

# MIGHT STUDENTS BE KNOWLEDGE PRODUCERS?

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Student's investigative work in the mathematics' classroom has been supported through multiple perspectives. In this talk I propose to analyse the epistemological legitimacy of those investigations realized by students.

Mathematical knowledge as well as the investigative praxis of the professional mathematician is viewed according to post-foundational epistemologies. In this sense relevance is given to scientific, cultural, social, historical and institutional elements in the analysis of mathematical praxis and knowledge. So the praxis of the professional mathematician and the knowledge he produces in investigative settings is prototypical of the praxis and knowledge production by students when engaged in investigative tasks.

I will discuss an epistemological model that conceptualises the mathematical classroom as a strong epistemological space in which students might produce knowledge epistemologically relevant. This relevancy is implicated in the way I conceive the epistemological possibilities of the mathematical classroom. I characterize the epistemological structure of the mathematics classroom according to seven categories namely:

1) value and limits of the knowledge produced; 2) knowledge validation criteria; 3) epistemological obstacles; 4) the relationship between the one who produces knowledge and knowledge itself; 5) the identification of conditions favourable and unfavourable to knowledge production; 6) the aesthetic dimension of knowledge and 7) the characterization of 'new' mathematical knowledge.

I will briefly illustrate the applicability of this epistemological model to the case reported by Michael Keyton (Keyton, 1997).

## **Reference**

Keyton, M. (1997). Students discovering geometry using dynamic geometry software. In J. King & D. Schattschneider (Eds.), *Geometry turned on! Dynamic software in learning, teaching and research* (pp.63-68). Washington, DC: The Mathematical Association of America.