Utilizing Grade-Level Instructional Planning Meetings in Elementary Teacher Preparation

Temple Walkowiak (@templewalkowiak)
Amanda Gosek (@TheBusyTeachers)
Diane Hunter (@mathhuntress)

NCTM Annual Meeting
#NCTMannual
Washington, DC
April 27, 2018
Session Goals

• Describe and explain the project and the significance of the PLT meetings
  (PLT – Professional Learning Team)

• Consider how a PLT meeting might be utilized in your own context
Everyday the local bakery makes 3 times as many donuts as they do pastries. Jill used the information below to decide that she needed to make 558 pastries on Saturday. Her boss said she made too many. Draw a model and write the words that you think might help Jill understand her mistake.

<table>
<thead>
<tr>
<th></th>
<th>Donuts</th>
<th>Pastries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Saturday</strong></td>
<td>186</td>
<td></td>
</tr>
<tr>
<td><strong>Sunday</strong></td>
<td></td>
<td>155</td>
</tr>
</tbody>
</table>

How many donuts should Jill make on Sunday?

If there are 23 items in the display case at the end of the day, how many items were sold on Sunday?
The Context

- Undergraduate Teacher Preparation Program

- Grades 3-5 Mathematics Methods Course
  - Second Semester of Professional Coursework (Spring of Junior Year)

- 45 to 50 Preservice Teachers (PSTs) divided between 2 sections of the course

- Field Placement in Grades 3-5 Classroom
  - Pair of PSTs in each classroom
  - 3 hours per week
  - Two full weeks (February and April)
Project Goals

#1: Gain practical experiences implementing mathematics instruction, specifically through problem-based lesson

#2: Participate as active member of PLT

#3: Engage in complete mathematics teaching cycle (plan, implement, and analyze)
Project Overview

• Mathematics Instructional Cycle Project (MIC-P)
  – Work through a full-cycle of instruction

• Two PLT meetings: Plan and Analyze phases

• Project duration: 6 weeks (begins third week of semester)
Project History....and Problems

2013 & 2014:
Lesson Modification Project
Lesson Study Project

2015 & 2016:
Merged Project: Lesson Modification & Lesson Study

2017:
Merged Project with PLT Meeting

2018:
Mathematics Instructional Cycle Project (MIC-P)
Project Details

2018:
Mathematics Instructional Cycle Project (MIC-P)

- Nine tasks

- PSTs organized into PLTs of 4
  - Two field placement pairs from two grade levels

- Class session activities supported each phase
  - LOTS of scaffolding

- Lesson study approach to implementation
Project Phases

- Plan
- Implement
- Analyze
Phase 1: Plan

Everyday the local bakery makes 3 times as many donuts as they do pastries. Jill used the information below to decide that she needed to make 558 pastries on Saturday. Her boss said she made too many. Draw a model and write the words that you think might help Jill understand her mistake.

<table>
<thead>
<tr>
<th></th>
<th>Donuts</th>
<th>Pastries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturday</td>
<td>186</td>
<td></td>
</tr>
<tr>
<td>Sunday</td>
<td></td>
<td>155</td>
</tr>
</tbody>
</table>

How many donuts should Jill make on Sunday?

If there are 23 items in the display case at the end of the day, how many items were sold on Sunday?
Phase 1: Plan

Solve the Task

Draft Lesson Plan

Meet with PLT

Finalize Lesson Plan

Four-Point Rubric

Got It

Not There Yet

4 points
3 points
2 points
1 points

(Van de Walle, Karp, Lovin, & Bay-Williams, 2017)
Phase 1: Plan

Solve the Task

Draft Lesson Plan

Meet with PLT

Finalize Lesson Plan

Three-Part Lesson Plan

Objectives
Standards

Before
- activate prior knowledge
- clear expectations

During
- notice student thinking
- provide support
- provide extensions

After
- students share
- summarize main idea

Discussion

Next Steps

1: Plan
- Week 1
- Week 2
- Week 3

2: Implement
- Week 4

3: Analyze
- Week 5
- Week 6
Phase 1: Plan

- Solve the Task
- Draft Lesson Plan
- Meet with PLT
- Finalize Lesson Plan

Objective

- Donuts
- Pastries
Phase 1: Plan

Objective:
Students will be able to use their answers from previous questions to find answers to other questions in the word problem. Students will pull out the variables they know from the word problem and the variables they want to find and symbolically represent this information using letters. Students will be able to interpret what is meant by the remainder.

