Dr. Janice Gobert, Co-Director, Learning Sciences & Technologies; Associate Professor, Social Science & Policy Studies
2013-14 Coleman Fellow

As a cognitive scientist specializing in designing learning and assessment tools, Janice Gobert, is in the unique position of both teaching and learning at the same time – helping students learn while studying how they learn.

“We’re at a totally transformative time and place,” said Gobert, an associate professor of social sciences and policy studies and co-director of the learning sciences and technologies program. “It involves the intersection of learning sciences and educational theory – pedagogy – and computer science-based techniques such as data mining to support students’ learning and develop really fine-grained assessment techniques.”

It’s no surprise that innovation figures heavily into everything Gobert does. So much so that she’s embraced it herself as an entrepreneur, launching a start-up focused on using educational data mining techniques to assess students’ skills for science. With her two partners – Michael Sao Pedro, ’13, PhD Computer Sciences/Learning Sciences and Cameron Betts, ’12 MS Learning Science and Technology – Gobert is applying computer-based assessment metrics to students’ log data from virtual science microworlds to provide real-time assessment data to teachers and real-time tutoring to students. The company is called Apprendis, from the Latin root *apprend*, which means “to learn.”

As a Coleman Fellow promoting entrepreneurship, Gobert is teaching a course this spring on educational innovation. “What I want to better understand is the “culture” and conditions underlying innovation,” Gobert commented. “We’re going to read about innovation processes across a number of domains and examine in detail some really interesting examples of innovation in the area of educational technology.”

Gobert finds the technological aspect of education fascinating, underscoring that one cannot overestimate the impact of computers on how students interact and learn. “It wasn’t that long ago that the issue was ‘will computers actually work?’, for example, when it was difficult to stay connected to the Internet,” observed Gobert. “Now we’re working with schools where every student has an iPad and some states have a one-laptop-per-child initiative. Once educational materials are digital, you can respond in real time, and once you can respond in real time, you have the opportunity to offer truly individualized instruction, reacting to a student’s content knowledge, skills at scientific practices, and even their affective states and level of engagement.”

Gobert believes that true innovation, which goes hand-in-hand with entrepreneurship, takes more than just thinking outside the box. “The words creativity and innovation get paired together all the time,” comments Gobert. “Something can be creative when you’re thinking outside the box. But in my opinion, something can only be called innovative if it’s useful within a system as it exists today and can also bring that system along into the future.”

Together, Gobert and WPI offer an example of the Coleman Fellows program’s mission to promote self-employment through entrepreneurship. “WPI has set up an advisory network for all the businesses it incubates, including ours. We meet with advisors to discuss our business model and approach; our
advisors help us think through important details impacting our business model and our market, as well as provide advice on how to protect our intellectual property."

WPI and its incubator program are perfectly situated to foster true innovation, contends Gobert, because “you have the rich marriage of tech-savvy people applying their smarts to real world problems.”