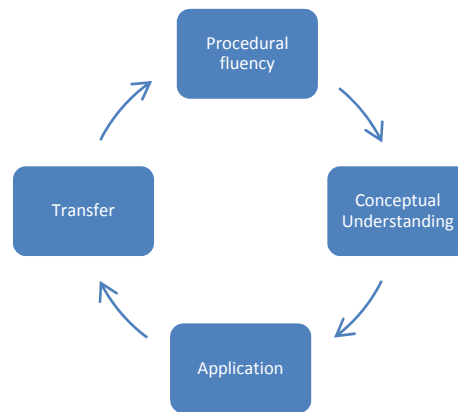


General Problems of Practice: MATH

- Teaching and learning with a focus on the cycle of



- Presenting math so that students see its value all around them. Too often math is taught without students understanding its “meaning”; application is critical.
- Smoothing transitions at all levels. We need to know where students are coming from in order to know where they are going
 - Elem to Middle
 - Middle to High
 - High to CC
 - High to Uni
 - CC to Uni
- Describing, explaining and explicitly addressing differences in high school and post-secondary expectations. What shifts do students experience as they move from one setting to the next or from the culture of high school to the culture of college (e.g., independent learning expectations, timeframes for task completion, etc.)
- Sustaining productive lines of communication across sectors through practitioners who teach and study math
- Teaching students how to study math, problem-solve and think mathematically
- Balancing rigor, coherence, and focus as well as teaching for procedural fluency, conceptual understanding and application
- Leveraging the CCSS Standards of Mathematical Practice. Power of these standards is that they apply to every level and course and can guide our work. How do we “bring them alive” in the classroom?
- Teaching reasoning skills. What do we know about the brain development / reasoning and teaching and learning mathematics? Are some reasoning skills most effectively taught to students of different ages or in connection with certain topics?

- Reviewing. Do we have to teach the same things over and over? Is re-teaching necessary, productive or effective?
- Active learning. We know that student-driven learning is effective but physical and curricular constraints cause us to fall back on more teacher-driven approaches to instruction.
- Finding ways to emphasize the integration of specific ideas and examples to larger concepts.