

7 - Discourse and Argumentation in Science Education | Empirical

SP - (16602) - ARGUMENTATIVE AND MULTIMODAL VIEW OF THE EXPLANATORY STORY IN SCIENCE CLASSROOM. THE ELECTRIC CHARGE

Naykiavick Rangel (Venezuela)^{1,2}; Marina Castells (Spain)²; Joaquin Giménez (Spain)²

1 - Carabobo University; 2 - Universitat de Barcelona

Short Abstract

Abstract: This paper presents a small part of a PhD qualitative research, case-based study focused on specific pedagogical knowledge of the Physics lecturers. It is an analytic, descriptive and interpretive research, aiming to capture processes and their development that takes place in the classes during the construction of scientific meaning about some electromagnetic topics. Aims to identify the multimodal-rhetorical-argumentative characteristics of physics lecturers' classes and to find forms to representation the construction of an explanatory story, using schemes to describe elements of story according to thesis, premises, arguments' interaction and its relationship with multimodality. The experience is carried out in an engineering school, based on the physics lecturer' discourse. The topic is electrostatic introduction with electric charge. The theoretical frame is structured mainly on argumentation theory by Perelman, and multimodality in science classrooms. Results of the analysis lead into several aspects: the lecturers' multimodal rhetorical-argumentative resources used when looking for the adhesion of students to the thesis being elaborated (scientific knowledge), the communicative modes and its contribution to scientific meaning construction and in the dynamic of communicative process developed during physics classes. As conclusions, the research shows up the complexity of teaching performance, as well the graphic-descriptive techniques of the lecturer performance from argumentative-rhetorical and multimodal perspective. The study also may be used to promotes discussion of teachings in their context, from the identification of characteristic elements of explanation stories, and how scientific discourse is generated in diverse situations or didactic moments. Furthermore, it offers theoretical frame, resources and didactic tools that together are potential generators to design activities for training teaching in similar contexts.

Keywords: Explanation Construction, Classroom Discourse, Physics Teaching.