the on-line processing of congruent and incongruent collocations in a third language (L3), and intuitions about phrase frequency and association strength of second language (L2) collocations.

The commentary seeks to evaluate key methodological considerations, purposefully adopting a critical lens by focusing on the strengths and weaknesses of the methods employed. It is hoped that the critique will help inform future inquiry into the mechanisms responsible for MWE acquisition, processing, and use in various populations.

Study 1: Does Collocation Congruency Between L2 and L3 Play a Role in Processing L3 Collocations? By Laura Vilkaitė-Lozdienė and Algirdas Dinigevičius

In an exploratory study, Vilkaitė-Lozdienė and Dinigevičius (2024) examined the effect of congruency during the processing of L3 collocations. Three collocation types were used: first language (L1, Lithuanian), L2 (English), and L3 (Norwegian) congruent collocations (i.e., collocations congruent across three languages); L2 and L3 congruent collocations (i.e., collocations congruent across two languages); and collocations incongruent across L1, L2, and L3. In total, 45 collocations were employed, 15 of each of the three types. In a phrase-acceptability task, 33 participants (L1 Lithuanian,

L2 English, L3 Norwegian) decided as fast and as accurately as possible whether a phrase on a computer screen was “common and frequently used in Norwegian”. Not unexpectedly, incongruent collocations received the longest reaction times (RTs); they also had the lowest accuracy rate. While no effect of congruency was found for accuracy, a linear mixed-effects model for RTs showed a facilitative effect for L2 and L3 congruent collocations, but not between L1, L2, and L3 congruent ones.

The contribution by Vilkaitė-Lozdienė and Dinigevičius (2024) is novel, in that it is the first published study to look at a three-way–L1, L2, and L3–collocation congruency effect. It further looks at two under-represented languages in the field of second language acquisition–Lithuanian and Norwegian. This is important considering continued calls in the field to focus on lesser-studied languages (e.g., Ortega, 2009; Siyanova-Chanturia & Spina, 2020). The use of an established in the literature phrase acceptability task (e.g., also see Jiang & Nekrasova, 2007; Wolter & Yamashita, 2018) enables direct comparisons with other MWE processing studies; while linear mixed-effects models allowed for the inclusion of covariates (frequency and length) in the analysis, since close matching was not possible due to the already limited pool of congruent items. In sum, while small-scale and exploratory in nature, the present study makes a unique contribution to the current body of knowledge pertaining to the congruency effects at the phrase level; as such, the study is an important step towards addressing gaps in MWE processing literature.

While the study offers a unique perspective into the role of congruency in L3 MWE processing, it also has several shortcomings on which it will be instructive to reflect. First, it appears that learners’ proficiency in L2 English and L3 Norwegian may not have been comparable. While L2 English proficiency is stated as CEFR B2 or above, proficiency for L3 participants is given in terms of time, with participants having studied Norwegian for 2.9 years or more. The two approaches to measuring proficiency are not directly comparable, with L2 English likely being stronger than L3 Norwegian. Relatedly, participants’ L2 and L3 are typologically closer than participants’ L1 and L2, or L1 and L3. This may explain the presence of a facilitative effect for L2 and L3 congruent collocations, but not for L1, L2, and L3 congruent ones. Future research should be able to better control for participants’ L2 and L3 proficiency, as well as manipulate the closeness of the languages involved.

Second, it seems that familiarity with L3 items was established via the second author’s intuition, while familiarity with L2 items is not reported. Future studies should adopt a more principled and replicable approach to establishing item familiarity in the participants’ additional languages. In addition, a relatively small number of items (15 items per condition) was used in the study, and the items were also typologically different (including verb-noun, adjective-noun, and possibly other types of collocations). Future studies should seek to increase the item pool per congruency condition as well as per collocation type, considering studies have shown potentially distinct processing patterns for verb-noun and adjective-noun collocations (e.g., Fioravanti et al., 2024). Other MWE types should also be considered.

Finally, in the RT analysis, only “accurate” responses were included (with 22.96% of “inaccurate” responses excluded). One may ask whether it is reasonable to call these “inaccurate” considering L1 and L2 speakers are known to have flawed intuitions of phrase frequency (and in fact, the second contribution reviewed in this commentary

probes exactly that). It may, thus, be worth reanalyzing the data including *all* responses on target items.

As noted above, the approach taken in this commentary is purposefully critical, so it is perhaps unsurprising that the review yielded several potential shortcomings and avenues for future research. It is, however, crucial to emphasize that not only is the study reported in Vilkaitė-Lozdienė and Dinigėvičius (2024) highly original and pivotal for this particular area of MWE inquiry, but it is also important for the theories of bilingualism which argue that the processing of linguistic material in one language, be it at the morpheme, word, or phrase level, is affected by all known languages (e.g., see Du et al. 2023; Kahraman & Beyersmann, 2023; Van Heuven & Dijkstra, 2023).

