

## **The role of morphology and phonology in the production of English inflection**

Małgorzata Szupica-Pyrzanowska

University of Warsaw

Gita Martohardjono

City University of New York

Loraine K. Obler

City University of New York

Failure to supply inflection is common in adult L2 learners, who in English sometimes resort to bare stems. Among attempts to explain the inconsistent use of inflection are competing morphological and phonological explanations. In the L2 acquisition literature, the omission of inflection is explained in terms of: mapping (Prévost & White, 2000), failed modular interaction (Lardiere, 1998), L1 morpho-syntactic constraints governing the activation of the L2 features (Hawkins & Liszka, 2003), L1 prosodic organization different from that of L2 (Goad et al., 2003), and L1 phonological constraints on final consonant clusters (Lardiere, 2003). Most, if not all, investigations of inflectional omissions focused on populations whose L1 either lacks the syntactic representation of inflection or does not allow for complex codas. In this study we concentrate, instead, on a group of Polish L2-English learners whose L1 permits word-final consonant clusters and who can be assumed to have an underlying representation of inflectional material because the L1 already has it; nevertheless, they show difficulties in the production of L2 inflection.

We asked: What morphological and phonological factors influence the production of inflectional endings? To test this, we administered an elicited production task varying either the morphological or the phonological complexity of the environment of the inflectional morpheme. We hypothesized that if non-target production of inflection is influenced by morphological factors, we would likely see the following:

1. The participants would perform better on mono- than bi-morphemic homophones.
2. They would show different degrees of error rate for the homophonous morphemes, PLUR, AGR, POSS.
3. There would be no significant difference in inflection between mono-syllabic real verbs and mono-syllabic pseudo-verbs.

If, however, the phonological factors were to contribute, we would likely observe the following:

1. Sonority of the final segment of stems would affect the production of inflection.
2. Syllabic suffixes would be produced more accurately than their non-syllabic counterparts.
3. Production would be affected by number of syllables, such that mono-syllabic verbs would show a higher accuracy rate when inflected than bi- or tri-syllabic verbs.

We designed the stimuli to separate the effects of phonology and morphology. The morpheme number condition included homophones of different morphemic structure (*missed-mist*). The morpheme type condition contained three morphemes attached to homophones (*marks-marks-Mark's*). The stem status condition included monosyllabic real and pseudo-verbs of similar phonetic makeup (*rake-roop*). In the syllable number condition, we embedded stems of different syllabic length in identical contexts. In the sonority type condition, bi-syllabic stems ending in the most and the least sonorous segments were compared (*copy-visit*). Suffix syllabicity type

contained the syllabic suffixes and their non-syllabic counterpart attached to mono-morphemic stems.

A repeated-measures ANOVA revealed that in the production of inflection morphological factors (morpheme number  $p < .001$ , morpheme type  $p < .001$ , stem status  $p = .014$ ) contribute more to the omission of inflection than phonological conditions (syllable number  $p < .001$ , suffix syllabicity  $p < .001$ , sonority type  $p = .002$ ). In the last two phonological conditions the difference, although significant, was not in the predicted direction. The results are explained in terms of non-target morphological processing.