A Model for Planning Learning Experiences to Promote Achievement in Diverse Secondary Classrooms

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The growing diversity of American schools requires that teachers are able to plan and implement lessons that capitalize on students' strengths, interests and understandings (Noguera, 2003; Milner, 2009). As such, teacher education programs have an obligation to instill in teacher candidates a vision of inclusive education while providing them with a framework for the application of these ideas into practice (John, 2006; Causton-Theoharis, Theoharis, & Trezek, 2008). This article explores a lesson planning structure called the Planned Learning Experience (PLE) that is currently being used at a private university in Western New York. After exploring its rationale, this article deconstructs the components and theoretical framework of the PLE and its implications for learners.

A Need to Redefine Lesson Planning

Lesson planning is one aspect of teacher education in which pre-service teachers have the ability to apply the instructional strategies, content-based pedagogy and educational theory they have learned in their coursework to classroom practice. Since lesson planning forms a crucial link between educational theory and practice, teacher educators need a lesson planning model which supports current constructivist ideals, yet is concrete enough so that teacher candidates see immediate applications to reaching diverse student populations. This paper explores how the components of the Planned Learning Experience (PLE) lesson planning format enables pre service teachers to bridge this gap between theory and practice.

The "Planned Learning Experience" (PLE)

Called the PLE or Planned Learning Experience (figure 1), the framework current used at the secondary education program at Niagara University was developed to help teachers integrate educational practice with constructivist learning theory (Vermette, 2009; Flynn, Mesibov, Vermette, & Smith, 2004; Dewey, 1938; Vygotsky, 1977; Bruner, 1966; Piaget, 1972; Ladson-Billings, 2009). Facets of good instruction

such as summative and formative assessment (Stiggins, 2007), spontaneous and planned interventions (Flynn et al., 2004) and strategies for building classroom community (Vermette, 2009) are inherent aspects of this lesson planning model.

Unlike other, more traditional lesson planning models (such as Hunter, 1982), the PLE is not a script for teachers, but an outline of experiences for learners. The PLE differs from other lesson planning models in that it is not simply a flow of activities, but a structured series of questions that intentionally scaffolds a teacher's vision of teaching to produce lessons that are planned in a thoughtfully inclusive way. While tying educational theory to practice, this lesson planning model forces the connections that are necessary for devising Constructivist lesson plans.

Deconstructing the components of the PLE

The PLE is designed to force teachers to think deeply about four main dimensions of each lesson: (1) the lesson's learning target, (2) the exploratory activities, (3) the discovery tasks, (4) the requirements for implementation. The PLE is structured so that teachers answer a series of 12 questions about these dimensions, describing the intended student learning outcomes, interventions and assessments at various points throughout the learning experience. Below we will deconstruct each of these dimensions, offering both the theoretical basis for these components and its impact on student achievement. A sample PLE, created during a field test of this model in a 7th grade mathematics classroom is found in figure 3.

The lesson's cognitive and affective learning targets

One of the primary axioms embedded in the PLE is the belief that student learning is continuous, developmental and derived from existing prior knowledge - not all learning happens at the same time or in the same way for all students (Dewey, 1938). The PLE requires that teacher's pare down their curriculum to key concepts, and then sequence those concepts in a way which incrementally scaffolds these ideas over time. By creating learning targets (Stiggins, 2007; 2008), the PLE demands that learners know where they are headed, and what skills students must demonstrate to show their understanding. Though learning targets can take many forms, they must (1) be small and specific enough to provide learners with a demonstrable goal; (2) act as scaffolds to the most essential concepts of the discipline; (3) be teachable and learnable over a relatively short period of time; (4) be assessable such that teachers can collect tangible evidence that students have met this learning goal (Stiggins, 2007; 2008). As an example, cognitive learning targets for an inclusive 7th grade math classroom might be: "I can distinguish between categorical and numerical data" or "I can determine the median from a set of data". Learning targets should also be affective in nature such as "I can seek help from members of my base group as needed" or "I can provide help to members of my base group when needed"- targeting a dual academic and affective objective in each lesson (Vermette & Kline, 2007; Jones, Jones & Vermette, 2009b). In an effort to help teachers develop meaningful objectives, after writing the learning target, the first two questions of the PLE ask:

