VALENCIACOLLEGE

Analysis of My Practice - Year – 1

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Dean's or Director's Name: Lynn Dorn.

Learning-centered Teaching – Reflection on Workshops (250 words)

What were your "take-aways" from the LCTS workshops you attended? How did those learning-centered teaching strategies inform your micro-teach lesson?

The LCTS workshops were very helpful in providing several valuable classroom techniques that enhance instruction. First, the workshop on cooperative group learning strategies provided insight into not only multiple group pairing options that enable students to contribute to their own learning, but also critical classroom management skills that increase effectiveness of time usage. Specifically, enforcing time limits, designating roles to increase student accountability of learning, and ensuring inclusion and diversity within group activities has enhanced my course design. Second, the write-to-learn and case-based teaching workshops gave insight into in-class learning activities that could be incorporated well into limited class times that also enabled a deeper level of thinking about a particular subject area. In the past, I have always found it challenging to incorporate critical thinking activities. These two workshops have provided key approaches that I can add to my teacher archive and will enrich student learning. Overall, the LCTS workshops were very helpful in guiding me towards a more enriched approach to my classroom planning and style of teaching.

In addition, I was also able to incorporate several LCTS concepts into my microteach lesson by incorporating a focused game theme for each group (i.e. Angry Birds, Pin Ball, and Mario Brothers), specific group member roles (writer, coordinator, presenter) for task accountability, and a specific time requirement I was able to demonstrate an effective and simple activity that can serve as an initial formative assessment of a very challenging topic in biology, cellular respiration. In addition, by randomly grouping the students, the activity incorporated inclusion and diversity that we have also had the opportunity to learn more about through the TLA workshops.

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?

Given the historically challenging nature of learning the topic of cellular respiration, the primary aim of my micro-teach lesson was to employ a fun group activity to grasp the key points involved in this cellular process. The activity designed was a group activity where students (in groups of 3-4, randomly grouped for inclusion and diversity) were tasked to design a game based on the steps of cellular respiration in eukaryotes.

Ultimately the microteach went very well; the time requirements were met (design-5 minutes; presentation ~30 seconds), the goal of the activity seemed to be easily understood by the participants, and the participants had fun

and were very engaged in the activity. An area of improvement that my colleague feedback identified was to make sure all instructions are verbalized before handing the instructions to the students to minimize any confusion.

The approach of this microteach is different from approaches that I have taken in the past. In the past, I taught primarily using a lecture-based format with little formative assessment. I really like this activity because it takes a very difficult subject in biology and makes it fun and serves as an initial formative assessment meant to assess whether the students understand the broad ideas of cellular respiration. I think by approaching difficult subjects with a layered approach through these types of collaborative activities will significantly reinforce learning of these subjects.

Needs Assessment

Every successful intervention starts with a need. Below you will identify and present evidence for one student learning need.

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?*

One primary area of concern for students in the BSC1010C course involves learning several key concepts integral to biology. One of these concepts is cellular respiration. Students notoriously perform poorly on formative and summative assessments related to this subject material. The scientific concepts involved with cellular respiration require that the student think on a much deeper and intricate level than what they experience in their daily lives. This coupled with several complex chemical structures and reactions results in significant confusion amongst the students, poor recall, and an inability to critically think about the material.

Evidence of Needs Assessment

Summarize the evidence that you collected related to this need 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?*
- *What evidence did you collect from colleagues that has confirmed or failed to support the need that you identified?*

Based on several previous semesters, I have observed comments from students, confusion on formative assessments, and routinely poor performance on examinations covering cellular respiration. As evidence to support these observations, I have evaluated both multiple-choice and written answer exam questions encompassing cellular respiration from two BSC1010C sections this semester. There were a total of 39 multiple-choice questions and one write-in question that assessed student understanding of the topic. Among the multiple-choice questions, the percentage of students that scored at least a 70% (17.5 out of

a total of 25 multiple-choice questions correct) comprised only 53.85% (21/39 students) of the total students. The mean number of multiple-choice questions that were graded as correct in each section was 16.75 $\pm$ 4.16 and 17.89 $\pm$ 4.84 for section #1 and #2, respectively. Collectively, between both sections the mean score for multiple-choice questions was 17.26 $\pm$ 4.46.

Analysis of the write-in question covering cellular respiration indicated a general trend of no attempt at the write-in answer with lower number of correct multiple-choice questions. In section #1, with the exception of one student, the write-in analysis indicated that students that had 15 multiple-choice questions correct did not even attempt the write-in question. Only one student that had 19 multiple-choice questions correct did not attempt the write-in question. However, in section #2, more students that scored more multiple-choice questions correct did not make an attempt at the write-in answer (up to 23/25 multiple-choice correct). Furthermore, for those that did provide a write-in answer, there was little correlation of an increasing trend of the write-in answer score for students that had 15-19 (2.47 points $\pm$ 1.56) or 20-25 (3.54 points $\pm$ 1.83) multiple-choice questions correct (statistics pending).

