
ERP evidence on past form production in adults and children

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Abstract

Few studies have explored morphological processes during language production by means of ERPs. Instead, language production studies have applied

paradigms that rely on meta-linguistic judgements. However, these are often

difficult to use when exploring special populations such as children. Here,

we applied the delayed vocalization paradigm. In this paradigm, participants

see a cue that prompts them to silently produce their response before

articulating the response out loud at a later point in time. Thus,

event-related brain responses can be time-locked to the cue that requests

silent production of participants. This allows studying speech production in

a natural-like setting with many different populations, as the task is easy

to understand and perform. In the present study, we applied the delayed

vocalization paradigm to investigate the ERP-correlates associated with the

production of English regular and irregular past forms in both adults and

6-to-12-year-old children. The 3rd person present form was used as a control

condition as this is the same in both regular and irregular forms. ERP

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results revealed a more negative-going waveform at frontal and central electrode sites for regular past forms when compared to irregular past forms starting approximately 200ms post silent production cue onset. There was no difference in the present form condition. These results demonstrate that the delayed vocalization paradigm successfully captures differences between regular and irregular past-tense formation in real-time language production.