1056-N1-803   **David Fowler*** (`dfowler@unl.edu`), 16 Henzlik Hall, University of Nebraska, Lincoln, NE 68588-0355. *Inquiry as an Outcome of Algebra.* Preliminary report.

College mathematics students planning to become secondary mathematics teachers need to be prepared for conceptual explanations, especially explanations that novice learners can comprehend. In this presentation, I will show a number of examples of "inquiry patterns" based on algebraic concepts. These examples are used in a teacher preparation course, and are based on both college-level mathematics and high school mathematics from an advanced perspective. These patterns can then be applied to basic explanations at the level of beginning learners.

This presentation includes a synthesis of ideas including a basic definition of "inquiry" (Dewey), patterns of inference (Polya), cognitive transfer (Perkins and Salomon) and applications of the philosophy of mathematics in the mathematics classroom (Flashman, MAA Minicourse 2008). (Received September 17, 2009)