1. How will students show their understanding of the above learning target(s)? Why is it important?

2. What state standards (or relevant curriculum guide) will this learning target address?

Perhaps the most significant benefit to starting each lesson with a clear and concise learning target is the fact that students (and teachers) are focused on specific accomplishable objectives. Students take more ownership in their learning when they are able to identify what

competency "looks like," and are more likely to reach their learning goals when they know what demonstration of competency specifically demands (Glasser, 1998). It provides both teachers and students with feedback they can use to guide instruction (Popham, 2008; Stiggins & Chappuis, 2006), thereby allowing for natural and personal differentiation. In addition, by identifying and remediating misconceptions when they undertake formative competency tasks, students are less likely to face huge gaps in their knowledge base as conceptual understanding builds.

The lesson's exploratory phase

In their 2004 book Applying standards-based constructivism: A two-step guide for motivating middle and high school students, Flynn et al. set forth a model of lesson design called "the Two-step". The Two-step is a way of thinking about the flow of classroom activities in constructivist classrooms. Broken into two parts, the Two-step begins with an "exploratory phase", when students participate in a series of activities intentionally designed to (1) grab the learner's attention (2) elicit prior knowledge, and (3) help students generate the basic understandings required during the lesson. The lesson then moves to the "discovery phase" when students demonstrate the ability to transfer their understanding. During the discovery phase, students provide evidence that they have accomplished the day's learning targets and are formally assessed. The Two-step is powerful in that it attempts to translate and integrate constructivist learning theory with the realities of teaching diverse populations. (For more information on how the Two-Step relates other lesson planning models, such as Wiggins & McTighe (2005) Backwards Planning, see Jones, Vermette & Jones, 2009)

The creators of the PLE used this Two-step framework as the basic underpinnings guiding their pre-service teachers' thinking, but also demand a more cohesive vision of what the lesson's exploratory and discovery phases will entail. In the PLE, teacher thinking about the exploratory phase of the lesson requires thoughtful articulation of four questions:

3. How will the learning experience begin in a way that engages each student and forces connections to prior knowledge?

4. How will you ensure that all students are ready to meet this learning target by:
   - Developing interest in this lesson?
   - Using prior knowledge?
   - Building classroom community?
   - Fostering positive relationships with every student during instruction?

5. What formative assessment data will you collect during the exploratory phase to guide instruction during this lesson?

6. How will you use the formative assessments data to guide the rest of this lesson? What specific interventions will be planned to differentiate instruction?

Exploratory activities provide an outlet where teachers can assess students' previous understandings and provide the necessary planned or spontaneous intervention to ensure future success.

Stiggins (2005) posits that one of the primary reasons for the current student achievement gap is that their misconceptions are not addressed early enough in the learning process. Often, teachers wait too long to pinpoint and remediate student misunderstandings, to the point that students no longer know what they do not understand. With multiple informal assessments for learning built into the exploratory phase, teacher decisions about how to progress with the lesson, and decisions made about what activities to insert or delete, are based on evidence of student thinking, not a teacher's intuition. Especially for

pre-service teachers who lack the experience to know how students of various academic abilities will perform with a given learning task, having an extended exploratory phase (rather than a quick, one-size-fits-all anticipatory set) means that teachers can better utilize students' prior understanding during instruction.

The lesson's discovery phase

After students have had the opportunity to think deeply about their current understandings and have participated in a series of activities to foster curiosity and intrinsic motivation, teachers and students are ready to transition into the discovery phase of the lesson (Flynn et al., 2004; Jones, Vermette & Jones, 2009). During the discovery phase, students are assigned an authentic task which requires them to construct new knowledge from the day's learning targets. Though discovery tasks can take many forms, they must (1) enable students to be active in constructing new knowledge about the day's learning targets (2) be tasks which when complete, provide tangible evidence of student thinking (Flynn et al., 2004) and (3) prepare student to transfer their understanding in applicable, meaningful ways (Jones, Jones & Vermette, 2009). During the discovery phase, teacher's make assessments of student learning, as students have received sufficient feedback and interventions necessary for formal grading to take place. As the second part of the PLE, teachers planning for the discovery phase of a lesson must think deeply about:

7. What authentic assessments of learning (discovery work) will students produce to demonstrate their new understanding of the lesson's learning target(s)? How does this align with the Six Facets of Understanding (Wiggins & McTighe, 2005)?

