Parkland College Developmental Math Redesign

What Have We Learned?

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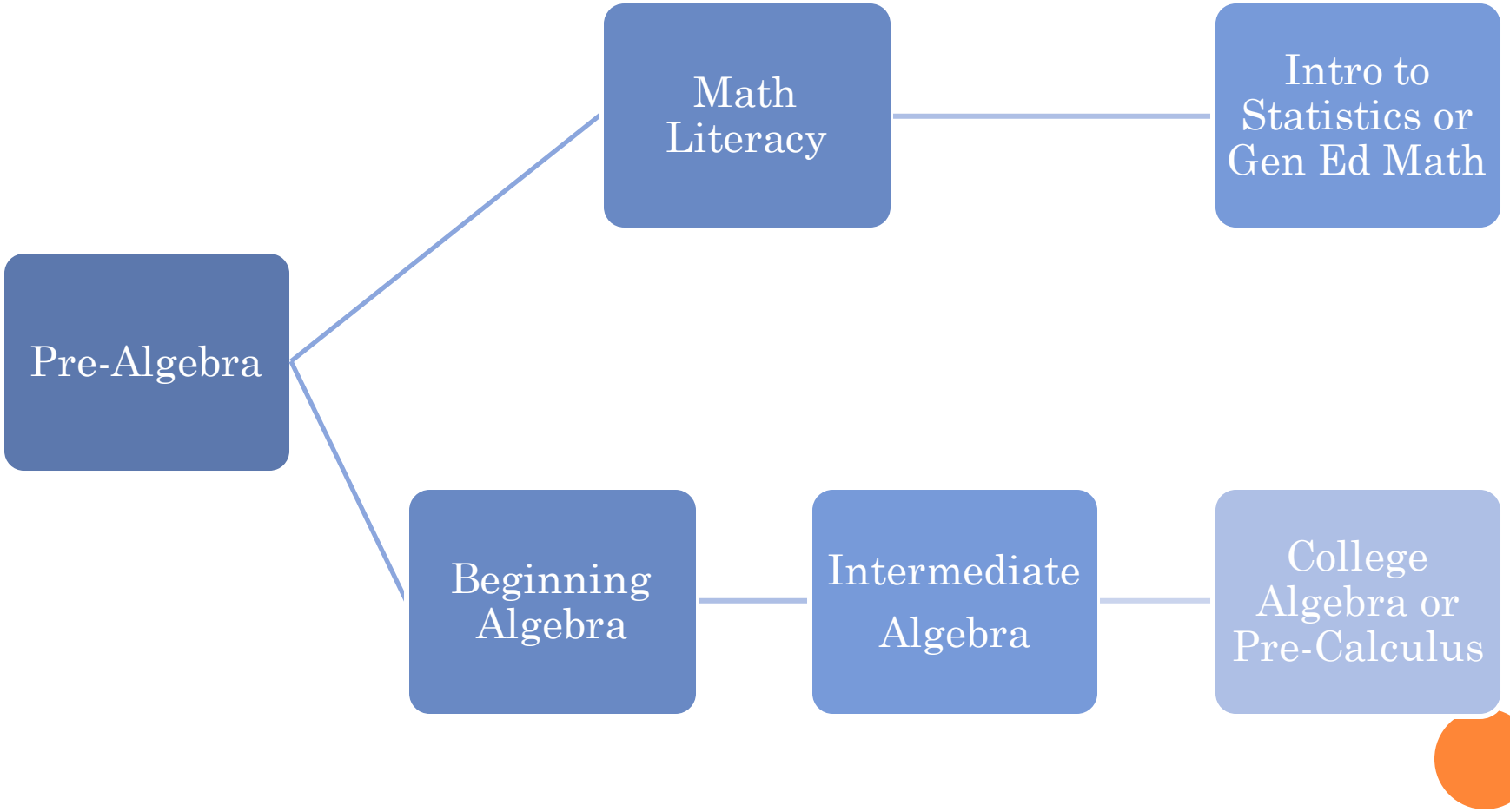
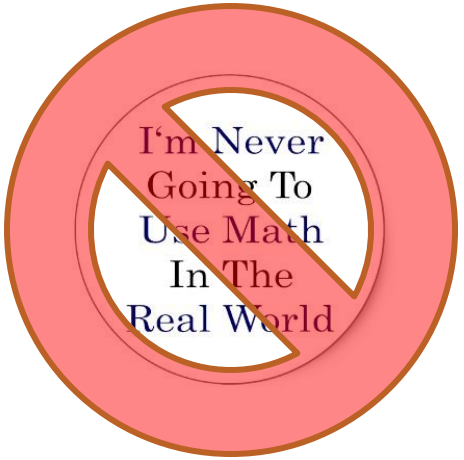
Course Sequence



