In this article, we carry out a combined econometric and multiobjective analysis using data from a representative sample of Andalusian schools. In particular, four econometric models are estimated in which the students' academic performance (scores in math and reading, and percentage of students reaching a certain threshold in both subjects, respectively) are regressed against the satisfaction of students with different aspects of the teaching-learning process. From these estimates, four objective functions are defined which must simultaneously maximized. A set of constraints is obtained by analyzing dependencies between explanatory variables. This multiobjective programming model is intended to measure the students' academic performance as a function of the students' satisfaction. To solve the this problem, we use the reference point methodology together with the compromise programming, which allows generating several Pareto optimal solutions representative from the Pareto optimal front. In general, the results show the importance of promoting respect and closer interaction between students and teachers, as a way to increase the average performance of the students and the proportion above a certain threshold.