8. What spontaneous and planned interventions will you have available to assist students in developing their authentic assessments of learning (discovery work)?

9. How will you provide closure to the lesson in a way that allows students to reflect on the lesson's learning target(s)?

10. What future opportunities will ensure that students who have not yet met the learning target(s) are able to do so?

Since the PLE model is built on the notion that each learning target is a scaffold for deep, conceptual understanding, reflection is a critically important component of any good discovery task (Dewey, 1938; Schon, 1983; Zeichner & Liston, 1996). Nearly as important as the creation of the product itself, reflection on both the process of making meaning and the product created are essential. It is from these reflections that a teacher can adjust and/or modify subsequent lessons to fit the needs of his/her learners and from which teachers can spiral current understanding in future learning experiences. Supported by Bruner's (1977) notion of a 'spiral curriculum,' by structuring units so that subsequent exploratory and discovery phases are driven by current evidence of student understanding, students are given frequent opportunities to reflect on their developing understandings.

The discovery phase of the lesson is also when teachers can plan to differentiate instruction according to Wiggins and McTighe's (2005) Six Facets of Understanding. According to this model, there are six equally legitimate avenues by which students can demonstrate their conceptual understanding (explain, interpret, apply, have perspective, empathize, have self knowledge). Though teachers should not use every facet in every lesson, the six facets of understanding are useful because they enable teachers to differentiate their authentic assessment tasks to meet the needs of all learners.

Implementation of the PLE

Though planning the exploratory and discovery tasks necessary for meaningful learning to take place is perhaps most important, research indicates that many new teachers struggle with the actual implementation of those plans in the classroom (Kauffman, Johnson, Kardos, Liu, & Peske, 2002; Freiberg, 2002). Organizing logistics such as technology and human resources, gathering materials and organizing the room are often formidable challenges for teachers who lack experience with which they can make thoughtful decisions. Thus, the final part of the PLE requires teachers to think about the execution of their plan by considering:

11. What materials, technological equipment and/or human resources are required to successfully implement this lesson?

12. What is the essential and non-essential content vocabulary required to successfully implement this lesson?

By thinking deeply about what carrying out their plan entails, teachers can make adjustments or substitutions to ensure critical details have not been overlooked. It is this sort of extensive envisioning that will better ensure a successful implementation.

Using the PLE as a tool for professional growth

In addition to being used as a lesson plan for teachers, the PLE can also be used as a tool for promoting growth with other professionals in the areas of inclusive education. With applications for student teachers, mentor teachers, and school administration alike, utilizing the twelve PLE questions as a pre-observation tool provides great insight into an educator's decision-making process and his/her vision of effective instruction. Using these questions in an interview type format serves as a meaningful conversation starter about a teacher's instructional planning. When used as a feedback tool, it can also guide discussion about a lesson's implementation.

In an effort to extend one's thinking about the unique components of the PLE and their implementation in the classroom, the rubric found in figure 2 can be used to facilitate a post observation discussion about a lesson that has been planned with this format (Jones, Jones & Vermette, 2009a). This rubric utilizes Vermette's (2009) ENGAGING framework as a means of further exploring complex aspects of effective instruction. The column along the left side poses eight meaningful questions that serve to enhance the ideas already thought about in the PLE. For example, enticing student effort, scaffolding learning through interventions and grading wisely are all called for in the PLE, but professional growth in these areas requires conversation about what quality 'looks like'. When used in conjunction with the PLE, both of these tools help to provide a thorough and holistic view of a teacher's decision-making process.

Conclusions

Though the authors of this piece have field tested the PLE model extensively in various public, charter and private schools across the United States and Canada (and have several studies due out next year of its successes) the PLE is still a work in progress (Vermette & Werner, 2005). A sample PLE from the authors' work in an inclusive seventh grade math classroom has been provided in figure 3. It was created by a middle school math teacher who uses the PLE in her day to day lesson planning and is meant to serve as an exemplar of what a successfully completed PLE might look like. Though the authors believe the most useful lesson planning model is one which has been adapted to fit the needs of the classroom teacher, this lesson planning format has shown success in providing teachers with a foundation for designing instruction by integrating theories of constructivism, universal instructional design and

culturally relevant teaching with the realities of actual classroom practice.

