

VALENCIA COLLEGE

Analysis of My Practice (Year-1)

Candidate's Name, Discipline: Economics

Dean's or Director's Name:

Part 1: Needs Assessment

Every successful intervention starts with a need. In the following three sections, you will describe the information you have gathered from the **four lenses** (*Self Perspective, Student Perspective, Colleague Perspective, and Expert Perspective*) that has helped in your reflection of one student learning need.

Identification of Need (*Self Perspective*)

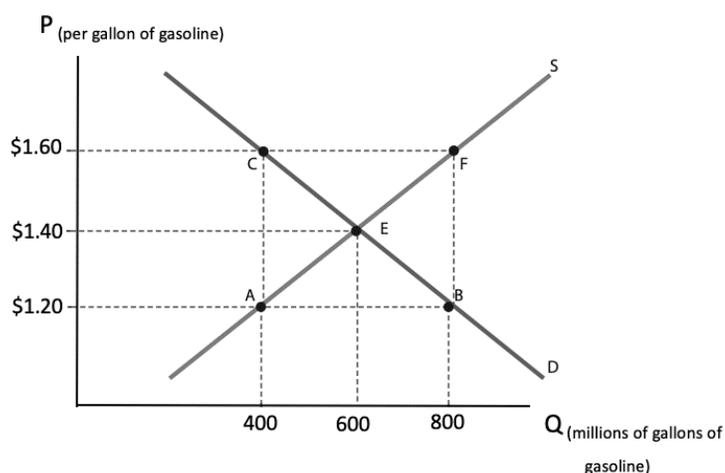
In a brief paragraph, identify and explain an area of concern for your students, using these questions as a guide.

- Is there a concept or skill that your students struggle to understand? OR Is there a type of assignment or activity with which students have difficulty?
- Why is this concept/skill/assignment/activity important?

Students seem to struggle with quantitative literacy and data synthesis. Specifically, they have difficulty solving economic problems using multiple data presented in the form of graphs or tables. Understanding many economic concepts is dependent on a working knowledge of how to interpret graphs, apply equations, and use these tools to analyze the relationships between different variables. For example, the first unit of both principles of economics courses focuses on the supply and demand model, which predicts prices and output in a market. On one side of the market, the law of demand states there is an inverse relationship between prices and quantities consumers want to buy. Therefore, the demand in a market can be represented in a model using a demand curve (a downward sloping line on an X-Y plane), or a demand schedule (table showing these variables moving in opposite directions). Applying the supply and demand model to solve questions involves students evaluating how an event (like a new business opening in the market) influences the behaviors of both buyers and sellers, and therefore the interaction of supply and demand.

Generally, students understand how an event will affect a buyer or seller. From the previous example, students “get it” that a new business opening in a market implies that supply will increase. However, they struggle to connect the dots, using the supply and demand model to show that the increase in supply ultimately leads to higher output and lower prices in the market. Connecting the event to the market change requires that students draw graphs and find intersection points or understand inverse and positive relationships between variables. Unfortunately, students who have not had the opportunity to develop these skills struggle to grasp fundamental concepts and models and illustrative examples of economics.

I can personally attest to the collective groan and general lack of enthusiasm from my students any time graphs make an appearance in class. Initially, I misinterpreted this response as a need for improved graph-reading skills. Based on the evidence described below, I now believe that graphs and their multiple data points, variables, and the changing relationships between those variables really represented the greater need for data synthesis skills in order to apply economic concepts. For example, given the graph below, I would ask students to identify the equilibrium price and quantity in this market, and students would be able to identify the intersection point E and the corresponding coordinates without issue. However, if I asked students what would happen if the price were lower at \$1.20, they struggled to analyze both points A and B to come to the conclusion that demand would be greater than supply, creating a shortage.



