

AI-based instructional systems have proven to be educationally effective and are starting to be more widely used in mainstream educational environments. A typical goal for these systems was to duplicate the effectiveness of a personal human tutor. Many researchers in the area assumed that, as intelligent systems approached the effectiveness of a personal instructor, the role of the instructor would diminish.

We are now at the point where intelligent tutoring systems approach the effectiveness of a personal human tutor but, instead of replacing teachers, the use of such systems has served to amplify the importance of teachers. While intelligent instructional systems have a role in helping to personalize instruction for students and to scaffold complex problem solving, they need to be seen as part of an instructional system that includes both automated and human sources of instruction. Our work now focuses on ways that we can help students make best and most efficient use of their teachers and ways that intelligent systems can help teachers make the most of the limited amount of time that they spend with students.