Students will solve multi-digit comparison problems by drawing a model to represent the situation and writing an equation with a variable.
# Phase 1: Plan

<table>
<thead>
<tr>
<th>Solve the Task</th>
<th>Draft Lesson Plan</th>
<th>Meet with PLT</th>
<th>Finalize Lesson Plan</th>
</tr>
</thead>
</table>

## Stuck
- Ask a friend.

### What are you trying to figure out?
- What information do you know?

## Working
- Show me a different way.

### Tell me about your work?

## Got It
- Try this problem.

### Why do you think that some people make this mistake when solving a problem like this?

### What is another question that could be answered from this information?
Phase 1: Plan

Solve the Task
Draft Lesson Plan
Meet with PLT
Finalize Lesson Plan

Three-Part Lesson Plan

Objectives
Standards

Before
- activate prior knowledge
- clear expectations

During
- notice student thinking
- **provide support**
- provide extensions

After
- students share
- summarize main idea

Discussion
Next Steps
Phase 2: Implement

• Individuals taught the lesson

• Partner observed
  – Took notes
  – Video recorded
Phase 2: Implement

- Written work collected from all students
  - Quick analysis
  - CAREFUL selection of 3 target students

- Follow up with 3 target students on their written work (and video record)

- Flipgrid Reflection of the process
Phase 3: Analyze

- Performance in relation to the learning goal(s)

Four-Point Rubric

- Got It
  - 4 points
- Not There Yet
  - 2 points
  - 1 points
Phase 3: Analyze

- Class (or Group) Analysis of Student Performance
  - Summary
  - Overall Assessment
    - Compare written work to what was observed/heard
Phase 3: Analyze

• Three target students
  – Submit student work and video for ONE of three target students
Phase 3: Analyze

• Meet with one member of their PLT (in class)

  • How did you assess the student using the rubric on page 50 of VDW? What does the student understand or not understand?

  • How would you provide feedback on their written work to the target student? What would you say to them about their progress in meeting the learning goal and/or the understandings demonstrated?
Phase 3: Analyze

- **Analysis** of each student’s performance *in relation to the learning goal*
- **Feedback** for each student

- What happened during the lesson for the target student (Observations during the lesson and watching video of lesson)

- The target student’s written student work

- The oral explanation (video) from the target student

- Conversation with PLT partner about one of your target student’s work and video

- Textbook (VDW) or other readings
Phase 3: Analyze

- **Analysis** of each student’s performance in relation to the learning goal
- **Feedback** for each student

- What happened during the lesson for the target student (Observations during the lesson and watching video of lesson)
- The target student’s written student work
- The oral explanation (video) from the target student
- Conversation with PLT partner about one of your target student’s work and video
- Textbook (VDW) or other readings

Discussion

Next Steps
What do you notice?
What do you wonder?

- Ms. Carpenter
- Ms. Johnson
Discussion

• How might PLT meetings during teacher preparation be utilized in your own context?
Outcomes

Frequencies of Scores on MIC-P

Project Overview

Project Phases

1: Plan
   - Week 1
   - Week 2
   - Week 3

2: Implement
   - Week 4

3: Analyze
   - Week 5
   - Week 6

Discussion

Next Steps
Next Steps

• Examine PSTs’ work for patterns
  – Task? Grade level? Learning goal/standard?

• Attend to closure/discussion part of lesson more thoroughly
  – Increase length of PLT meeting?

• Developing learning goals
  – Use second project to assess
  – Programmatic consideration?

• More explicit about “it’s not a grade” for their elementary students
Link to Project Materials:
https://tinyurl.com/NCStateNCTM2018

Contact Information:
Temple Walkowiak, tawalkow@ncsu.edu
Twitter: @templewalkowiak

Amanda Gosek, ajgosek@ncsu.edu
Twitter: @TheBusyTeachers

Diane Hunter, dchunter@ncsu.edu
Twitter: @mathhuntress