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Six Key Questions To Innovate In The Classroom From A Anthropological Perspective For The Learning Of Science And Language On Science From The Earliest Ages.

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Abstract

This article presents an interdisciplinary theoretical analysis about the elements that should meet in a didactic proposal in order to develop the scientific research skills in the students through the use of language and communication. These are: the Interrelation between the develop of the communicative skills and research skills, along with the possibility to generate evidence of development of these abilities, with approaches that already exist to analyze the scientific speeches in the classroom and the role in the anthropological context for the development of the school thinking. Under the theoretical reflection emerge two central key ideas: first, the relation between; culture, emotions and exploration, observation, in which the use of models is crucial for the sense construction and the regulation of the speech through the interpersonal communication processes like abilities before the development of abilities of scientific research. Second, to analyze the statement as a rhetorical problem solving, there are two elements that affect. On one hand in teaching grammar used by the school to observe and problematize, and secondly, anthropological ethnographic approach to contextualize the representations of the environment under investigation.

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1. Introduction

Science is an intellectual product and a process of “making sense” fully embedded in society and culture, after the result of the work of many men and women with “real life” like us. We are “all” invited to participate into play cognitive and discursive procedures “High Flight”, such as problems solving, use of analogies and metaphors, inference and argumentation, as inventive and creative but at the same time rigorous and “controlled” (Aduriz-Bravo & Izquierdo, 2009; Aduriz-Bravo, Merino, & Izquierdo, 2012; Izquierdo & Aduriz-Bravo, 2003). The development of these cognitive and discursive procedures has been addressed in the literature under different names; scientific thinking skills, scientific research skills, scientific, etc. (Kauertz, Newmann, & Hearting, 2012). However, to operationalize these definitions in the classroom is a crucial task if we consider the importance of developing scientific activity school to achieve recognition of science and technology and abilities for life. There is a generalized representation in science education focused on an abstract, complex concept, that belongs to the world of scientists a world that is far from ordinary schools. Even the representation of scientific research is conceived as an unattainable formula language and equally remote capabilities to understand for a student or at least this is the feeling that makes reading science texts written by scientists

Moreover, statistics on the development of science in South America and particularly in Chile indicate that there are fewer scientists doing science that is required to be a developed country and fewer doctors engaged fully investigated. According to Krauskopf (1999) while developed countries graduating hundred doctors per million inhabitants, Chile hardly graduates four. Regarding the scientific productivity, measured as the number of Jobs Thomson- Scientific. Gibert (2011) was 3.646 for Chile (2008) versus 23.109 for Brazil (2007). And the OCDE average is 28.681 (2008). The impact on the economy is now invisible, but it is estimated that in Chile there are 3.2 researchers per 1000 employees in the productive sector. While in OCDE countries the average is 6.9 researchers per 1000 employees CONICYT (2004). However, we must also consider what the figures show in relation to the formation of human capital, in the middle school level education, particularly, evidencing the PISA test, about his background in science. In OCDE countries, 8.4% of students have the best performance in science (level 5 or 6). This means that students can identify, explain and apply scientific knowledge in a variety of complex situations in life. In this area Chilean students scored 445 points in science in 2012 below the OCDE average in science 501 points. According to these statistics Chile goes back between 1 and 2 places in all areas measured when analyzing their relative position compared to the total countries that did PSA, ranking in the bottom third among 65 countries.

The measurement of the National System of Education Quality, SIMCE in Basic Education shows that on average in 2014 in the area of science, 39.5% of schoolchildren of 4th grade have an insufficient level of learning in science, 27.4% have a level of only elementary learning and appropriate learning level reaches only 33.5%. Learning levels, insufficient science, show that in the extreme parts of Chile there is a reduced group of students who had a basic level of learning in science and increased the group with an insufficient level of learning in science (National results SIMCE 2013). Having this in mind, it is possible that a problem of this nature can be approached from educational anthropology and teaching to find elements to understand the problem that allow suggest possible solutions to this situation. According to what was written before, this article raises some questions that are in the group of science teachers, in order to bring understanding to the problem of how to develop the investigative thinking in school. These questions follow a multidisciplinary approach from the teaching of sciences, communication and educational anthropology. These are: Why do they have to develop communication skills and scientific research in students of 6 to 10 years old?, What elements are formed in the theory of intrapersonal and interpersonal communication as skills to be developed?, and what impact would there be for teaching and science?, why is it appropriate to propose communicative teaching to develop scientific research skills?, How can we observe the development of communication skills in the development of scientific research skills?, what other approaches are there about scientific discourse or language of science in the classroom? And finally, what's the role of the anthropological context in the development of investigative thinking and communication of scientific thought? Following, without the intention of offering radical positions, we will raise some elements that we have named in theory and field to provide direction and guidance that can help teachers to propose these questions from theoretical and practical perspectives that define our research experiences in these areas.

1. *Why do they have to develop communication skills and scientific research in children aged 6-10 years old?*

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