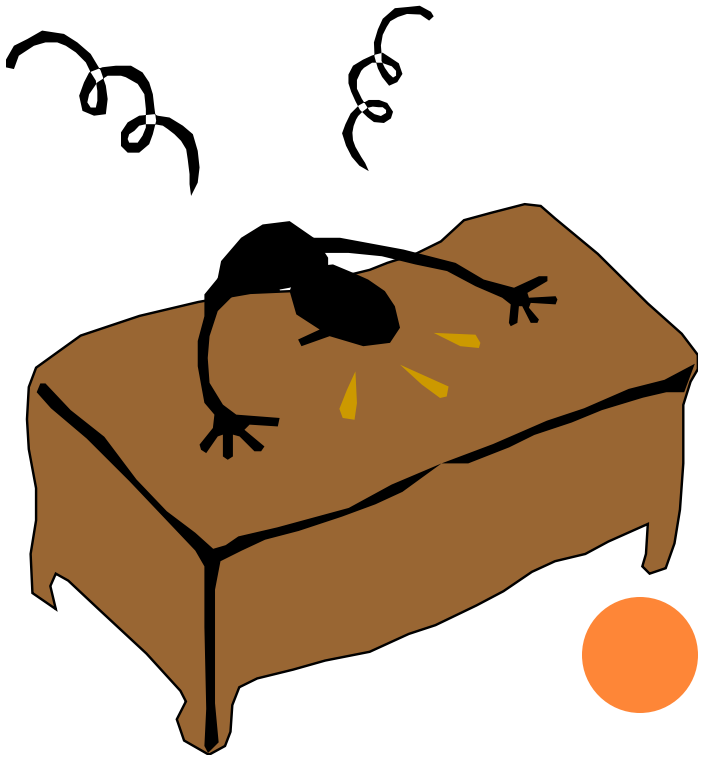
Gen Ed Track (Mathematical Literacy)



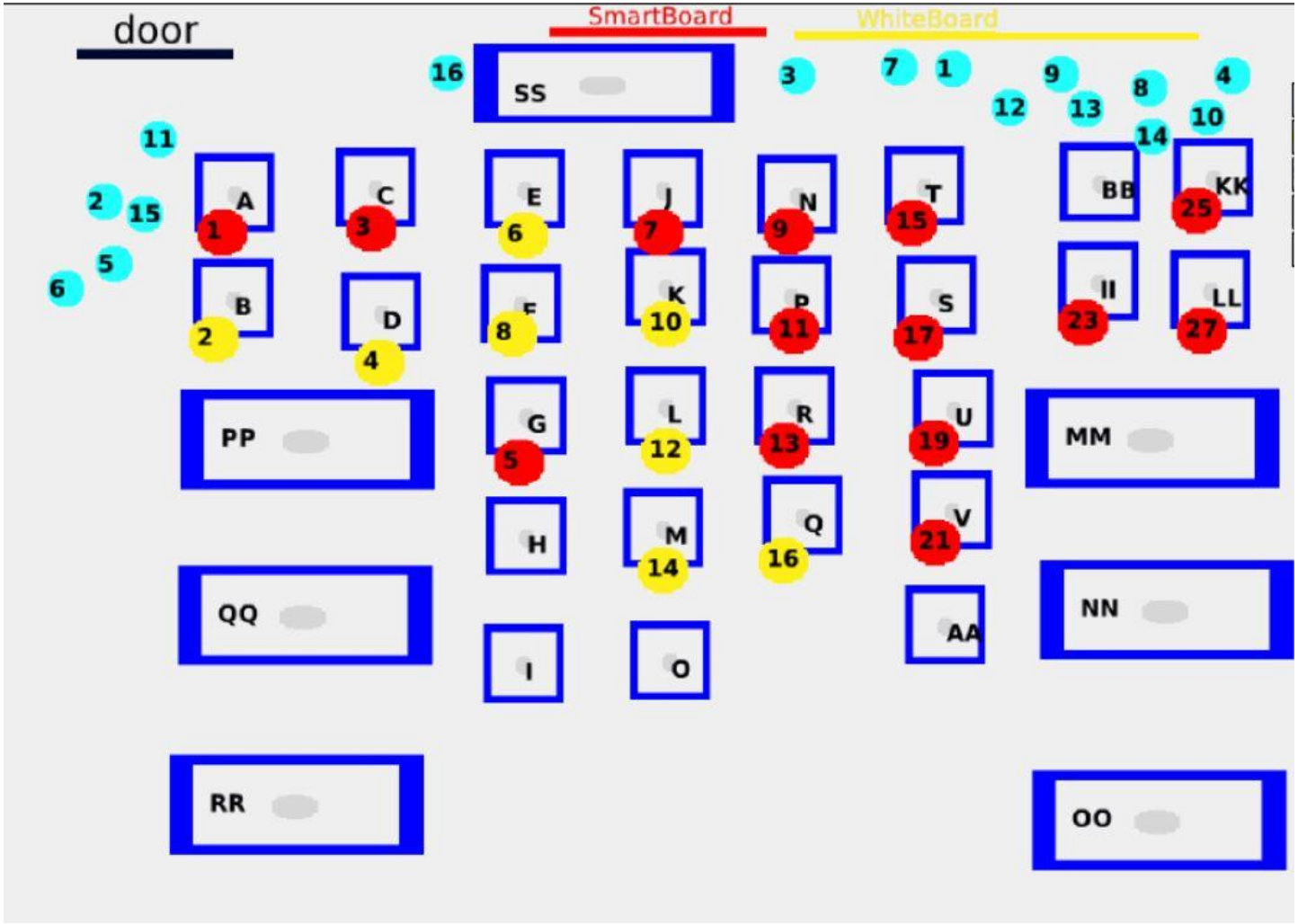
- Topics chosen to prepare students for General Education Mathematics and Statistics, and Life
  - Numeracy, functions, data analysis
  - Reading, writing, technology
- Group-based problem-solving pedagogy