I first analyzed student accuracy on Fall 2018 semester test questions, comparing similar problems when the information was presented in graphs vs. tables. I also compared the types of problems that required multiple steps to solve the question (find multiple pieces of information and apply) and single-step questions (find one piece of information and apply). I found that the single-step questions had a high accuracy rate with about 90% of students answering correctly, even when the data were presented graphically. However, for problems that required two or more steps, the accuracy rate fell to 70% for multiple-step graph questions and 33% for multiple-step table questions. After noticing students struggled the most with a question including a table, my understanding of the student need changed from improving graph reading skills to improving skills for gathering and building on multiple pieces of information to solve a problem.

Evidence of Need (*Colleague Perspective*)

In order to clarify this need, summarize the evidence that you collected by addressing each of the following bullet points:

- What evidence did you collect from colleagues that has confirmed or failed to support the need that you identified, and what strategies did you use to collect this evidence?

I also reached out to the Discipline Coordinator of Economics for the Southern campuses, Jamie Shipley, to ask for his input when I still thought graph-reading skills were the problem. He explained, “Yes, this is a recurring problem. The primary reason is that for too many of our students, they have difficulty synthesizing more than one data point (or bullet of information or process) at one time. This is why there’s really no problem with each entry in a table—it’s one row at a time. But ask students to transfer that entry from the row onto a graph, then the difficulty starts. It’s like it’s just ‘too many steps.’ If the process is longer than one step, then most students freeze.”

Evidence of Need (Student Perspective)

In order to clarify this need, summarize the evidence that you collected by addressing each of the following bullet points:

- What evidence alerted you to this student learning need (test/quiz scores, assignment results, observations, etc.)?
- In addition to test/quiz scores, assignment results, and/or your observations, what evidence (survey data, CATs, anecdotes, etc.) did you collect from students that has confirmed or failed to support the need that you identified? What strategies did you use to collect this evidence?
- Finally, how, if at all, has your understanding of the student need you identified (or the need itself) changed or been refined based on the evidence collected?

Based on the evidence, I conducted an assessment and survey in my Spring 2019 classes (73 students across three sections) as a “ticket out the door” CAT. The assessment included four questions. For the first two questions, students analyzed a graph to solve a single-step problem and a multiple-step problem. The last two questions were structured the same, but the students had to use information presented in a table. At the end, students ranked each question from easiest to hardest and selected from a list of conditions anything that would have made the difficult questions easier. For both single-step questions, the accuracy rate across all my classes was over 70%. For the multiple-step questions, the accuracy rate was 31% for those referencing a graph and 51% for those referencing a table. The end survey results shown in the table below revealed that more than half of the students ranked the multiple-step graph and multiple-step table question as the “second hardest” and “hardest” questions in the exercise. This reinforced my understanding that the greater need is in helping students pull multiple pieces of data to solve questions, rather than read graphs.

Question Type	Ranking (% of Student Responses)			
	Hardest	Second Hardest	Second Easiest	Easiest
Single-Step Graph	1.4	6.8	15.0	78.4
Single-Step Table	13.5	12.3	60.3	12.1
Multiple-Step Graph	28.34	47.9	17.8	6.8
Multiple-Step Table	56.7	32.9	6.8	2.7

Survey Responses from Needs Assessment CAT

What would have helped you answer the questions that were hardest?	
Break the multiple-step questions into two separate questions.	23%
Present the information in tables only.	10%
Present the information in graphs only.	24%
Nothing. I did not have any difficulty answering the questions.	33%
Other.	11%

Unfortunately, there was not a consistent response from students about what conditions would have made the “hard” questions easier. In fact, the most common response students chose was “Nothing. I did not have any difficulty answering the questions,” which, when paired with the accuracy of student responses suggests that

students may also be struggling to self-assess their proficiency. Next semester, I will explore this further in case there is something else that the students regard as more impactful in their ability to solve the problems.

Research about Need (*Expert Perspective*)

Write an **annotated bibliography** containing 2-4 books or journal articles that you have reviewed to help you understand and/or address the need you identified. Click [HERE](#) to learn about writing an annotated bibliography.

