Using Lesson Study to Prepare Pre-service Educators

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Something about research to practice gap?

• Need to contextualize the problem a bit and connect to issues the audience may be facing in their own teacher education programs

• Issues in teacher ed that make transferring knowledge into practice difficult?
What is Lesson Study?

• A mechanism that can help facilitate the transfer of knowledge to practice
  - A collaborative planning, teaching, observational, and analytic process typically used with inservice teachers (Lewis, Perry, & Murata, 2006; Roberts, Benedict, Tandy, & Kim 2017)
  - Designed to deepen teachers’ knowledge, promote more substantive analysis of instruction, and improve the quality of teachers’ instructional practices
Phase 1: Develop student learning goals based on curriculum

Phase 2: Collaboratively plan a research lesson with data collection plan

Phase 3: One person teaches lesson while peers observe and take data

Phase 4: Share data from lesson, analyze, and reflect to inform next cycle

Traditional Lesson Study Cycle

From Lewis et al. (2006)
Purpose of Lesson Study

- To improve the lesson planning process, refine instructional strategies and delivery, and evaluating student thinking
- To create structured time for teachers to examine their teaching, learning, and collaboratively work together
- To help teachers be more effective and to improve student learning gains

(Roberts, Benedict, & Patish, 2016)
Benefits of Lesson Study

- Design lessons that promote better student engagement and learning
- Deepen content/subject matter knowledge
- Build supportive collegial relationships
- Learn successful instructional strategies and behavior from other teachers
- Collect and analyze student work and behavior data
- Direct teacher focus to student outcomes

(Roberts, Benedict, & Patish, 2016)
Outcomes in the Preservice Educator Lesson Study Research

• From Lit Review—highlight key findings
Using Lesson Study with Preservice Educators

• Embed into teacher education program
  – Methods Class + Field Experiences
• Connect to course credit/grades
• Tie to specific evidence-based practices taught in the program and/or course
• Expanded lesson study cycle with opportunity for feedback and re-teaching
Instructor Preparation for Lesson Study

- Inform cooperating teachers and supervisors about the goals, procedures, and expectations for the lesson study process
- Identify EBPs to be taught in the course
- Put preservice educators into LS groups of 2-4 students
- Communicate expectations regarding video consent with preservice educators
- Ensure preservice educators know how to upload videos to the course platform
Case Study: Autumn & KK

• Describe preservice teacher and target student and articulate why we’ve selected this particular example...
Phase 1: Planning for Instruction

• In Class
  – Preservice educators identify their target K-12 student for the project
  – LS teams identify their focus/topic for the lesson using the *Lesson Study Topic Selection* handout
  – LS teams review K-12 student data and goals

• Out of Class
  – Preservice educators complete *Planning for Instruction Commentary* assignment
  – Preservice educators secure/confirm video permissions
KK is an 18-year-old first year Transition student at the Evergreen Transition Program. She is a Caucasian, native English speaker diagnosed with Autism and Pica. She is punctual and well-dressed and enjoys coming to school. Additionally, she enjoys bowling, shopping, cooking, and camping, and is good at following directions, navigating her iPad, and typing. KK receives instruction in the classroom approximately 60% of the time and receives instruction in the community approximately 40% of the time. Her community-based instruction mostly occurs on shopping trips to QFC (1x per week), work shifts at Bellevue Youth Theatre (2x per week), walking the track at Bellevue Family YMCA (2x per week), and a group outing with her peers to a location of the student's choice (1x per week).

KK is experiencing struggles in functional academics (reading, writing, and math) as well as in adaptive skills, communication, and behavior. Her tolerance for work tasks ranges from approximately 5-15 minutes, though she has a substantially higher tolerance for group work and group activities (up to 1 hour). The teacher noted that this tolerance for group work is relatively new. KK’s receptive communication is much stronger than her expressive communication, though she can use her iPad to
Phase 2: Collaboratively Write Lesson Plan

• In Class
  – LS teams collaboratively write lesson plan using the previously identified topic and goals and Lesson Plan Template

• Out of Class
  – Preservice educators edit and finalize the lesson plans to be used with their target K-12 learner and upload their final lesson plan for grading and feedback
Sample of Collaboratively Planned Lesson Plan

Review (Think: what academic knowledge and concepts learners must be familiar with to be successful in the instructional plan?):

In order to participate successfully in this lesson plan, a learner must be familiar with the concept of matching two separate items to indicate a connection between those items. A learner must also be able to recognize numbers, and be able to either read or recognize family member names as site words.

Explicit Instruction (Think: what will you say to students as you teach? What prompts will you use?):

The teacher will begin instruction with the prompt, “We are going to work on our reading now.” The teacher will use a system of Least-to-Most prompting while advancing through the session, starting with a gestural prompt and ending with a controlling full physical prompt in the event of repeated errors. KK will be verbally reinforced for every correct answer with praise such as “Nice job, that is dad’s phone number” or “Great work! You pointed to mom’s last name.”

