

IMPLEMENTATION OF STATISTICAL PROJECTS IN A TELESECUNDARIA SCHOOL

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This poster contains the results of an investigation about the design and implementation of a didactic proposal based on project work to favor the learning of statistics curricular content in a group of Telesecundaria students who are currently in the first grade. The Telesecundaria educational model was created in Mexico in 1968 to bring secondary education—through television broadcasts—to students living in rural and hard-to-reach areas of México. In Telesecundaria, a single teacher teaches all subjects, currently by using textbooks, television programs, and the internet.

The statistical projects carried out by the students were developed to incorporate the Problem-Plan-Data-Analysis-Conclusions (PPDAC) cycles proposed by Wild and Pfannkuch (1999). In addition, we sought to comply with the five characteristics of authentic project-based learning (PBL) described by Thomas (2000). In particular, we designed the PBL projects to be: central to the curriculum, focused on problems that require students to consider central discipline concepts, involving students in constructively investigating answers, largely student driven, and realistic. This poster shows the sequence of activities carried out during the development of the didactic proposal.

The study was conducted with a quantitative approach and a quasi-experimental design, using an experimental group and three control groups. A previously validated instrument developed by delMas et al. (2007) was applied as a pre-test and post-test with the four groups. To analyze the results obtained by the students, two statistical tools were used, the magnitude of the effect and the normalized gain factor.

The results show an improvement in the learning of statistical topics by the students who were part of the experimental group. It is observed that this learning is greater than that obtained by the students in the control groups. This suggests that project-based learning is an effective strategy to favor and improve the development of statistical fundamentals in Telesecundaria students.

The importance of this study lies in the fact that it shows the type of didactics of statistics that should be urgently introduced in the curricula of secondary education in México.

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