Since Darling-Hammond's 1999 call to "redefine" teaching, meeting the needs of diverse learners has become a priority for secondary educators and the teacher educators who prepare them (John, 2006; Causton-Theoharis, Theoharis, & Trezek, 2008). The traditional 'one size fits all' teaching models can not and will not prevail as students with differing strengths, talents and abilities continue to fill the seats of general education classrooms. Educators must look for ways to differentiate, accommodate and provide interventions so that all students are able to reach reasonable academic goals - the PLE lesson planning format provided here is one way to intentionally accomplish that end.

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Appendices

Appendix 1.
Planned Learning Experience (PLE) Format

*Cognitive and affective learning target(s):*_____

1. How will students show their understanding of the above learning target(s)? Why is it important?

2. What state standards (performance indicators or relevant curriculum guide) will this learning target(s) address?

Exploratory Phase:

3. How will the learning experience begin in a way that engages each student and forces connections to prior knowledge?

4. How will you ensure that all students are ready to meet this learning target by:
   (a) developing interest in this lesson
   (b) Using prior knowledge
   (c) Building classroom community
   (d) Fostering positive relationships with every student during instruction?

5. What formative assessment data will you collect during the exploratory phase to guide instruction during this lesson?

6. How will you use the formative assessment learning data to guide the rest of this lesson? What specific interventions will be planned to differentiate instruction?

Discovery Phase:

7. What authentic assessments of learning (discovery work) will students produce to demonstrate their new understanding of the lesson's learning target? How does this align with the Six Facets of Understanding (Wiggins & McTighe, 2005)?

8. What spontaneous and planned interventions will you have available to assist students in developing their authentic assessments of learning (discovery work)?

9. How will you provide closure to the lesson in a way that allows students to reflect on the lesson's learning target(s)?

10. What future opportunities will ensure that students who have not yet met the learning target(s) are able to do so?

Implementation:

11. What materials, technological equipment and/or human resources are required to successfully implement this lesson?

12. What is the essential and non-essential content vocabulary required to successfully implement this lesson?

Using the PLE in the field: The ENGAGING rubric as a tool for professional growth

		Exceeds expectations	Meets expectations	Approaching expectations
E	How are positive relationships nurtured with all students to foster a sense of community in the classroom?	Relationships are built with students during instruction; teaching is done in a way that puts individual ideas at the forefront of the lesson.	Connections with students are actively and intentionally built, but done so outside of instruction.	Relationships with students are not intentionally built but the teacher is responsive to student issues as they arise.
N	How do students think deeply about personal content and concepts so that the ideas make personal sense?	Students are forced to generate their own meanings and beliefs of the content they are learning, and then defend them with evidence.	Students' prior knowledge is used as a springboard for learning, however, the teacher emphasizes the one 'correct' answer so is limited in student investigation of these concepts.	Student understanding is primarily focused on getting the answers right the first time. The teacher will resolve misconceptions as they arise (if necessary).
G	How do students learn collaboratively and learn 'how to learn' collaboratively?	Student collaboration is an essential component of the learning experience. Interpersonal skills are taught, monitored, assessed and reflected upon by both teacher and the students.	Student collaboration is apparent in the learning experience, however there is little student/teacher monitoring of affective skills taking place during the group work.	Student collaboration is not structured by the teacher but is not suppressed when it spontaneously arises.
A	How are students actively learning and do they use differentiated authentic assessments to think about the content?	Students are constantly processing new information, making sense of experiences, and communicating their ideas to someone else. Assessment is an active and visible process.	Students are active in making sense of new ideas in class, however practice is in the form of rote skill. Assessments are most often in the form of summative, written assessments.	Students are mostly passive recipients of knowledge. They are able to use the skills they have learned on summative assessments, but spend little time in class explaining their thinking.

