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Report of Silvia Sbaragli's thesis

The subject of the thesis is *"Teachers' convictions on mathematical infinity"*.
Silvia Sbaragli has been working in Mathematical Education since 1996. At present Silvia Sbaragli works at Bologna University for the NRD (Nucleo di Ricerca in Didattica della Matematica di Bologna) which I represent as the Head of the Scientific Committee. Moreover, she has a remarkable experience as teacher for training courses for teachers in formation. Silvia Sbaragli teaches and collaborates also for the Universities of Bologna and Bolzano (Bressanone) and in the Pedagogical High School of Locarno, Switzerland. Therefore, she is constantly in touch with the world of teachers and school that inspired her research study and provided her with sufficient and interesting interview-material on which she based her work.

The work of Silvia Sbaragli is formed by the following points:

- experimental methodology: use of qualitative methods based on the interviews;
- previous works of Silvia Sbaragli (see curriculum vitae);
- investigation about historical backgrounds.

The most significant result represented by her dissertation work is that the present work provides a clear and tangible answer to an open research question. The international literature available on this matter recognizes the objective difficulties encountered by mature students (those attending the last years of secondary high school before entering universities studies) when dealing and mastering the concept of mathematical infinity: a fundamental concept for the understanding of mathematical studies.
The reasons for these objective difficulties have been traced back, most of the times, in the epistemological obstacles (accurately described by research literature) or in the didactical obstacles (so far never analysed in a definitive way).
Silvia Sbaragli's research work demonstrates, providing clear evidence, that the majority of didactical obstacles are not only and exclusively ascribable to previous learning pathway i.e. in primary school, but they are also due to explicit teaching methods taking place in primary school. Better explained: these obstacles originate from primary school teachers' beliefs and their consequent competences (on which so little has been done in order to directly intervene on initial teachers' training stage).

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