Call for Papers
Research in Science Education
Special Edition: Practitioner-Learning about science and language in classrooms

Understanding language, from science and in science classrooms, has been an important concern for science education researchers in recent decades. Scientists' work and practices are infused with certain forms of language that require reflection and transformation when confronting classroom practice. Some authors have described science as being a language itself or having its own language (e.g., Bruna & Gomez, 2009; Darian, 2003; Lemke, 1990; Reeves, 2005; Roth, 2005), which has moved the field to be increasingly aware of the role of language in science classrooms. A related issue is that today's increasingly diverse classrooms, in cultural and linguistic terms, pose challenges to science educators internationally. Extensive research in both classroom discourse and scientific discourse shows that there are persistent discursive practices in classrooms that may conflict with what we know about authentic scientific practices and, conversely, conflict with students' home languages. There are now well-supported reasons to think that differences in students' science achievement in part relate to differential uptakes of language and discourse use in classrooms, or a language gap (Graff, 1999; Hull, 1985). Theorizing about this gap can draw on the concept of social languages (Gee, 1996/2012, 2005a), which highlights the idea that within a language there are sublanguages or variations that depend on who is talking and what is it that the person talking is doing. One individual may use different social languages in different contexts. Scientists' language in scientific contexts and teachers' science language in schools are forms of social languages. The ability and disposition of a person to use a social language, and to become involved in the practices associated with the users of that language, is at the centre of learning academic languages in school (Gee, 2005a).

Traditionally, schools tend to favour and reward those users whose social languages are most like academic languages. They may be indifferent to or punish users of social languages that are unlike the academic ones. The more a student's home language models the academic languages of schools, the more possibilities there are for the student to be rewarded and succeed in school. When students' home traditions have different orality structures, or emphasize different forms of narrative and grammatical construction than the ones of academic social languages, developing skills and commitment on the part of a child to use academic languages is more difficult. Given the increasing diversity of home languages present in schools, the main implication for science education is that teaching science becomes more challenging.

For science teachers, these language differences have a clear expression and material impact in the instructional decisions they make in and out of the classroom. One of the challenges of teaching science in diverse classrooms lies in the meaning-making processes students need to experience in order to understand the language of science (Kuipers, Viechnicki, Massoud, & Wright, 2009). Science teachers who share their students' languages and cultures are likely to relate in more meaningful ways to their students' prior experiences (Fradd & Lee, 1999), and bilingual teachers are more prone to propose contextualized science instruction in classrooms (Tolbert & Knox, 2016). However, there are many challenges as practitioners seek to consider the home-classroom language gap and the language of science in their science teaching practices (Lee, Luykx, Buxton, & Shaver, 2007). Teaching science becomes a matter not only of cognitive and procedural complexity, but also of understanding and productively addressing the language differences that exist in a diverse classroom.

What are some ways in which practitioners – e.g., science teachers – are addressing practical issues of language in science classrooms?

What experiences can they share with other practitioners for promoting teacher learning about these issues?

How can science teachers learn about, and incorporate into their practice, ways to address these issues of language in science classrooms?

What systematic forms of inquiry have allowed practitioner-researchers to produce principles for situated practice in relation to providing opportunities for students to learn science while acknowledging the conditions of social languages?

We invite researchers to address these and related questions. The focus is on the demands of practice aimed at improving science teaching through addressing the issues of language in science classrooms. Researchers whose current projects have focused on science teaching practices and who have actively collaborated with teachers as researchers, or are science teachers themselves, are strongly encouraged to submit proposals. The Special Issue[1] is intended to have methodological and genre breadth: studies can span, but are not limited to:

- Original practitioner research with extensive information from data of practice (e.g., see Cochran-Smith & Lytle, 2009) in science education

- Science classroom observational research with active practitioner participation

- Narrative inquiries, auto-ethnographies, self-studies, case studies in science teaching

- Work across languages in science teaching: e.g., learning to do bilingual science, sign language and science teaching, learning to teach in multicultural settings, etc.

- Targeted language use or interventions in classrooms: e.g., use of metaphors and analogies for teaching science concepts, teacher explanations, planned strategies for vocabulary or language development, etc.

Deadlines and timetable

Abstract submission deadline:	August 30, 2018
Feedback from Editors:	September 30, 2018
Full paper submission:	November 15, 2018
Feedback from 1st round of review:	January 15, 2019
Submission of modified articles:	February 15, 2019
Final decision/2nd round feedback:	March 15, 2019
Publication of issue:	April, 2019

Abstract proposal (500 words, containing title, research design, aim, main results) should be sent by email, by August 30, 2018, to the Special Issue editors Dr. Valeria Cabello, Pontificia Universidad Católica de Chile at vmcabello@uc.cl and Dr. Ivan Salinas at Universidad de Chile at iedusal@uchile.cl, copied to Dr. David Geelan at d.geelan@griffith.edu.au.

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