In this article, we discuss the use of client-driven projects – projects that are posed by business, government, and non-profit organizations and based upon real problems facing the organization – in the mathematics classroom. Although client-driven projects have long been used in business and engineering education, their use in mathematics is rare. Client-driven projects represent an authentic connection between some standard mathematics content and the world beyond the classroom, but their use as tools for teaching mathematics also raises many curricular and pedagogical issues. We discuss, in limited evaluation, how service-learning seem to have a positive impact on students’ attitudes and motivation. We share our five-year team teaching experience of several facets of service-learning in teaching a non-major first-year mathematics course including, the acquiring of projects, the dynamics of the teams, assessment of students’ work, the use of technology, and lessons we have learned in dealing with the practice of mathematics outside of academia. Furthermore, we briefly discuss projects used in our team-teaching over five years along with the mathematical techniques applied in each project. (Received July 16, 2010)