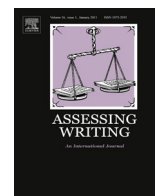




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## Assessing Writing



# “Voice” in children’s science arguments: Aligning assessment criteria with genre and discipline<sup>☆</sup>

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### ABSTRACT

Rubrics commonly used in the U.S. to assess elementary students’ writing often ask raters to score for “voice.” However, voice is not a unitary construct that can be applied across genres and disciplines. In this article, we draw on functional linguistics to describe features of voice in science writing. We then review national standards, state curriculum documents, assessments, and a popular commercial writing program, revealing that teachers get little guidance in understanding disciplinary and genre differences in the ways an authorial voice can be realized. We present a case study reporting on assessment of 2nd and 4th grade students’ science arguments after instruction in voice features. Analysis of raters’ scores and evaluative comments on that writing suggest a potential mismatch between teachers’ expectations for voice in the logical arguments emphasized in standards recently adopted by a majority of U.S. states. We call for more differentiated rubrics for assessing voice to inform robust instruction that prepares students to write in different ways across genre and subject area.

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## 1. Introduction

The writing above was produced by U.S. fourth graders in a unit of instruction about the havoc wrought by an invasive species, the cane toad, in Australia (Table 1). Students read about a potential solution—introducing a species of ant colloquially known as meat ants—and wrote arguments for using or not using meat ants to combat the cane toads. The unit was supported with instruction on the structural, logical, and linguistic features of argumentation (O’Hallaron, 2014a). The children built their arguments around facts from source texts that described the cane toad problem and summarized scientific findings about meat ants. Each writer did a fine job of making a claim, reasoning from text-based evidence to support it, and identifying and responding to potential counterarguments. Using the rubric typically applied in this context, an evaluator might note that Nadia’s argument provides more detail than Isa’s, and judge it stronger in that respect. But which argument should be rated more highly in terms of its voice?

As they implement the Common Core State Standards (CCSS) (National Governors Association, 2010), K-12 teachers are now expected to integrate more informational writing and argument reading into their instruction across subjects. Engaging younger children with a range of academically valued text types has the potential to increase students’ preparedness for success in later grades, but achieving this potential relies on teachers’ ability to support students’ learning about and through

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**Table 1**  
Fourth graders' arguments.

*In the 1930s we all knew that beetles were eating sugar cane. Then we thought cane toads would solve the problem but they were a problem themselves. Now we have a new solution, it's meat ants. But wait, don't act now, we should study more about meat ants. Meat ants are the only organisms that will not be harmed by toxins. This proves meat ants are a good solution because if they're not harmed by the toxins, the cane toads would eventually die, but the meat ants would be fine. What you might say is that meat ants protect caterpillars and if they don't protect them the caterpillars will be eaten and die. I understand that you disagree with me but we should study them more because we could take half of the meat ants population and put them near cane toads and leave the rest where they are to protect the caterpillars. This is why I personally think meat ants are a good solution to be studied.*

- Isa

*The cane toads have become a huge problem in Australia. Their population has spread to about 2,000,000,000. They are highly poisonous so predators can't kill them. But scientists have discovered an organism that is not likely to be harmed by the toxins. The meat ant. This organism has many negative and positive things about it. Therefore we should study this more before we use it. One reason we should study this more is cane toads rely on their toxins to kill their attacker. But the toxins are not likely to harm the meat ant. When an attacker attacks the toad, it just sits there and lets its poison harm the organisms. When the meat ant attacks, it can eat it easily because it is just sitting still. [...] Some people may say that we should not use the meat ant because they can change the behavior of other organisms. It is true that they can change the behavior of other organisms. But it is not for sure that it is going to completely change the behavior. Scientists are not sure if meat ants are a good solution. Therefore I think we should study it more before we use it.*

- Nadia

varied types of texts. U.S. primary grades teachers' literacy work has traditionally been heavily weighted towards narratives (Duke, 2000), and, along with other features, conceptions of voice in narrative and non-narrative genres differ substantially.

Jeffery (2011) noted that "voice appears on more than half of the rubrics used to assess student writing on the exit level in high-stakes U.S. state tests" (p. 118), making it one of the key criteria for writing assessment across the country. We show how current standards, curricula, and assessment frameworks offer insufficient guidance for teaching and assessing voice in students' non-narrative writing. We call for a shift away from conceptions of voice that privilege narrative writing and toward increased specificity in descriptions of the voices appropriate for different subject areas and genres. We suggest that more specific rubrics are needed to support teachers and students in identifying and appropriately deploying the language resources used to project the types of voices valued in different disciplines and text types. We support these recommendations through a review of current pedagogical treatments of voice and through a case study that reveals how misconceptions regarding voice in science arguments influence teachers' assessments. We address the following questions:

- How is voice represented in standards and curriculum documents and what are the limitations of current definitions and descriptions?
- How do teachers' understandings and ratings of voice affect their evaluation of students' written arguments in science?

## 2. Defining and assessing voice

The definition of voice has long generated controversy. Early discussions (e.g., Elbow, 1973; Stewart, 1972) championed the expression of an authentic self and valued writing that presented the unique personality and experience of the writer. The ideal voice was often defined in contrast to academic writing, which was described as dull, lifeless, and needlessly complex (e.g., Macrorie, 1980). Critics characterized this expressionist view as "anti-intellectual" and charged that an emphasis on authenticity undermined the teaching of writing as an intellectual endeavor (Hashimoto, 1987). Most importantly, an expressionist perspective on voice was accused of failing to account for the ways in which expectations for a writer's self-presentation differ depending on the rhetorical situation (Ede, 1989) and the discourse communities constituting the social context for writing (Ivanič, 1998; Swales, 1990).

More recently, academic discourse about the construct presents greater consensus that writers do not have a singular, "true" voice, independent from rhetorical context; voice is instead largely recognized as variable, dependent on the relationship between the writer and readers and the language and culture that provide the context for writing (Yancey, 1994). However, precise definitions of voice and how it varies across contexts often remain too broad to transfer usefully to writing assessment and pedagogy. Sperling and Appleman (2011) call voice "an engaging metaphor for human agency and identity ... used frequently and freely both to stand for and to accompany such language and literacy concepts as writing style, authorship, language register, rhetorical stance, written and spoken prosody, the self in text and in discourse, and scores of others" (p. 70). They define voice as "a language performance—always social, mediated by experience, and culturally embedded" (p. 71). Their essay reviews a range of conceptions of voice and the epistemologies that inform those conceptions, but the contexts and genres they discuss are primarily narrative and literary, not focused on writing in science or about information.

In interviews with secondary teachers, Jeffery (2011) found that teachers associated vivid descriptors and emotive language with voice in both expository and narrative writing. When writers drew on a more impersonal tone, teachers often saw the writing as lacking voice or having an inauthentic voice. Jeffrey concluded that "voice as applied by teachers when responding to student writing is an exceedingly complex, even paradoxical, construct" (p. 115). Disciplinary and genre understandings of voice are needed in the new context of focus on informational and disciplinary writing. However, our review identified no studies of children's writing focused on the teaching of voice, although some included voice among other features analyzed (e.g., McCarthey, Guo, & Cummins, 2005).

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