Overall, this data indicated that there is a need for additional or improved pedagogical strategies to address students' understanding of the subject of cellular respiration in BSC1010C.

Professional Development Related to Needs Assessment

*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 list any other books, journal articles, conferences, workshops, courses, seminars, or other **intended professional development** activities that might aid in your understanding of how to address the need*

Annotated Bibliography

> *Note of Explanation:* *The annotated bibliography is a new requirement in this year's AMP. In previous AMPs, candidates fully fleshed out three needs and only listed intended professional development in this section. Now with only one need, more focus is placed on reviewing the educational literature early in the process to identify the prevalence of the need and how others may have addressed a similar student need. The annotated bibliography section, therefore, is blank in this sample AMP.*

Intended Professional Development

I would like to address challenges with student learning of subjects like cell respiration through more student-based inquiry strategies. Issues and strategies related to this need can be addressed with ideas from the sources below.

Stanger-Hall, K. Multiple-Choice Exams: An Obstacle for Higher-Level Thinking in Introductory Science Classes. 2012. *CBE Life Sci Educ.* Vol. 11: 294-306.

Luckie, D. B., et al. Less teaching, more learning: 10-yr study supports increasing student learning through less coverage and more inquiry. 2012. *Adv Physiol Educ.* Vol. 36: 325-335.

LCTS 2223: Asking the Right Questions

Assessment

Valencia educators will develop student growth through consistent, timely formative and summative measures, and promote students' abilities to self-assess. Assessment practices will invite student feedback on the teaching and learning process as well as on student achievement.

Performance Indicators: Evidence of Learning

The faculty member will

- design and employ a variety of assessment measures and techniques, both formative and summative, to form a more complete picture of learning (e.g., classroom assessment techniques, authentic assessments, oral presentations, exams, student portfolios, journals, projects, etc.)
- design activities to help students refine their abilities to self-assess their learning
- employ formative feedback to assess the effectiveness of teaching, counseling, and librarianship practices
- employ formative feedback loops that assess student learning and inform students of their learning progress
- communicate assessment criteria to students and colleagues
- give timely feedback on learning activities and assessments
- evaluate effectiveness of assessment strategies and grading practices
- align formative and summative assessments with learning activities and outcomes

Assessment Reflection

*Write a reflection (100-150 words) about the **Assessment** competency. Your reflection should include answers to the following questions:*

- *What were your take-aways from the Assessment seminar and/or roundtable?*
- *What do you already do that demonstrates this competency?*
- *How can you improve your practice in this competency?*

Example purposely not included.

Inclusion and Diversity

Valencia educators will design learning opportunities that acknowledge, draw upon and are enriched by student diversity. Diversity has many dimensions, including sex, gender identity, sexual orientation, race, ethnicity, socio-economic background, disability, cognitive style, skill level, age, religion, etc. An atmosphere of inclusion and understanding will be promoted in all learning environments.

Performance Indicators: Evidence of Learning

The faculty member will
- design and support learning experiences that address students' unique strengths and/or needs
- diversify the curricular and/or co-curricular activities to increase the presence of historically underrepresented groups
- use diverse perspectives to engage and deepen critical thinking
- create a learning atmosphere with respect, understanding, and appreciation of individual and group differences
- challenge students to identify and question their assumptions and consider how these affect, limit, and/or shape their viewpoints
- ensure accessibility of course content in alignment with federal law and Valencia standards

Inclusion and Diversity Reflection

*Write a reflection (100-150 words) about the **Inclusion and Diversity** competency. Your reflection should include answers to the following questions:*
- *What were your take-aways from the INDV seminar and/or roundtable?*
- *What do you already do that demonstrates this competency?*
- *How can you improve your practice in this competency?*

Example purposely not included.

Learning-centered Teaching Practice
Valencia educators will design learning opportunities that promote student life skills development while enhancing discipline learning. Through intentional inclusion of growth-promoting strategies, faculty will facilitate the students' gradual assumption of responsibility for making informed decisions and formulating and executing their educational, career, and life plans.

> **Performance Indicators: Evidence of Learning**
> The faculty member will
> - establish student & faculty contact that contributes to students' academic, personal, and professional growth
> - employ digital tools to aid student contact (e.g., Atlas, MyPortfolio, Blackboard, Ask-A-Librarian, email, etc.)
> - seek out struggling students and identify options through dialog and appropriate referrals
> - help students assume responsibility for making informed academic decisions (e.g., degree requirements, transfer options, financial aid, etc.)
> - guide students in developing academic behaviors for college success (e.g., time management, study, test and note taking strategies, etc.)
> - help students identify academic behaviors that can be adapted as life skills (e.g., library search skills, decision-making, communication skills, scientific

Learning-centered Teaching Reflection
Write a reflection (100-150 words) about the **Learning-centered teaching** *competency. Your reflection should include answers to the following questions:*
- *What were your take-aways from the Learning-centered Teaching seminar and/or roundtable?*
- *What do you already do that demonstrates this competency?*
- *How can you improve your practice in this competency?*

Example purposely not included.

