Adopting open educational resources (OER) with an organized educational frame has the potential to not only reduce student cost for learning materials but also improve student learning, instructional methods, and educational environments. The aims of this study are to explore student perspectives on the use of an OER platform in blended learning, and to examine student achievement, engagement, and opportunity for learning mathematics. As a mixed project, the data was collected from 423 students in 15 sections of Elementary Statistics during four semesters. The results of this study showed that the use of an OER learning platform in blended learning promoted student engagement and significantly increased student opportunity for learning. There were not significant differences in student achievement between adopting an OER learning platform in blended learning and adopting commercial resources in regular classes. This study will contribute to the knowledge of the open educational use of technology. (Received September 19, 2018)