We used the Mouselab-MDP paradigm to examine the planning decisions and efficacy of feedback via cognitive tutors on different age groups. Experiment 1 had one group receive feedback during Mouselab-MDP training trials; another did not. While the feedback group outperformed the control group in test trials, older adults benefited more from feedback than younger adults. In Experiment 2, we screened participants into age-based groups and used Mouselab-MDP to process-trace their planning. Contrary to previous work, we found differences in strategy preferences between age groups. Our findings suggest that cognitive tutors tailored for age can help improve planning skills.

People's ability to make complex plans is known to deteriorate with aging. In a process-tracing experiment we found that this may be at least partly because older adults use less effective planning strategies. We also found that, with practice, both older and younger adults learned more effective planning strategies from experience. To accelerate this learning, we developed a cognitive tutor that teaches people optimal planning strategies via feedback. We found that practicing planning with this intelligent tutor was especially beneficial for older adults. These findings suggest that intelligent tutor systems may have potential for helping aging decision-makers stay sharp.