G	How do students have strategies and participate in activities to help organize, scaffold and record their developing ideas?	A variety of structures are used on a daily basis to help students examine information, record thinking and document relationships. Students are comfortable with these structures so they can use these formats without prompting, when appropriate.	Structural prompts are utilized to help students manage information and ideas, however; students do not have a history of using these in their classes so it is unclear as to whether they could use a structure without prompting.	Structural prompts are not generally used in class, unless as a literacy strategy to help struggling students.
I	How are students' learning efforts enhanced through the use multiple intelligence interventions?	Students' think work is differentiated through interventions as both feedback and thinking with the 'eight kinds of smart.' Students are supported through a myriad of interventions by both the teacher and other students.	Students are effectively supported during the learning process by interventions from the teacher and/or their peers. The feedback they receive mostly mirrors the content as it was originally presented.	Students are supported in their think work when they ask for help. Interventions depict a single course of action in attempting to aid students.
N	How do students document their ideas and organize them so they could be used and examined?	Students construct and write their own ideas to keep for further analysis, reflection and modification.	Students write notes in a format that provides effective cues for recall (such as an outline). Notes are provided by the teacher and modified by the student to fit their needs.	Students record notes provided by the teacher. Elaboration is provided by the teacher if requested.

Appendix 2.
An example from the field: The PLE framework in action

Below is a sample PLE produced while field-testing the PLE model in an inclusive 7th grade mathematics classroom. Students in this class were in their fifth lesson of a unit on data analysis and statistics. This PLE is exemplar of how this model can be successfully used in secondary inclusive settings.

Cognitive and affective learning target(s):
- I can distinguish between categorical and numerical data and make meaning from this data.
- I can respectfully seek help from members of my base group when needed.

(1) How will students show their understanding of the above learning target(s)? Why is it important?

In this lesson, students will demonstrate their understanding of the differences between categorical and numerical data. They will learn how each type of information is used and discover the significance of these types of data through examination of a series of bar graphs. This lesson is important because it serves an introduction to statistical analysis and provides students with new set of vocabulary they can use to describe data. This lesson allows students the opportunity to relate this new vocabulary to their prior conceptual understandings. Students will provide evidence of the affective competency of help-seeking through asking for and accepting help from members of their base group. This is an essential skill in mathematics and life as students will often confront challenges and need effective strategies for overcoming them.

(2) What state standards will this learning target(s) address?

- 6.S.7 Read and interpret graphs
- 6.S.8 Justify predictions from data
- 6.S.7 Read and interpret graphs
- 7.S.4 Calculate the range for a given set of data
- 7.S.5 Select the appropriate measure of central tendency
- 7.PS.11 Work in collaboration with others to solve problems
- 7.CM.5 Answer clarifying questions from others
- 7.CN.6 Recognize and provide examples of the presence of mathematics in their daily lives
- 7.CN.8 Investigate the presence of mathematics in careers and areas of interest

Exploratory Phase:

(3) How will the learning experience begin in a way that engages each student and forces connections to prior knowledge?

To begin this learning experience, students will consider a set of 10 personal questions such as “What is your favorite type of pet?” and “How many pets do you own?”. Drawing on previous experiences and the students’ real lives, students will answer these questions and then as a class discuss how questions can

be used to collect data about other people. Students will classify each question according to the type of information they could elicit from these responses. They will label categorical information ("word data") with a C, and numerical data ("number data") with a N. This activity is designed to draw out students' current understandings of types of data, and provide confidence as students' engage in discussions about their prior knowledge and experiences.

(4) How will you ensure that all students are ready to meet this learning target by:

(a) Developing interest in this lesson
(b) Using prior knowledge
(c) Building classroom community
(d) Fostering positive relationships with every student during instruction?

Since asking the right question is the key to getting the right information, students' next learning experience will ensure that they can ask questions to elicit either "number" data or "word" data. In order to ground this activity in the students' experiences, students will write questions to a peer based on a topic of their choice. After a teacher models this process, students will write four things they know a lot about. Then using one student's topic as the class demo, student teams will write two questions to elicit numerical data and two questions to elicit categorical data from this student about his/her topic. After team time to discuss their ideas, student questions will be shared with the whole group.

In an effort to emphasize the real life application of such questioning techniques, students will then choose one of nine careers to think about in their teams. Working collaboratively, students will write three questions to elicit numerical data and three questions to elicit categorical data from that person. At this point in the lesson students will be encouraged to appropriately seek help from their teammates if they have trouble and a quick teacher provided example of what appropriate help seeking looks like will be offered. Student questions will then be debriefed whole group.