Productive Struggle

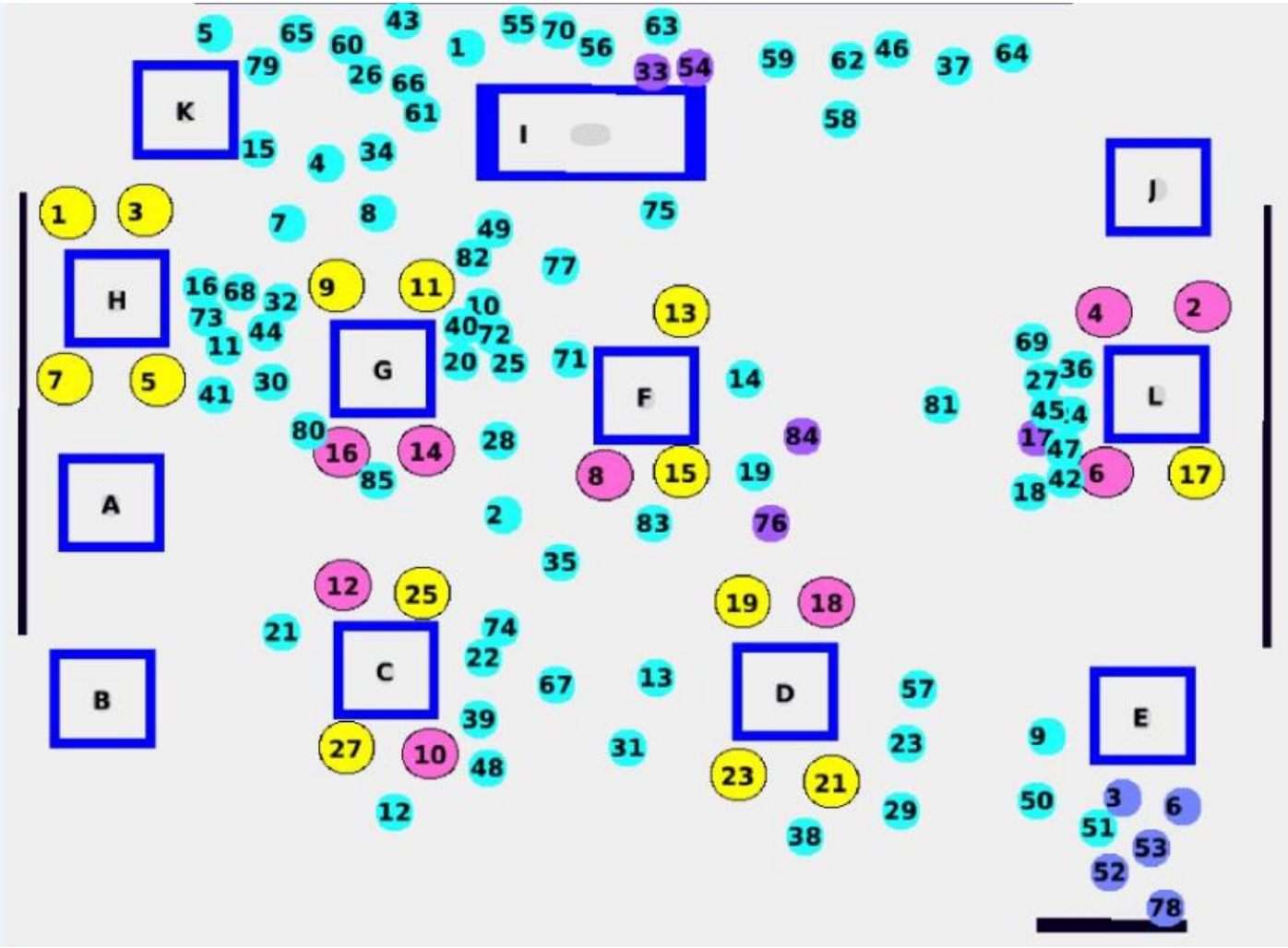
- Real problems don't follow cookie-cutter patterns; they take work
- Take responsibility
- Persistence will pay off



