

International ELINET Symposium 2018
“Literacy in the 21st Century: Participation – Inclusion – Equity”.

July 23-24, 2018, Cologne, Germany



Section IIa Teaching disciplinary literacy in all subjects – new research and practices

Chair: Sari Sulkunen, University of Jyväskylä, Finland

Monday, July 23, at 16.00–17.30 **Location:** Seminar Building / Room S 22

LITERACY CHANGES LIVES.

How do pre-service elementary/primary teachers define « criteria of scientificity» and how to help them building these criteria?

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Abstract:

The definition of "criteria of scientificity" has been debated forever. What is Science? How do we distinguish Science from what it is not? These questions have been widely explored.

The scientific community of Science is marked by specific language practices, reflected by the knowledge produced (Lhoste, 2008). In order to foster our students' understanding of how scientific knowledge is built and to develop their critical thinking abilities, it is important that their teachers train them to distinguish among these discursive registers. A large number of primary and secondary students face difficulties in identifying whether a theory is scientific or not (Carette et al., 2013).

These difficulties may be rooted in teachers' teaching practices (Carette et al., 2013), reflecting their epistemic conceptions and beliefs about the nature of science and the scientific process (Lakin and Wellington, 1994, Noverraz et al, 2007), and frequently constitute barriers to professional development (Porlán et al., 1998). To address this problem, it is important that teacher training:

- leads to question their personal perceptions about the nature of science;
- builds the specificities related to the production of scientific discourse;

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- effectively equips them to set up didactic devices enabling students to recognize the criteria of scientificity.

The instructional design presented in this communication was set up with 1st year preservice primary teachers enrolled in the Haute Ecole de la Ville de Liège. Its goal is to teach preservice teachers to discern criteria of scientificity. The 3 months intervention consisted in the production of intermediate writings, in reading informative texts and watching videos to assess the scientificity with the support of tools. Evidence of representations about criteria of scientificity and teaching sciences were collected at the beginning and at the end of the intervention. The results show that preservice teachers' conceptions have perceptibly evolved.

References:

- Carette, V., de Biseau, J.-C., Wolfs, J.-L., Colsoul, A., Leclercq, G., Poncelet, J.-F., et al. (2013). Analyse des difficultés liées à l'enseignement – l'apprentissage de la théorie de l'évolution. *Education & Formation*, pp. 87-103.
- Lakin, S., et Wellington, J. (1994). Qui enseignera l'épistémologie des sciences ? Conceptions d'enseignants sur la science et conséquences pour l'enseignement des sciences. *Aster*, 19, pp. 175-193.
- Lhoste Y. (2008) Problématisation, activités langagières et apprentissage dans les sciences de la vie. Étude de quelques débats scientifiques dans la classe dans deux thèmes biologiques : nutrition et évolution. *Éducation*. Thèse de l'Université de Nantes, 513 pp.
- Noverraz, J.-C. (2007). La dimension épistémologique en didactique des sciences. *Revue pédagogique Prisme de la HEP de Lausanne*, 6, pp. 27-31.
- Porlán, R., Garcia, E., Rivero, A., Martín del Pozo, R. (1998) Les obstacles à la formation professionnelle des professeurs en rapport avec leurs idées sur la science, l'enseignement et l'apprentissage. *Aster*, 26, pp. 207-235.

Bio notes:

Marine Andre: Lower secondary education teacher in History, Geography and social sciences, Marine André has also obtained a Master's degree in Sciences of Education. She is a researcher in the *Analysis and Support of Teacher Development* Department at the University of Liège since 2016. Her area of research focuses on teachers' professional development, particularly in the field of literacy, including videoformation.

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The main tasks she is responsible for are teachers' accompanying in the framework of case studies concerning the implementation of tools for young children's writing. She worked as national coordinator of the Erasmus + project BleTeach (Blended Learning in Teacher 's Professional Development for Reading Literacy). This project involved the development of a continuous training device for lower secondary teachers. This blended courses aimed at developing students' literacy skills that serve learning disciplinary school subjects. In order to introduce research results and evidence-based practices into teachers' current practices and thus foster professional development, She contributed to design a professional development tool in Mother tongue didactics dedicated to teachers involved in the core curriculum, and she developed a raising awareness tool for diagnostic assessment of informative texts comprehension, as part of compulsory education reform in Belgium (Pact for a teaching of excellence).