

# S P I K E

## Five Essential Ingredients

of a

## Successful Mathematics Education

**Self-Pacing.** Students must be taught at a pace they can absorb the new material and review past material. Each student is unique and his or her pace will vary from time to time and topic to topic.

**Proper content.** It is vital that a student be ready for a new topic. Learning math is like climbing a ladder. Do not try to skip rungs. Also, the content should be relevant to the student's broader interests in life.

**Interactivity.** The student must learn math by "doing math". Math is like any sport. You must practice and get continual feedback. You must accept that mistakes are natural and you learn from them. Mistakes are actually a good sign you are practicing and learning and should be "celebrated" as a sign of progress.

**Keeping Score.** The student should be given continual evaluation and praise for his or her progress. However, a student is striving for his or her own progress, and NOT competing with other students. Focus on the student's achievements and progress.

**Empathy and humor.** It is vital that the student learn to enjoy "doing math". Laugh at mistakes as a normal thing that happens to us all. Receive continual praise for both effort and success.