**Structures Lesson**

**Adaptations for other Course Models**

As written, the Structures Lesson is designed for a combined mathematics content and mathematics methods course taught in two, consecutive 75-minute blocks (150 minutes of total instruction time). The activities could be incorporated within a mathematics content OR a mathematics methods course. Recommendations for how this these activities could be selected and adapted to highlight content or methods are identified below.

**Mathematics Content Course – 50-75 minutes**

Launch: (5 minutes)

Direct candidates to write only one word problem (either addition or subtraction) instead of two. These may be written on post-it notes or a separate half-sheet of paper.

Explore:

Activity A: (15-25 minutes)

Introduce with mini-lecture and complete Activity A (Structures Puzzle) as directed. To minimize the time required to assemble the puzzle, instructors may pre-place the puzzle titles with the appropriate puzzle template.

Whole class discussion: (10-15 minutes)

Discussion time can be minimized as needed by highlighting a portion of the questions on the list. Close the discussion of Activity A by asking candidates why it is important for them to know the different structures (the final question on the discussion list). Guide them to the conclusion that it will be their job as teachers to ensure their future students have opportunities to solve all types. To reinforce this need, ask candidates to classify the word problem they wrote during the launch portion of the lesson. By show of hands (or by placing their post-it notes on a board with the different structures identified), point out the percentage of addition problems fall into the category of “Add To, Total Unknown” and what percentage of subtraction problems are “Take-away, Difference Unknown”.

Activity B: (15-25 minutes)

Introduce and complete Activity B as directed. To minimize the time required to complete the activity, have students work with one partner or with table-mates (instead of the Stand-Up-Hand-Up-Pair-Up structure) to complete the worksheet. To extend the time have all students complete the early finishers task. Then discuss.

Summarize: (5 minutes)

Ask candidates to complete the Exit Ticket as directed.

**Mathematics Methods Course – 50-75 minutes**

Launch: (5 minutes)

Direct candidates to write only one word problem (either addition or subtraction) instead of two. These may be written on post-it notes or a separate half-sheet of paper.

Explore:

Task 1: (15-30 minutes)

Candidates solve word problems, examine student work, and view videos of student work as explained in full Structures Lesson. To accommodate time constraints, consider analyzing student work and watching videos for only 2-3 of the 6 problems on the sheet.

(Assuming students have had an opportunity in a previous content course to learn about addition and subtraction structures) Share a copy of the completed structures puzzle and review the different structures. (5-10 minutes)

Task 2: (15-20 minutes)

Do not revisit word problems from launch until end of lesson. Candidates generate and discuss word problems structures in various contexts, as directed in full Structures Lesson. For the sake of time, Task 2 can be modified so that each group generates one problem rather than two.

Summarize: (10 minutes)

Revisit word problems from launch by asking candidates to place them on whiteboard as explained in full Structures Lesson.

Complete Exit ticket.