Study 2: Individual Differences in L2 Speaker Intuitions of Phrasal Frequency and Association Strength of Multiword Sequences by Ryo Maie and Wei Yi

The second study focused on in this commentary is that by Maie and Yi (2024). Maie and Yi (2024) reanalyzed L2 data reported on in Yi et al. (2023), a study that examined L1 and L2 intuitions of phrase frequency and association strength. Maie and Yi (2024) had as their goal to explore the effect of four learner variables – age of onset, length of residence, language use, and L2 proficiency – on L2 English learners' (L1 Chinese) judgements of collocation frequency and collocation strength. The latter was measured by means of mutual information (MI; a commonly used measure of association strength in language research, Hunston, 2002). Seventy-four English as a Second Language (ESL) learners judged 180 adjective-noun collocations that belonged to one of the three frequency and association strength bands: high, medium, and low. L2 judgements of association strength, but not those of frequency, were affected by (some of) the demographic variables analyzed. Interestingly, what mattered was whether the collocation was of high or medium association strength, with the direction of the prediction varying somewhat inconsistently. For example, while L2 English use *positively* predicted the judgments of medium-strength collocations (i.e., greater L2 use was associated with higher accuracy), English use *negatively* predicted the judgments of strongly associated collocations (i.e., greater L2 use was associated with poorer accuracy). The latter finding was unexpected with the authors acknowledging it as “unclear” and difficult to explain (p. 7).¹

Maie and Yi's (2024) contribution adds to the limited body of research into frequency intuition in L2 speakers (also see Siyanova & Schmitt, 2008; Siyanova-Chanturia & Spina, 2015), and is one of very few studies to have probed L2 intuitions of association strength (also see Yi et al., 2021). The four learner variables investigated measure, in one way or another, the amount of exposure to L2. The study, hence, sits well within the usage-based approaches to language acquisition, processing, and use (e.g., Bod, 2006; Bybee, 1998; Goldberg, 2006; Tomasello, 2003). While some

¹ On p. 8, there appears to be an error in the reporting of the relationship between TOEFL scores and predicted accuracy of high- and medium-strength collocations. It is the high association band (in red), not the medium (in blue), that displays a positive relationship between proficiency and accuracy of L2 judgements (see Figure 3).

of the results appeared unclear or unexpected, the study can be commended on its methodological rigor. The item ($n = 180$) and participant ($n = 72$) pools were in line with the best practices in the field. Target collocations were defined, and extraction procedures clearly explained. It is further commendable that the instrument was made available on OSF. Overall, Maie and Yi (2024) is a prime example of how the same data set can be fruitfully (re)used to answer additional research questions.

As with Vilkaitė-Lozdienė and Dinigevičius (2024), however, Maie and Yi's (2024) study has some shortcomings that ought to be considered. First, participants' self-reported TOEFL iBT scores were used as a measure of proficiency. It is, however, unclear when participants might have taken the test relative to data collection (i.e., was it immediately prior to data collection, or at different points in time?). Relatedly, the length of residence is reported as ranging between 0 and 108 months. While the study posits itself as one targeting ESL learners and probing the role of exposure to L2, it appears that not all participants were, in fact, ESL learners, with some being English as a Foreign Language (EFL) learners. This begs the question: Can we really talk about the length of residence (which was one of the key variables examined) if some learners had spent zero months in the L2 country? Indeed, this is the only variable that showed no significant predictive relationship with the collocations in the strong- or medium-strength band.

Second, empirical evidence suggests that it may be better to treat frequency and association strength as continuous variables, rather than binning them into high, medium, and low bands (e.g., Jiang et al., 2021; Siyanova-Chanturia & Janssen, 2018). Might have continuous operationalization of frequency and association strength led to a different pattern of results than the one reported? It may be worthwhile reanalyzing the data set to answer this question, while future research should consider adopting complementary approaches (using bands and a continuum) to measuring and operationalizing frequency and association strength.

Finally, the experimental task prompted participants to judge frequency and association strength. Phrase frequency was explained to L2 participants as "how often each collocation occurs in English" (p. 4), while the measure of association strength was explained as "how likely the constituent words can predict the appearance of one word given the other word, regardless of the direction of prediction" (p. 4). These explanations seem extremely technical, with linguistic terms used that were most likely unfamiliar to the naïve participants. It thus remains unclear how well the L2 participants really did understand the task.

Overall, Maie and Yi (2024) set a fine example of how phrase frequency and association strength may be researched, with a focus on lesser-studied learner variables. The less than straightforward relationship between accuracy and the learner variables for association strength, and a total lack of a relationship between accuracy and learner variables for phrase frequency, all point to an area of MWE inquiry that is ripe for future research. Future studies can expand on the current research by employing lesser-studied types of collocations and MWEs; adopting a timed judgement task, with both accuracy and RTs analyzed; and considering other (e.g., directional) measures, such as Delta P forward/backward. Finally, it would be valuable to manipulate phrase frequency and association strength, generating items high on one but low on the other measure, as well as high and low on both measures.

Concluding Remarks

The present commentary sought to provide a critical take on two recent studies dealing with the on-line processing of collocation and learner intuitions of phrase frequency and association strength. Although exploratory in nature (Vilkaitė-Lozdienė & Dinigevičius, 2024) and generating findings that are far from straightforward (Maie & Yi, 2024), the two studies make a small yet important contribution to our better understanding of the complex linguistic phenomenon that MWEs are. Vilkaitė-Lozdienė and Dinigevičius (2024) is the first study to consider phrase congruency effects across three languages, while Maie and Yi (2024) is one of very few studies to look at L2 learner intuitions of association strength. Luckily, the two studies have raised more questions than they have answered; thus, paving the way for future research endeavors.

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