A Traditional Classroom

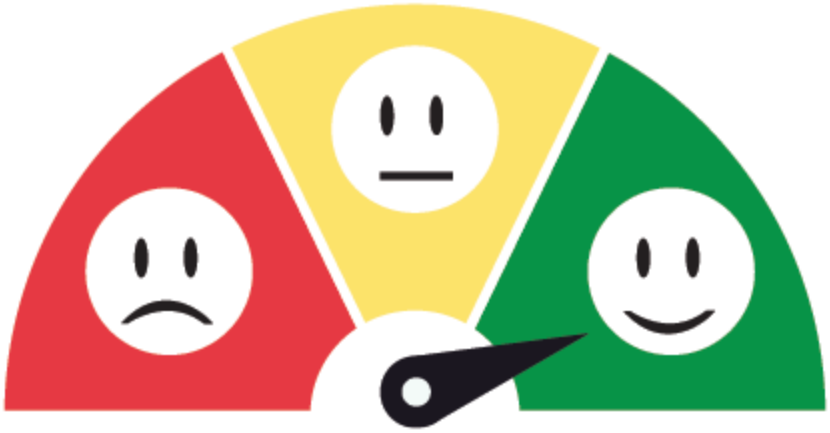


A Math Lit Classroom



Our Experience

- Has changed our whole philosophy about teaching
- Most fun we've had since we started teaching
- Get to know students much better
- We can't go back



So Where Are We Now?

- Used to have 20+ Sections of Beginning and Intermediate Algebra
- Now have 12-15 Sections of Math Literacy and 5-7 Sections of Beginning and Intermediate Algebra
- Students generally like new class
- Happier intermediate algebra instructors ☺
- More students to and through Intro to Statistics and General Education Math

The Data so Far: Fall 2013-Spring 2014

- Success rates (completed Math Lit, C or better)
  - 52% successfully completed Math Literacy
  - Compared to historical average in traditional track of approximately 50% in Beg Alg and 50% in Int Alg
- Success in subsequent courses
  - Students completing Math Literacy in Fall 2013 had 57% success in Intro to Statistics and General Education Math on first attempt

Student Feedback
(Survey of 127 students)

- Overall opinions of the course
  - 52 liked it better than other math courses
  - 38 thought it was worse than other math courses
  - 37 were neutral or had a mixed review

- Content
  - Most found at least some of the content to be relevant
  - Some even listed specific topics such as compound interest

Student Feedback
(Survey of 127 students)

- Group work – students were split
  - Many loved working in groups instead of lecture
    - "Working in groups was informative—gave more information than I would have expected."
    - "Much better [than other math classes]. Less intimidating. Much more relaxed and more comfortable."
    - "More teacher/student interaction as opposed to a 2-hour lecture."
  - Many hated the groups
    - Prefer lecture
    - Feel that "the teacher doesn't teach," and you have to "teach yourself"

Instructor Feedback
(Survey of 10 Instructors)

