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In this article, we discuss service-learning in the mathematics classroom through the use of client-driven projects posed by business, government, and non-profit organizations and based upon real problems facing these organizations. Although client-driven projects have long been used in business and engineering education, their use in mathematics is rare. Service-learning represents 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 how service-learning seems to have a positive impact on students' attitudes, motivation, and actual learning. We share our seven-year 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 seven years along with the mathematical techniques applied in each project. (Received September 02, 2010)