Then, in the **intended research** section, list the titles of any other books, journal articles, conferences, workshops, courses, seminars, or other activities that might aid in your understanding of how to address the need identified. You may include (but are not limited to) the Essential Competency activities listed in the Professional Development section below.

Annotated Bibliography

Marire, J. "Does a Graph-Intensive Economics Curriculum Promote Epistemological Access to Economic Theory?" *South African Journal of Higher Education* 32, no. 1 (January 2018): 140–161. *Education Source*, EBSCOhost (accessed January 21, 2019).

Marire evaluates whether graph-intensive introductory economics courses promote student learning. The study found that neither multiple choice questions that required students to interpret graphs, nor free-response questions that required students to draw graphs facilitated student learning. Marire's findings suggest graphic and algebraic expressions of economic concepts limit the discipline's accessibility to students with varying levels of quantitative capacity, experience, and expertise. However, the use of "supplementary learning resources" that gave students specific steps to follow helped promote student learning.

Cohn, Elchanan, et al. "Do Graphs Promote Learning in Principles of Economics?" *Journal of Economic Education* 32, no. 4 (January 2001): 299–310. *ERIC*, EBSCOhost (accessed January 21, 2019).

The authors compared student assessment scores after students were randomly assigned a lecture with graphs, or a lecture without graphs in a 1995 and 1997 experiment. The topics in question explained modern economic theories that could be represented graphically but were not necessary to applying the economic theory. The 1995 experiment seemed to suggest that graphs reduced student learning, and the 1997 experiment suggested that graphs had no significant effect on student learning. The authors imply that the use of "complex graphs" (or, ones with more variables, requiring increased data synthesis skills) is counterproductive.

Russo, Carlo, et al. "Teaching Economic Principles: Algebra, Graph or Both?" *American Economist* 55, no. 1 (March 2010): 123-131. *EBSCOhost* (accessed January 21, 2019).

The study examines 245 undergraduate students and their performance on assessment questions that combined graph and algebraic representations of demand. In questions that presented the dependent variable inconsistently between the graph and algebraic forms, all students had more difficulty. For questions where the dependent variable was homogenous between the graph and equation, student success rates were higher. The evidence suggests that students struggle to interpret data at face value,

relying on rote memorization about how the variables are presented to pull the “correct” pieces of information rather than understanding the importance of those pieces of information for application.

Intended Research

Hey, John. “I Teach Economics, Not Algebra and Calculus.” *Journal of Economic Education* 36, no. 3 (July 2005): 292-304.

The instructor uses *simple* graph representations rather than algebra and calculus to present intermediate microeconomic principles.

LCTS 2223: Asking the Right Questions

My hope is that by understanding the nature of student questions, I can refine how to address student needs when it comes to applying economic concepts to multiple pieces of data.

The Annual Financial Literacy & Economic Education Conference by the Council for Economic Education (CEE). 96% of educators who have attended report that they are still using information and resources gained at the conference in their classrooms.

Part 2: Brainstorming of Additional Needs

The Brainstorming section that follows is designed to help you prepare for the work you might do going forward in the tenure process.

You have already formally identified, collected evidence for, and researched one student need. Your tenure work will ultimately require 2-3 fully developed needs assessments and interventions. Since every successful intervention starts with a need, below is a space for you to informally think through other needs you and/or your students have.

Brainstorm a list of other needs that you might possibly explore during your pre-tenure time. For each item in your list, please include a brief explanation.

- A personal finance unit within both principles courses

In my fall 2018 macroeconomics courses, I was pleasantly surprised to discover that students were especially interested when discussing financial institutions and banking (no, really, I am not joking). Students have been shocked to learn that the balance they see in their savings account isn’t matched in full by bills stored in a big vault at the back of their local Wells Fargo branch. The interest in banking and personal finance has persisted this semester. This spring, after classes about how savings and investment influence the US economy, I have had a handful of students come up to me after class and ask questions like “My job gave me a 401K, what investments should I pick?” “What’s a Roth IRA, and should I have one?” “What does ‘0% APR’ mean in car commercials?” I think these are extremely practical questions that, while slightly closer to the realm of finance vs. economics, I am equipped to answer and could develop a curriculum for.