- Most (8) said they definitely enjoyed teaching the class; All said they would request it again
  - Fun, closer interaction with students
  - "The interaction with the students is exhausting and exciting at the same time."
- Challenges
  - Group dynamics, facilitating good group work
  - Explaining the reason for discovery learning
  - Making sure group work doesn't "pad" the grade
  - Technology skills

Plans for Improvement

STUDENTS

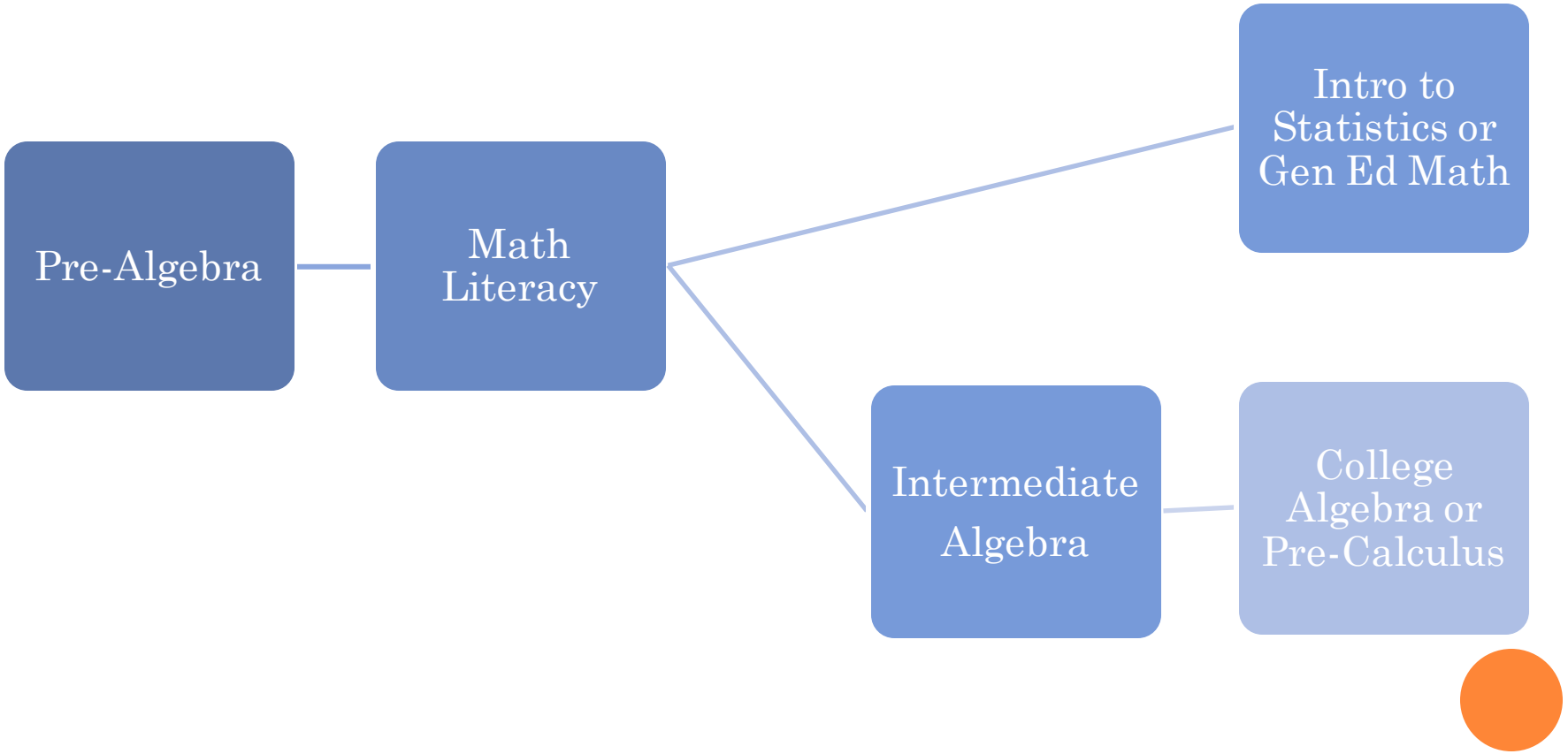
- Student expectations and buy-in
  - Better explain the course philosophy
  - Work on developing "grit"
- Technology skills
  - Work with students on technology skills in class
- Group dynamics
  - Get ideas for better group facilitation like assigning roles
- Individual accountability
  - Individual homework quizzes