Modelling (Think: how will you demonstrate the target skill to the students?):

The student will be reminded of the instructional procedure with a one-trial review process, during which time a 0-second time delay will be used. For this trial, a ‘category’ card and three answer cards (one correct answer and two distractors) will be placed on the table. The teacher will point to the category card and read it aloud, then immediately point to the correct answer and read it aloud. After reading the correct answer aloud, the teacher will ask KK to repeat the answer. For example:

Explicitly state instructional objectives with measurable criteria:

When presented with a color coded flash card directing KK to identify the first name, last name, or telephone number of her mother, father, or grandmother, KK will be able to correctly identify the required information from a set of three color coded flash cards (one correct answer and two distractors) on 3 out of 9 opportunities.

Rationale: The objective of this lesson plan serves as a stepping stone toward KK’s IEP goal, since data taken from the beginning of the school year indicate that simply practicing with the template has not helped KK to make progress toward her goal. Meeting the criteria for this goal will bring her closer to achieving her IEP goal in a timely manner.
Phase 3: Teach the Lesson

• In Class
  – None

• Out of Class
  – Preservice educators teach and video record their lesson in their field placement and upload to course platform for peers and instructor to view
Sample of Video of Lesson Plan
Implementation

Insert video clip of Autumn w/ KK
Phase 4: Self and Peer Analysis of Teaching (Round 1)

• In Class
  – None

• Out of Class
  – Preservice educators view their video and their peer’s video and complete the Data Collection Worksheet and Summary Reflection of Teaching for BOTH videos.
  – Preservice educators follow guidelines for assignment outlined in the Phase 4: Self and Peer Teaching Analysis and Reflection handout
There were a few moments between the two videos where I noticed room for improvement, most of which centered on materials-management. In the first video in particular, I spent an unnecessarily long time arranging each flashcard set, which likely contributed to the student’s agitation. In future iterations of the lesson I could do a better job of pre-arranging the flashcards so they are easier to grab and set out in front of the student. In between minutes 2:00 and 3:00 of the first video, I also noticed that the student attempted to reach for a flashcard that was not in the set she was intended to be looking at. This tells me that my poor materials-management was confusing to the student, who obviously didn’t fully understand what her options were. Given this observation, I think it’s likely that better materials-management will also help promote response accuracy. Finally, I think that using a constant-time-delay procedure in the future would be more effective for instructing this lesson than the least-to-most prompting system. Because this activity is not a very physical or kinesthetic learning objective, and because previous experience with the student shows me that repeated error correction can cause escalation, I think that using a least-to-most prompting system that ends with full physical prompting (as per my lesson plan) has a greater chance of escalating the student and has the potential to be unnecessarily intrusive. The constant-time-delay procedure should also help to expedite the lesson, which would also help promote student engagement since the student doesn’t like waiting.
Phase 5: Debrief & Collaboratively Revise the Lesson Plan

• In Class
  – LS teams debrief lesson plan implementation and share suggestions for future lessons
  – LS teams revise their original lesson plan using the Lesson Plan Template
  – LS teams complete the Next Steps worksheet

• Out of Class
  – Preservice educators edit and finalize the revised lesson plans to be used with their target K-12 learner and upload their final lesson plan for grading and feedback
Sample of Next Steps Worksheet

**Re-teaching:** (if extending please skip to extending)

1. What major changes do you plan on making in the lesson plan?

The biggest change I plan on making to this lesson plan is switching from a least-to-most prompting system to a constant time delay. As I noted in my Peer and Self Analysis reflection, "Because this activity is not a very physical or kinesthetic learning objective, and because previous experience with the student shows me that repeated error correction can cause escalation, I think that using a least-to-most prompting system that ends with full physical prompting (as per my lesson plan) has a greater chance of escalating the student and has the potential to be unnecessarily intrusive. The constant-time-delay procedure should also help to expedite the lesson, which would also help promote student engagement since the student doesn't like waiting."

I am also going to work on improving my materials management.

2. Are there elements/procedures that you will leave out in the revised plan?

All of the fundamental elements will remain in the revised lesson plan; however, the least-to-most prompting system will be replaced with CTD. This will necessitate a change the error correction procedure.

3. Are there elements/procedures that you will add into the revised plan?

No, I am only making changes to existing elements.

