This article presents the research results of a research whose main objective was to understand the structure of mental models on the concept of measurement of second grade and complementary formation (students beginning their teaching training) students. For gathering information, direct observation and 8 semistructured interviews were used, 4 to second grade students and 4 to complementary formation students. The elements of the mental models that came up are related to the explanatory models that students have constructed around the concept of measurement, the conceptions on measurement, and the use of semiotic representation and context. The quantitative explanatory model is one of the elements that frequently comes up, since it can be inferred that the extracurricular contexts are a potential element in the construction of said concept, and the difficulty in using treatment and conservation processes in semiotic representations implemented by students in the research, in order to express their measurement ideas. The results obtained from this research process intend to impact the teaching processes of the concept of measurement when recognizing the models that the children and young adults construct, which could become an obstacle for their learning, and in turn, they become elements to be taken into consideration in classroom activities.

Keywords
Mental models, measurement, explanatory models.