(5) What formative assessment data will you collect during the exploratory phase to guide instruction during this lesson?

Evidence of student understanding will be collected as students identify pieces of categorical and numerical data and then write questions for their peers. The teacher will monitor progress, ask clarifying questions to assess student understanding and insert or delete exploratory activities as necessary. Students will be provided feedback in both their small groups and as a whole group. The creation of student questions, as well as interpretation the categorical and numerical data on a bar graph are both summative and formative assessments. They will help to guide instruction and demonstrate that learners are developing these understandings. Information about student progress of the affective learning target will also be collected through teacher observation and student questioning.

(6) How will you use the formative assessment data to guide the rest of this lesson? What specific interventions will be planned to differentiate instruction?

As the teacher "works the room" and debriefs as a whole group, evidence of student understanding about categorical and numerical data as well as the affective competency of help-seeking will be collected. Based on this evidence, the teacher may choose to shorten or lengthen the exploratory activities and use observed misconceptions or common errors as entry points for student discussion. The teacher

may choose to pose additional questions to scaffold student understanding based on the assessment data collected.

Discovery Phase:

(7) What authentic assessments of learning (discovery work) will students produce to demonstrate their new understanding of the lesson's learning target(s)? How does this align with the Six Facets of Understanding (Wiggins & McTighe, 2005)?

To apply, extend and connect students' developing understandings of categorical and numerical data with the distributions of data they have considered throughout this unit, students' discovery work will require student teams to interpret data from a series of bar graphs. Each bar graph describes the results of a poll by a store owner looking to make informed selling and purchasing decisions (and also reiterating the career and real life applications). Since one bar graph provides categorical data and one provides numerical data, students must differentiate between the type of information each can provide and state why each is useful. Students will document their ideas by completing a series of questions that require them to think about the information each graph provides and how it can be used. This assessment ties directly to the lesson's learning target since students must distinguish and interpret the categorical and numerical data provided in each graph and use it in a meaningful way. This discovery work is aligned with Wiggins and McTighe's (2005) facets of explain, interpret and apply. This task requires that students make meaning from two different representations of data, explaining not only the trends and patterns they see but how they can be used to make decisions about purchasing and sales. These are diverse contexts which require conceptual transfer of their developing ideas.

(8) What spontaneous and planned interventions will you have available to assist students in developing their authentic assessments of learning (discovery work)?

For students who struggle to read and/or interpret the categorical and numerical information provided by the bar graphs, additional teacher and team interventions will be provided. Students' previous investigation from this unit had learning targets specifically designed to help students sense of information from bar graphs, and can be referenced as needed. Since students are working in base groups of three, struggling students will be directed to work and ask questions of their teammates during the lesson. These investigations will be collected at the end of the period so that more formal, individualized written feedback can be provided.

(9) How will you provide closure to the lesson in a way that allows students to reflect on the lesson's learning target(s)?

To conclude this learning experience, the teacher will lead a whole group debrief of the categorical and numerical information provided from the bar graphs. Students will consider the strengths of each distribution as well as the advantages and limitations of each graph. Students will also provide evidence that they have met their affective learning target by completing the sentence prompt "Today I was helped by my teammates when…" on a piece of notebook paper. This simple, one question outslip will be collected as evidence of students respectful help seeking behaviors.

(10) What future opportunities will ensure that students who have not yet met the learning target(s) are able to do so?

Students who have not yet met this learning target will have the opportunity to continue thinking about these ideas during the next day's lesson, as this concept of numerical and categorical data is spiraled throughout the rest of the unit. Weekly student reflection sheets and homework assignments will also give students an opportunity to think deeply about both the cognitive and affective learning target.

Implementation:

(11) What materials, technological equipment and/or human resources are required to successfully implement this lesson?

- Investigation 1.5: Using different data types
- Manila folders with bar graphs (1-2 per team)
- Learning targets on board

(12) What is the essential and non-essential content vocabulary required to successfully implement this lesson?

Essential Vocabulary:
- bar graph
- categorical data
- numerical data
- help seeking

Nonessential Vocabulary:
- range
- prediction