Department of Biology
Western Kentucky University
2018-2019 Mentoring Committee Meeting

May 8, 2019
Faculty Mentee: Natalie Mountjoy
Mentor: Dr. Kerrie McDaniel
Coordinator: Dr. Scott Grubbs

Goals for the 2018-19 Academic Year: Mountjoy

TEACHING GOALS AND ACTIVITIES IN 2018-19

1. To revise the BIOL 121 and BIOL 123 manuals to increase clarity and efficiency.
    - The BIOL 121 manual was heavily revised in content and format. I supplemented the BIOL 123 manual as needed to increase clarity.
2. To produce "Teaching Manuals" for 121 and 123 TAs to include notes on student learning and lab procedures.
    - I created a Teaching Manual for BIOL 121 with notes on common student questions, where to provide emphasis, and when demonstrations are required. I will wait until revisions begin to do so for BIOL 123.
3. To create and test two, 2-3 week, problem-based-learning labs for Biol 121 with goal of partial/full integration in the Fall of 2020.
    - I have developed a completely new curriculum for BIOL 121. I did so in consultation with all BIOL 120 faculty, through focus groups in Fall 18 and individual follow-up meetings in Spring 19.
    - The new curriculum will involve 3 units on cells, metabolism and genetics. Each new unit is problem or inquiry-based, will involve data analysis and final products in-line with the scientific process.
    - I tested two of three new units this semester. I developed a new online manual, for the new curriculum.
        - Unit 2 Metabolism: What factors affect the rate of metabolism? This new unit covered Labs 6 and 7 on respiration and photosynthesis. It will be spread over will be spread over 3 weeks next semester.
        - Unit 3 Genetics: Is bushmeat sold in Kenyan butcheries? This covered Lab 10 on DNA analysis and will also be spread over 3 weeks next semester.
    - This summer I will complete the new online curriculum and it will fully implemented in at least one section of BIOL 121 in Fall 2019.
4. To submit a grant for support to travel to Kenya to begin construction of one the problem-based labs for BIOL 121.
    - I submitted a International Activities Grant through the Office of International Programs and was funded the maximum allotted = $2,000.
    - I accompanied Dr. Nancy Rice and the PicMik program in Kenya this January.
    - I identified, photographed and got GPS coordinates of the 8 initial butcheries we will use for testing in Unit 3 of new BIOL 121 labs.
    - I established an ongoing partnership with Simon Kisiane to establishing a continual sampling protocol in Kasigau.

- Along with Naomi Rowland I have been researching the protocol for sequencing of meat samples for species identification.
- I'm thinking about potentially running a summer study abroad course to take students to Kenyan to assist is sample collection.

5. To begin to integrate the research of our own faculty into the BIOL 121 curriculum.
   - I have developed several faculty profiles to integrate into the new online curriculum this summer.
   - Eventually I'd like to have the faculty spotlights comprise videos of faculty discussing their work in the lab/field.
   - Rodney King and I have discussed using this type of "faculty spotlight" for general biology department recruitment/retention needs as well.
   - I plan to investigate the success of these spotlights in improving Bio-Dept. knowledge among our new bio majors and in helping to establish a sense of place within the department.
6. To gain exposure to, and familiarity with Biol 120 and potential areas for improvement.
   - I taught Biol 120 in the fall (N=190) and spring (N=160)
   - I introduced 15 new micro-activities, a new student polling app and a new attendance app with lecture backchannel and in-class, real-time submissions.
   - I have and will continue to survey students regarding these innovations.
   - There is a need to standardize section across BIOl 120 and make some decisions regarding content and content delivery. I will begin meeting with BIOl 120 faculty to move forward.
   - To increase the amount of problem-solving and critical thinking in BIOL120 may require the use of learning assistants (LAs). I will begin investigating this prospect over the summer.
   - This summer I will be preparing to teach BIOL 120 honors. I will take advantage of the smaller class size to test out some project-based learning activities.