4. Will you make any changes to the materials?

Though I won’t be changing the physical materials, I will work on pre-arranging them so they can be presented more quickly and easily.
Phase 6: Re-teaching the Lesson

• In Class
  – None

• Out of Class
  – Preservice educators teach and video record their revised lesson in their field placement and upload to course platform for peers and instructor to view
Insert video clip of Autumn w/ KK (revised video)
Phase 7: Self and Peer Analysis of Teaching (Round 2)

• In Class
  – None

• Out of Class
  – Preservice educators view their video and their peer’s video and complete the Data Collection Worksheet and Summary Reflection of Teaching for BOTH videos.
  – Preservice educators follow guidelines for assignment outlined in the Phase 4: Self and Peer Teaching Analysis and Reflection handout.
**Sample of Self & Peer Teaching Analysis and Reflection (Round 2)**

<table>
<thead>
<tr>
<th>Lesson Time</th>
<th>Lesson Step/What is happening/Practice being used</th>
<th>Student behaviors that demonstrate the learning we intend</th>
<th>Student behaviors that demonstrate something other than the learning we intend</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00</td>
<td>Student and teacher working on writing (writing is a calming activity for the student and was chosen to prepare her for the transition)</td>
<td>Student is actively engaged in the writing task (offering words that she would like to use in sentences) and maintains a calm demeanor</td>
<td>None</td>
</tr>
<tr>
<td>2:00</td>
<td>Student and teacher continue to work on writing task (see above for rationale)</td>
<td>Student continues to be actively engaged in the writing task and maintains a calm demeanor</td>
<td>None</td>
</tr>
<tr>
<td>3:00</td>
<td>Teacher begins to prep student for upcoming transition. (“After these two sentences, we’re going to work on mom and dad cards.”)</td>
<td>Student continues to be actively engaged in the writing task and maintains a calm demeanor</td>
<td>Student does not seem to indicate that she understands that a transition will be occurring soon</td>
</tr>
<tr>
<td>4:00</td>
<td>Teacher writes a new visual schedule for the student introducing the next three activities (including the planned lesson)</td>
<td>Student watches very intently as teacher writes out the visual schedule</td>
<td>None</td>
</tr>
<tr>
<td>5:00</td>
<td>Teacher and student transition to a new work area and begin the task. Start with sequence involving emergency contact first names on a 0-second time delay</td>
<td>Student physically manipulates cards to indicate correct matches as teacher presents each sequence on a 0-second time delay</td>
<td>Student does not clearly articulate the first name of her mother, father, or grandmother in response to the teacher’s prompting</td>
</tr>
<tr>
<td>6:00</td>
<td>Teacher and student begin sequence involving emergency telephone numbers on a 0-second time delay</td>
<td>Student is actively and intently looking at the cards. On the third set, KK physically points to the correct card match.</td>
<td>On the first set, student does not manipulate the cards or make a vocalization to indicate that she recognizes the match before the teacher takes the set away. On the second set, teacher uses full physical prompting to guide student to the correct match. Near the end of the minute, the student begins to “whine.” T</td>
</tr>
<tr>
<td>7:00</td>
<td>Teacher and student run through</td>
<td>Student uses her voice to indicate the correct match for</td>
<td>Student does not make any vocalizations or manipulate any</td>
</tr>
</tbody>
</table>
Phase 8: Debrief & Assess Student Learning

• **In Class**
  – LS teams debrief the revised lesson plan implementation and share suggestions for future lessons.
  – LS teams share highlights from their *Summary Reflection of Teaching.*

• **Out of Class**
  – Preservice educators complete the *Assessing Learning and Final Commentary* Assignment.
A review of the data sheets from my first instructional session with my target learner and my second instructional session with my target learner immediately revealed some significant progress – for both my learner’s outcomes and my instructional methodologies. In the first video, the student exhibited screaming or yelling behavior in 50% of one-minute intervals. As I know this student fairly well (we’ve been working one-on-one for the majority of every school day since September), I know that her agitation is exacerbated by lack of engagement. Like many people, she becomes easily frustrated when she has to wait and when she is unsure of her expectations. In the first video I really struggled with my materials management, which led to increased waiting periods for the student, which led to increased agitation and disengagement. In contrast, during the second video, the student exhibited screaming or yelling behavior in only 36% of one-minute intervals. I made a few substantial changes between the first and second video that I think contributed to this decrease. First, before the second video I pre-arranged the flash cards into more logical groupings which allowed the lesson to move at a quicker pace. In the first video, I had pre-arranged all of the ‘grandma’ cards together, all of the ‘dad’ cards together, and all of the ‘mom’ cards together. However, I realized after the first lesson that prearranging the cards in this matter didn’t make sense, since I was presenting them to her based on categories (such as ‘telephone
Timeline of LS Phases & Activities

GM - Group Norms Established

GM - Lesson Planning

GM - Topic Selection

Planning for Instruction Commentary

Instructional (Lesson) Plan

Videotape Instruction #1

Self and Peer Analysis and Reflection #1

Revised Instructional Plan

Videotape Instruction #2

Self and Peer Analysis and Reflection #2

GM - Lesson Debriefing/Lesson Revisions

GM - Final Debriefing

Clarification of Terms:
GM- Group Meeting

Assessing Learning/Final Commentary
Closing? What should we do?

• Should we include ideas for documenting preservice educator growth?
• I’m afraid we might run out of time if we add too much at the end...