- Note-taking

I provide redacted PowerPoint presentations on Canvas that I recommend students print out as a 3-slide-per-page handout to bring and take notes on in class. Very few students print and bring the redacted notes to class, and the students who do make the effort of bringing them are usually not the students who need help with note taking. I'd like to find a better way to help students take better notes.

Part 3: Essential Competencies Reflections

The sections that follow are designed to help you reflect on the Essential Competencies introduced during the first year of pre-tenure work and connect them to your own practice. For a list of the Essential Competencies and their indicators, click [HERE](#) or within the individual reflection instructions.

Assessment Reflection

Write a reflection (approximately 200 words) about the **Assessment** competency. In preparation for this reflection, please consider this essential competency's [indicators](#) as well as the relevant workshop attended. Your reflection should include answers to the following questions:

- What is your understanding of this competency?
- What do you already do that demonstrates this competency?
- How can you improve your practice in this competency?

The assessment competency serves a greater purpose than simply measuring students' depth of understanding of a discipline's subject matter. Effective assessments serve as a tool not only for professors, but also empower students to self-assess their proficiency. The assessment workshop emphasized that assessments would be more meaningful when using a backwards-design approach that begins and focuses on well-developed student learning outcomes. Additionally, the workshop explored the importance of using diverse assessments that are both formative and summative, as well as student constructed and objective.

In my teaching I already demonstrate this competency by employing both summative and formative assessments for students. I use many low-stakes or no-stakes formative assessments within class on a daily basis like Kahoot, muddiest point, 1-minute paper, tickets out the door, etc. My hope is that these activities demonstrate assessment indicators by helping students self-assess their learning. However, I think creating graded but still low-stakes formative assessments will encourage students to "buy in" to the process more. Also, all of my summative assessments use objective rather than student-constructed approaches. Varying assessments to include more student constructed strategies would improve the diversity of assessment in my practice. Finally, the course learning outcomes for macroeconomics and microeconomics need improvement. The assessment workshop recommended avoiding lower level verbs on Bloom's Taxonomy, such as "understand," "learn," and "know" when writing outcomes, so I plan on refining the course outcomes using more measurable verbs.

Inclusion and Diversity Reflection

Write a reflection (approximately 200 words) about the **Inclusion and Diversity** competency. In preparation for this reflection, please consider this essential competency's [indicators](#) as well as the relevant workshop attended. Your reflection should include answers to the following questions:

- What is your understanding of this competency?
- What do you already do that demonstrates this competency?
- How can you improve your practice in this competency?

Demonstrating inclusion and diversity requires creating an open and inclusive learning environment that caters to and embraces different dimensions of diversity. The elements of diversity in the classroom are more varied than the traditional pillars of gender, race, and socio-economic background. This competency includes considering learning style, skill level, age, and ability. In the workshop, educators were encouraged to use “windows,” that give students a new way of seeing things, and “mirrors” that help students see themselves reflected in the material.

My teaching practice demonstrates this competency by using many “windows” in class. When we discuss supply and demand or international trade, I am eager to start a discussion on controversial policy issues like the minimum wage, trade policy, etc. I use different teaching strategies to invite students’ opinions and encourage them to consider conflicting perspectives on these issues. While my “windows” are strong, my practice could include more “mirrors” to help students feel that their perspective has value. Including readings or other material by historically underrepresented groups or asking students to draw on their own background and experience when teaching would promote a more inclusive learning environment.

Learning-centered Teaching Reflection

Write a reflection (approximately 200 words) about the **Learning-centered Teaching** competency. In preparation for this reflection, please consider this essential competency's [indicators](#) as well as the relevant workshops attended (Cooperative Learning and optional workshops). Your reflection should include answers to the following questions:

- What is your understanding of this competency?
- What do you already do that demonstrates this competency?
- How can you improve your practice in this competency?

