

DIVERSITY OF GEOMETRIC PRACTICES IN VIRTUAL DISCUSSION GROUPS

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Interactive processes turned to professional development usually interest researchers in this area. Nevertheless, the analysis of the various teachers' meanings collaboratively shared in a given virtual community is still incipient in mathematics education. In our longitudinal research we have been analysing the contributions of a virtual environment to the professional development in geometry (Bairral and Giménez, 2003). In this study we will analyse the teachers' discourse and identify hypertextual links (Jonassen, 1986; Gall and Hannafin, 1994) in discussion forum.

Data analysis

We consider that the reflections to the discussion forum are sequences of professional actions and that they must establish different semantic relations. In each teleinteraction it is possible to identify new information on the content of the teachers' knowledge. This information is somehow hypertextually related to the contents of the contribution to which we are referring or to another educational context. The discussion forum was one of the communicative spaces and the interventions to the debate were registered. The procedures followed for the analysis were: **(1)** the creation of a specific file for the texts, by numbering and coding them; **(2)** the transference of contributions to the researcher diary in order to complete them with constant remarks and analysis; **(3)** the characterisation of interactions; **(4)** the summary of ideas and confection of schemata to analyse the dynamic of the debate as hypertextual, and **(5)** the meta-analysis of parts of the debate.

Results

The attention to the personal reflexive processes and their socialisation along the professional development was a notorious fact in the dynamic at the forum. It was a space for the collective immersion in the discussion (with a response action more flexible in time) that presupposes a security and trust in the group. Each teacher participated and contributed in different ways. The analysis permitted us to detect that *argumentative* interventions generate cognitive nodes and often are reported by the teachers to the metacognitive discussion. We also found out that the *informative* interventions generate referential or hierarchical nodes.

References

- BAIRRAL, M. & GIMENEZ, J. (2003). On Line Professional Community Development And Collaborative Discourse in Geometry. *Proceedings of 27th PME*. Honolulu, v.2, 429-436.
- GALL, J. & HANNAFIN, M. (1994). A framework for the study of hipertext. *Instructional Science*, n. 22, 207-232.
- JONASSEN, D. et al. (1986). Hypertext Principles for Text and Courseware Design. *Educational Psychologist*, 21(4), 269-292.