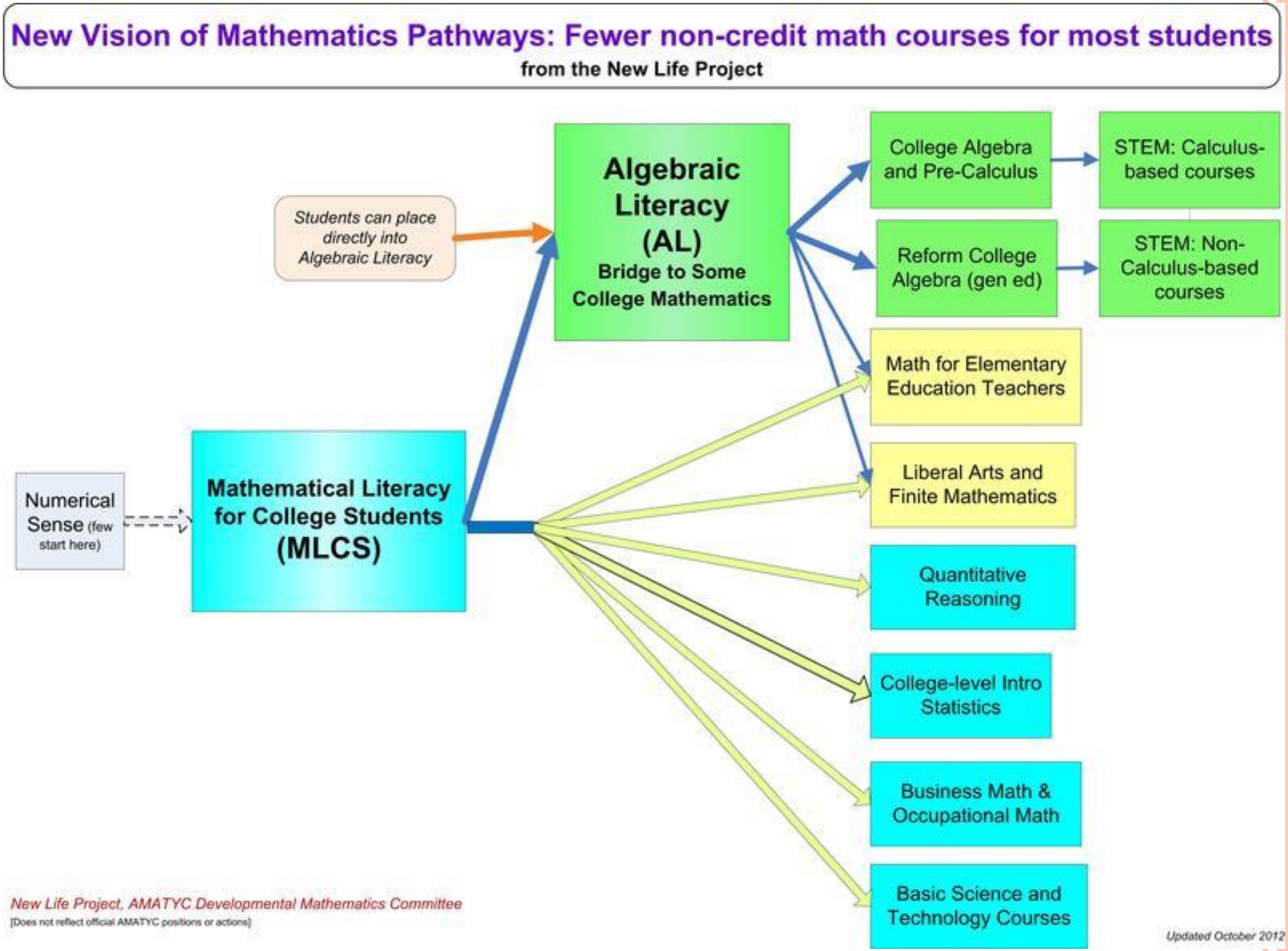
Plans for Improvement

INSTRUCTORS

- Technology skills
  - Require instructors to have some tech comfort
  - Work with instructors on skills specific to the course
- Pedagogy buy-in and comfort
  - More informal classroom visits, conversations, and support
    - Philosophy and rationale for the pedagogy
    - Importance of setting the right tone and "selling" the course
    - Managing group dynamics
    - Balance between giving students room to think and providing help

Course Sequence for Fall 2015: A Sneak Peek





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