Teaching that is learning-centered creates an educational experience that is student focused. A teaching practice that demonstrates this competency consistently and effectively engages students by using active learning strategies, cooperative learning activities, real-life applications, and more. I think of this competency as getting students invested in the learning process and helping them to flourish in the classroom, which is something I strive for.

I feel my practice most strongly demonstrates learning-centered teaching, of all the essential competencies, particularly in engaging students to become active learners. Many of my active learning lessons were created and refined through the workshops I attended this year. I have completed several professional development credits in this competency in addition to those included in the TLA process, and I am working towards the active learning certification. However, I think there is plenty of room to grow in this competency when it comes to some of the last few indicators. Inviting more student input on class topics or assessment

techniques is not something I have tried in the past. Additionally, increasing students' academic literacy within the field of economics is something I struggle with and is exemplified in the student need assessment.

LifeMap Reflection

Write a reflection (approximately 200 words) about the **LifeMap** competency. In preparation for this reflection, please consider this essential competency's [indicators](#) as well as the relevant workshop attended. Your reflection should include answers to the following questions:

- What is your understanding of this competency?
- What do you already do that demonstrates this competency?
- How can you improve your practice in this competency?

LifeMap is the competency that stands out as a value that is specific to Valencia and our students. This competency emphasizes the importance of meeting students where they are and guiding them to success in life, their career, or even over the progression of a semester-long class. Part of that guidance requires that students become more independent over time in making choices that help them achieve their goals.

By the end of the LifeMap seminar, I was surprised to learn that much of what I already do is indicative of LifeMap. I frequently contact students digitally using the Canvas platform and over email. I also encourage students to contact me any time during or after the semester for help with questions about their career or academic future. The redacted PowerPoint slides on Canvas are meant to help students develop note-taking skills that will contribute to their college success. My courses could improve by structuring the grading and expectations in class to reflect the LifeMap process of students gradually assuming greater responsibility for their learning, note-taking, and/ or studying. Spending more time learning about the tools available to students, like "My Education Plan" would also improve my ability to guide students in making academic decisions. Additionally, one of the future needs I brainstormed related to personal finance questions students often have, which I believe would fit into the LifeMap philosophy.

Part 4: Micro-teach Reflection

Part of the first year of your pre-tenure work included a Micro-teach lesson that adopted or adapted an active learning technique introduced in the learning-centered teaching strategy workshops you attended. This section asks you to reflect on that experience.

Micro-teach Reflection (250 - 500 words)

Write a brief summary of your Micro-teach lesson. Then use the following questions to guide your reflection of the Micro-teach experience:

What did you learn or gain from the Micro-teach experience? What went well? What could be improved? How is this lesson different from how you've previously taught it (or would have taught it), in light of the learning-centered teaching strategy workshops you attended?

My Micro-teach lesson focused on “the theory of the firm,” which is a concept from microeconomics that explores how a firm operates, what a firm’s goals are, and how a firm makes production decisions. This is a tough chapter for most students to grasp because it is extremely quantitative with many formulas for calculating different types of costs, revenue and profit. The way I have taught this concept in the past involves working with students through hypothetical examples, like “what decisions would you have to make if you wanted to open a coffee shop?” I also had previously used class demonstrations illustrating different economic laws regarding productivity, but I was missing something that brought all the concepts together in a real and meaningful way. So that was what I hoped to accomplish with this Micro-teach.

