Based on some guidelines of Wild and Pfannkuch (1999), Sovak (2003) and Makar (2008) for the implementation and evaluation of statistical enquiry in the classroom, a didactic strategy was designed to improve the learning of statistics in third-grade students of a Mexican telesecondary school with televised classes. We analyzed the impact of this strategy, for which a quasi-experimental study was carried out with three control groups and one experimental group. To evaluate the learning outcomes, a pretest and posttest based on the CAOS-4 test were applied. The quantitative analysis performed shows an improvement in the learning of curricular statistical knowledge. This suggests that statistical enquiry is a method that helps, and motivates, students to learn the main subjects of statistics for the secondary level.