This talk will address methods of assessment and lessons learned from a semester teaching a skills based course in cryptography. The desired learning outcomes of this course are problem solving and collaboration skills. However, nontraditional assessments employed here can translate to content driven classrooms. The focus of assessment is entirely on the problem solving process. For instance, one artifact I assess is the process report. Students are expected to log their process, including mistakes, failed strategies, and how they realized the strategy had failed as they work on a problem. At the end of the project, students submit a process report. On a typical test, students just erase wrong answers when there may have been some insight to be gained from what they initially tried. With the process report, the assessor gets a better idea of student understanding of content and skill development. (Received September 21, 2015)