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Study shows how kids learn when to use capital letters – it's not just about rules

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Capital Gains: Effects of Word Class and Sentence Position on Capitalization Use Across Age

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More than one-third of the world's population uses a writing system that includes both uppercase and lowercase letter forms. In these writing systems, capitalization is the use of an uppercase form for the first letter of a word. Learning to capitalize in English requires a speller to identify two clues: a word's type (capitalize if it's a proper noun, i.e., a specific person, place or thing), and its sentence position (capitalize if it's at the start of a sentence). Capitalization rules in English appear to be simple, which means that they are taught early, and are not usually revisited in the later school years. However, little is known about how well English-speaking children understand capitalization rules, how these skills progress with age, or how accurately adults maintain their skills.

Across two studies, researchers from the University of Tasmania in Australia wanted to understand how capitalization skills change with age and whether certain writing patterns make it easier or harder for students to use capitalization correctly. Specifically, the researchers looked at whether people are more likely to capitalize words with two "clues" for using a capital letter (proper nouns at the start of a sentence) than words with just one clue (e.g., proper nouns in the middle of a sentence, or common nouns (i.e., a type of person, place or thing) at the start of a sentence), and less likely again for words with no capitalization clues at all (common nouns in the middle of a sentence, which should not be capitalized). In Australia, where this research was conducted, children are taught to capitalize proper nouns in Grade 2, having learned in the previous two grades that personal names and sentence-initial words should be capitalized.

Participants were 236 English-speaking students from southeastern Australia, in Grades 3–6, 7–12, and at the post-secondary level. They were mostly female, and 95% white. Participants were given pre-written sentences with some words missing: either with one word missing at a time, or with several missing words in a row. Researchers spoke the sentences aloud, and the participants wrote the missing words they heard. For example, participants heard the sentence "Tom likes to play tennis" and filled in the words "Tom" and "tennis", or "Tom likes" and "play tennis."

The responses conveyed that adolescents and adults were for the most part skilled capitalizers, even with only one clue to capitalization (such as "Tennis" at the start of a sentence, or proper noun "Tom" in the middle). However, they still capitalized some words when it wasn't necessary (such as "Tennis" mid-sentence). Students in Grades 3–6 made more capitalization errors than the older students did, but they benefited more from two clues than one. Students in Grades 3–6 also tended to capitalize better when they

had to focus more on the sentence (by writing several words in a row) than on the individual words (by writing one word at a time).

The findings suggest that spelling exercises that draw students' attention to a word's role in a sentence are especially helpful for encouraging children to use capital letters. Teachers can help students by encouraging them to think about both the meaning and position of words in a sentence, not just how a word is spelled.

This research was featured in a new *Child Development* article, "Capital Gains: Effects of Word Class and Sentence Position on Capitalization Use Across Age" by authors Ms. Emilia Hawkey, Dr. Matthew A. Palmer and Dr. Nenagh Kemp from the University of Tasmania in Australia. The Society for Research in Child Development (SRCD) had the opportunity to speak with the author team to learn more about the research.

SRCD: Did anything in the results surprise you?

Author team: The capitalization rules in English seem very simple: we capitalize the first word of a sentence, and proper nouns. We may expect that children and adults alike should be able to use these rules very well after being taught them in the first few years of school. However, our study is the first to suggest that students in Grades 3–6 do not seem to use capitalization according to the rules they are taught. If they did, we would expect to see few errors, and that they would do just as well with one-capitalization-clue words as with two-clue words. Instead, young spellers appear to pick up capitalization clues gradually over time, from exposure to reading. This gradual learning is surprising because it demonstrates that spellers seem to be consolidating their knowledge of spelling patterns by reading, not just applying the clear and simple spelling rules once they're taught.

SRCD: Can you please explain how this research might be helpful for parents, teachers, and school administrators?

Author team: The rules for capitalization in English are consistent: every proper noun, and the first word of every sentence, needs to be capitalized. However, this requires a student to be confident in knowing what a proper noun really is, and to be aware of sentence structure. The simplicity of these rules may cause us to underestimate just how difficult it can be for young spellers to use them consistently. Our study shows that young spellers apply capitalization rules best when they are encouraged to pay attention to the broader sentence structure as well as to the words themselves. The most efficient way to help students do this would

be to have brief but intentional reminders about these capitalization clues each school year. To facilitate this, school administrators could build upon aspects of the curriculum in Grades 3-6 to include opportunities for capitalization rule-revision.

Parents and caregivers can also support their children's capitalization development by pointing out the start-of-sentence and proper-noun clues in everyday activities. For example, a parent could draw their child's attention to the start of each sentence as they read a book together. Similarly, they could ask why a city or street name needs a capital as they pass a road sign. This way, parents can help their children build confidence in understanding and identifying these clues.

SRCD: Can you please address some of the research limitations?

Author team: We gave our participants only 40 test words to write, so that the youngest students did not lose focus. These test words were carefully chosen, but the relatively small number means that we need to be careful about generalizing our findings to how people use capitalization more broadly. We also cannot be certain how well the results would transfer to naturalistic writing, where children are choosing which words to write. They might do better, because they will be using words they are familiar with, or they might do more poorly, because they must decide what they want to write.

Most proper nouns don't exist as common nouns and so should always be capitalized (e.g., "Australia", "Fiona"). This means that spellers may capitalize a proper noun like "Australia" simply because they have always seen it written with a capital letter. Future research should consider how people spell words that can exist in both forms (e.g., "Daisy" the name, vs. "daisy" the flower), to provide a stricter test of their ability to use capitalization rules rather than relying on spelling memory.

SRCD: What's next in this field of research?

Author team: We are currently working on a short capitalization intervention study with students in Grades 3–6. The purpose of this is to see whether students in these grades can benefit from a brief, targeted reminder about the capitalization clues. This will further our knowledge of how well children understand the capitalization rules, provide guidance to teachers on how much extra teaching capitalization might need, and serve as a window into spelling decision-making processes more broadly.

This research was funded by the Australian Government Research Training Program.

Summarized from an article in *Child Development*, “Capital Gains: Effects of Word Class and Sentence Position on Capitalization Use Across Age,” by Hawkey, E., Palmer, M. A., and Kemp, N. (University of Tasmania, Australia). Copyright 2025 The Society for Research in Child Development. All rights reserved.