LifeMap

Valencia educators will design learning opportunities that promote student life skills development while enhancing discipline learning. Through intentional inclusion of growth-promoting strategies, faculty will facilitate the students' gradual assumption of responsibility for making informed decisions and formulating and executing their educational, career, and life plans.

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LifeMap Reflection

*Write a reflection (100-150 words) about the **LifeMap** competency. Your reflection should include answers to the following questions:*
- *What were your take-aways from the LIfeMap seminar and/or roundtable?*
- *What do you already do that demonstrates this competency?*
- *How can you improve your practice in this competency?*

Example purposely not included.

You have already formally identified and collected evidence for one student need. Your tenure work will ultimately require 2-3 fully developed needs assessments and interventions. Every successful intervention starts with a need, so 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.

IDEA ONE

During the semester in BSC1010C, students are introduced to the use of a laboratory tool known as a micropipette with which they measure volume on a microliter scale. Typically, students have a difficult time over the semester reading and adjusting the micropipettes to the correct volume. As a crutch, they will come and ask the professor if the micropipette is adjusted already and ask for assistance when unsure. However, despite multiple opportunities using the instruments, students continue to have a difficult time understanding the basic operational concepts. Ultimately, the students need to know how to use this tool to accurately and precisely measure appropriate volumes needed for their experiments. If volumes are measured incorrectly, this may lead to faulty experimental results. This may be an area to explore more deeply by collecting some student evidence to narrow down the reasons for their difficulty with understanding the basic operational concepts.

IDEA TWO

During my 5 years of teaching, I have observed that students have a difficult time with biology terminology. This is based on student difficulties with pronunciation, avoidance of speaking the terms, and an inability to recall terms and their associated concepts on write-in questions. I have also had many students directly discuss with me their difficulties with terminology. Understanding the terminology in BSC1010C is a critical barrier for many students, and one would hypothesize that this represents a significant challenge to higher-order thinking of the biology concepts by the student and therefore general success in the course. I may investigate this issue more deeply through some CATS focusing on their barriers to recalling the terms.

Professional Development

Below is a list of professional development opportunities organized by Essential Competency to help you plan your development. You may have included several of these activities in the individual professional development plans above for your needs assessment 1, 2, or 3.

Year-1 Professional Development

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

X   Faculty Orientation: LCTS2224: Interactive Lecture

X   Roundtable: Launching into the TLA

X   LCTS 2111: Cooperative Learning in the College Classroom

X   LCTS3160: 101 Strategies for Demonstrating the Essential Competencies

X   Roundtable: Learning-centered Teaching

X   INDV 7311: Creating a Safe Space for Dialogue

X   LCTS 2222: Case-Based Teaching

X   LCTS 2910: Write to Learn

X   LCTS2214 Problem-based Learning

___LCTS 2910: Asking the Right Questions

X   INDV 2151: Inclusion and Diversity

X   Roundtable: Inclusion and Diversity

X   ASSMT 2121: Assessment as a Tool for Learning

X   Roundtable: Assessment

X   Roundtable: Micro-teach Prep

X   Roundtable: Micro-teach

X   Analysis of My Practice: Peer Review

X   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*

X   LOBP 2131: Learning Outcomes-based Practice

X   PRFC 2264: Understanding Professional Commitment

X   PRFC 2161: Creating an Individualized Learning Plan

X   SOTL 2171: Scholarship of Teaching & Learning

X   PRFC 2263: Creating an Evidence-based Portfolio

X   PRFC 2910: Portfolio Planning Workshop

X   SOTL 2272: Developing Effective Surveys

X   SOTL 2271: Action Research Builder

X   SOTL 2910: Data Planning Tutorial

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
X   ASMT 2122: Classroom Assessment Techniques

X   ASMT 2227: Understanding and Designing Rubrics

___ (Other)_____

Inclusion and Diversity
X   INDV 2253: Personality and Learning Styles

X   INDV 2254: The Art and Science of Learning and the Brain

___ (Other)_____

Learning-Centered Teaching Strategies
___LCTS 2222: Case-Based Teaching

___LCTS 2910: Write to Learn

X   LCTS 2910: Asking the Right Questions

___LCTS 2212: Engaging Lectures

X   LCTS 2213: Active Learning Techniques

___ (Other)_____

LifeMap
X   LFMP 3347 Engaging Students through Mentorship

___LFMP 3348 CARE Strategies

___ (Other)_____

Outcomes-Based Practice
X   LOBP 2230: Core Competencies: Think, Value, Communicate, Act (TVCA)

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

___ (Other)_____

Professional Commitment
X   PRFC 3364: Peer Observation of Teaching Orientation

X   PRFC 3365: Peer Observation of Teaching

___ (Other)_____

Scholarship of Teaching and Learning (SoTL)
X   SOTL 2273: IR and You: How IR Can Help Faculty Research

X   SOTL 3271: Principles of Good Practice

X   SOTL 2274 ARP Data Planning Tutorial

___ (Other)_____

Revised 8.17