1035-Z1-1070   **Ward Heilman*** (`wheilman@bridgew.edu`) and **Heidi Burgiel** (`hburgiel@bridgew.edu`). *A Transition Course using improvisation guided by metacognition, experience, and mathematical knowledge and culture.* Preliminary report.

Like jazz, the practice of mathematics has elements of free form exploration and association of ideas, as well as a long history of knowledge of patterns and context, without which the amateur is playing in the dark and is not part of the rich, productive culture of the subject. We have developed a transitions course for mathematics majors, corequisite with Calculus I, which uses guided discovery and a technique, talking proofs, based on the ideas of improvisation. We attempt to expand students' proficiency of the knowledge base, language and culture of mathematics through the use of running commentary and metacognition on examples from number theory, algebra, combinatorics, and calculus. (Received September 18, 2007)