The teaching strategy I used most closely resembled a problem-based learning activity. I had randomized groups of four students act as a “firm” to manage different costs, generate revenue, and maximize profit. I chose not to allow students to choose their groups after one workshop recommended randomization saved time and promoted student learning. My 4-student “firms” built a tower out of marshmallows and toothpicks and competed with the other groups to make the most profit. The firm earned revenue based on every inch of height they added to their tower. However, every marshmallow and toothpick the firm used incurred a cost. If students wanted to maximize profit, they faced the balancing act of trying to increase their revenue (height) while also trying to decrease their costs (use of toothpicks and marshmallows). All the groups had 5 minutes to assemble their towers. Once time was called, each group measured their height to calculate their total revenue (\$2,000 for every inch tall) and counted their marshmallow (\$50 each) and toothpick (\$100 each) costs. Then each group subtracted their costs from their revenue to find profit (or loss).

I received generally positive feedback from my colleagues. They all reflected that they were invested in the activity and wanted to continue working after time was called. The most common strengths of the lesson mentioned were “strong student engagement” and “fun,” so the activity was something students would be enthusiastic to try. Among the suggestions were recommendations to repeat and clarify instructions, which I see will be key to this activity’s success. Within the “firm” each student had a specific job to focus on, a strategy I learned from the cooperative learning workshop. These roles became a bit muddled during the short time I had to present and execute the activity. I think clarifying the instructions and providing them in writing would make these roles more helpful. I also plan to implement the suggestion of incorporating “check in” points to keep students focused on the task (maximize profit) and maybe reassess their building strategies part of the way through the activity.

Part 5: Professional Development

Below is a list of professional development opportunities to help you track and plan your development.

Year-1 Professional Development

Place a check next to the activities you participated in during Year-1.

Faculty Orientation: LCTS2224: Interactive Lecture

Roundtable: Launching into the TLA

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- LCTS 2111: Cooperative Learning in the College Classroom
- LCTS3160: 101 Strategies for Demonstrating the Essential Competencies
- Roundtable: Learning-centered Teaching
- INDV 7311: Creating a Safe Space for Dialogue
- LCTS 2222: Case-Based Teaching
- LCTS 2226: Write to Learn
- LCTS2214 Problem-based Learning
- LCTS 2223: Asking the Right Questions
- INDV 2151: Inclusion and Diversity
- Roundtable: Inclusion and Diversity
- ASSMT 2121: Assessment as a Tool for Learning
- Roundtable: Assessment
- Roundtable: Micro-teach Prep
- Roundtable: Micro-teach
- Analysis of My Practice: Peer Review
- LFMP 2141: LifeMap

Future Professional Development

Candidates are strongly encouraged to attend the following professional development activities in Years-2 and 3. Select the activities below that you plan to participate in before the end of Year-3

- PRFC 2264: Understanding Professional Commitment
- PRFC 2161: Creating an Individualized Learning Plan
- SOTL 2171: Scholarship of Teaching & Learning
- PRFC 2263: Creating an Evidence-based Portfolio
- SOTL 2272: Developing Effective Surveys

Future Professional Development

Candidates are encouraged to select additional professional development activities related to the Essential Competencies. Select those you plan to participate in for Years-2 and 3.

Assessment

ASMT 2122: Classroom Assessment Techniques

ASMT 2227: Understanding and Designing Rubrics

(Other) _____

Inclusion and Diversity

INDV 2253: Personality and Learning Styles

INDV 2255: Multiple Perspectives

INDV 7316: How We Treat Each Other

(Other) _____

Learning-Centered Teaching Strategies

LCTS 2222: Case-Based Teaching

LCTS 2226: Write to Learn

LCTS 2223: Asking the Right Questions

(Other) _____

LifeMap

LFMP 3347: Engaging Students through Mentorship

LFMP 3348: CARE Strategies

(Other) _____

Outcomes-Based Practice

LOBP 2230: Core Competencies: Think, Value, Communicate, Act (TVCA)

LOBP 3230: Thinking Things Through: Critical Thinking Theory and Practice

(Other) _____

Professional Commitment

PRFC 3371: Learning Partners: Developing Reflective Practitioners

(Other) _____

Scholarship of Teaching and Learning (SoTL)

SOTL 3271: Principles of Good Practice

SOTL 2274 ARP Data Planning Tutorial

(Other) _____