The Classroom Response System (CRS) was developed as a tool for enhancing interactivity between teachers and students in the classroom. Many studies have revealed the effectiveness of using CRS in educational environments. However, the popularity of CRS has not increased sufficiently. This study aims to implement an automatic learning support function on CRS to improve conventional systems. In this regard, I considered applying the concept of an agent-oriented system (AOS) to realize the implementation of this support function on web-based CRS. In addition, I examined the feasibility of applying the concept of an automatic learning support function by examining the prediction of student responses by using student activity logs. This paper describes the model on which the application of an AOS is based and the result of the prediction examination.