

CALL FOR PAPERS IN *RESEARCH IN SCIENCE EDUCATION*

Special Issue on “Analysing Science Classroom Discourse”

Classroom discourse is an indispensable mechanism through which the teaching and learning of science takes place. Classroom is defined as the space where learning activity occurs, and it can include both formal setting in schools as well as other settings such as museums, parks, laboratories, collaborative spaces and online virtual environments. Methodologically, researchers have used a variety of analytical methods under the umbrella term of “discourse analysis” to analyse classroom discourse. Examples of such analytical methods include conversation analysis, discursive psychology, ethnography of communication, systemic functional linguistics, symbolic interactionism, critical discourse analysis, multimodal discourse analysis and other approaches drawing from Bakhtin, Bernstein, Foucault and Vygotsky. These analytical methods were developed from (and frequently discussed within) applied linguistics and language/literacy education research. Researchers in science education typically borrow these methods and apply them in the context of science classroom.

Prior to the turn of the century, the adoption of methods outside science education was not a major issue when the analytical focus then revolved mainly around generic classroom processes that were less bounded by the disciplinary discourse of science, such as teaching routines and sequences, classroom management strategies, and identity and power relations between teachers and students. However, in light of the increasing emphasis and contextualisation on the disciplinary nature of science, it is time to review and evaluate the methods that we simply adopted from other disciplines to take into consideration the unique empirical character of the scientific discipline.

Specifically, the analysis of classroom discourse in science will be different from other disciplines for three reasons. First, the knowledge structure of natural science – described as *hierarchical* by Bernstein as compared to *horizontal* knowledge structure in the humanities – will inevitably manifest as different languages, genres and registers in science classroom discourse. Second, as the instructional approaches used in science are often unique compared to other subject areas (e.g., use of analogy, modelling, demonstration, and conceptual change), new analytical tools or frameworks are required to discern the discourse patterns of these approaches. Third, recent emphasis on the epistemic practices of science such as practice, inquiry, theory construction, explanation and argumentation will also require new discourse theories and methods beyond those developed by linguists and language researchers.

With a focus on methodology, we invite scholars within and outside science education to contribute articles on one of the following nature:

- A *review* article discussing the current state of understanding or application of discourse analytical methods to examine the teaching and learning of science
- A *theoretical/methodological* article presenting new perspectives, frameworks or techniques related to the analysis of science classroom discourse

- An *empirical* research article applying discourse analytical methods to study science teaching and learning, with a focused and in-depth discussion of the methods used and its analytical affordances
- A *comparative* discussion article that evaluates two or more discourse analytical methods, preferably in the analysis of the same data set

We ask contributing authors to pay attention to and elaborate on the theoretical or methodological assumptions/underpinnings of their analysis. We also ask authors to reflect on how the unique nature of science or science classroom discourse influences the development or adaption of their discourse analytical methods. We are open to diverse intellectual perspectives and a broad interpretation of “classroom” setting that involves science learning in any age group. It is also important to note that the analysis of language and discourse is not limited to a linguistic mode (e.g., speech, written texts), but may include or focus on multimodal representations.

Timeline

Submission of abstract deadline:	September 30, 2019
Notification and feedback from guest editors via email:	October 31, 2019
Submission of full manuscript (max 8000 words):	January 31, 2020
Feedback from peer review:	April 30, 2020
Submission of revised manuscript:	June 30, 2020
Final decision:	September 31, 2020
Publication (Early view):	November, 2020

Submission Guidelines

Interested authors should submit a title and 500-words abstract to the Guest Editors, A/Prof Kok-Sing Tang, Curtin University, Australia (kok-sing.tang@curtin.edu.au), A/Prof Aik-Ling Tan, Nanyang Technological University, Singapore (aikling.tan@nie.edu.sg) and Prof Eduardo F Mortimer, Universidade Federal de Minas Gerais, Brazil (mortimer@ufmg.br). Please include the names, emails and institutional affiliations for every co-author.