PEDAGOGICAL RESEARCH GOALS AND ACTIVITIES IN 2018-19

1. To continue to develop and refine potential indicators of success.
   - This process is ongoing.
2. To present at least one scholarly conference or submit at least one manuscript for publication.
   - Plan to submit my 5th data research this summer.
   - Planning a proposal with Kerrie McDaniel to present at the AAC&U Transforming STEM Higher Education conference.
3. To construct a retention survey for use by the Ogden Retention Taskforce.
   - Received IRB approval and ran the survey this spring. This research will continue and hopefully result in an eventual publication with my co-PIs Lester Pesterfield and Greg Arbuckle.
4. To continue monitoring 5th Week Interventions in 121 and 123.
   - This process is ongoing.
5. To complete IRB training and receive HSB approval for implementation of my own student survey.
   - This process was completing and the survey research is ongoing. We ask all students in BIOL 121, 123, 212, 322 to take a pre and post survey.
   - I will analyze these data to compare the old vs new curricula in BIOl 121 and 123.
   - Additionally, my co-PI. Naomi Rowland and I are comparing our classes, with varying degrees of inquiry and problem-based content.
6. To monitor student perceptions of new labs

- Completed via student surveys in BIOL 121.

SERVICE GOALS AND ACTIVITIES IN 2018-19

1. To continue with my current service activities
    - Annual TA Training, Gatton Academy Research Fair, Gatton Academy Interview Day
    - Attended: Biology Department Organization Fair, Ogden Student Awards Ceremony, Biology Department Senior Night, WKU Student Research Conference
    - Outside Service:
        - Western Kentucky Botanical Garden (Board of Directors and website creation and management)
        - Life Science Academy (advisor)
    - New Service Activities:
        - Biology Department Retention Committee, Chair
        - Ogden Retention Committee, Co-Chair
        - Biology Department Graduate Committee Member (Spring 2019)
    - Presentations:
        - Pedagogical Goals Presentation to Faculty with Kerrie McDanial.
        - Ogden Advisory Board Presentation (May 2019)
2. To expand my service within WKUs Center for Innovative Teaching and Learning, especially regarding the High Impact Practices (HIPs) conference coming to WKU this year.
    - CITL was under new leadership this year. As such, I have begun meeting with the new director to increase involvement. We have discussed several areas of which I may be service including serving a CITL representative for the Biology Department.
    - I am attending an AAC&U/CITL conference this summer to expand inquiry and problem-based content across the WKU Colonnade program.
3. To continue my role with both the MAE and MAT programs.
    - After working on marketing and recruitment in the Fall, this program will be cut under CAPE. I'll oversee this process as necessary.

ADVISING ACTIVITES

- 10 Undergrad Advisees
- 3 MAE Advisees
- Goal: To identify a pipeline for graduate students with pedagogical interests that align with my own and to serve in their mentoring process as a primary advisor or on their committee.
    - I have discussed my willing needs to accept new on-line graduate students with Chandra Emani and I will continue to pursue this avenue.

PROFESSIONAL DEVELOPMENT ACTIVITIES

- Pearson Mastering Training
- 2019 High Impact Practices National Conference @ WKU
- Pearson's National Biology Leadership Conference (invited)
- CITL Problem-Based Learning PLC
- Ogden Facilitating New Faculty Success (May 2019)
- AAC&U's 2019 Institute on General Education and Assessment (Summer 2019)

PRIMARY GOALS FOR 2019-2020

TEACHING GOALS

1. Implement entire new BIOL 121 curriculum in one section (Fall) and all sections (Spring)
2. Devise new TA training on Problem-based Learning
3. Transition current Faculty who teach 120 to the new labs/ set up observations of new labs
4. Standardize Biology 120 across sections
5. Create new 121 online lab manual, along with
6. Create all new assessments in BIOL 121 (HW, quizzes, assignments, exams)
7. Research resources to acquire high quality pictures and videos for new labs and integrate faculty research into the labs.
7. To prepare and teach a section of Biology 120 for Honor's students (modified prep)

PEDAGOGICAL RESEARCH GOALS

1. Continue data collection on effectiveness of new labs and changes made in the course.
2. Collect data on 120 and 121 IR data for comparison
3. Submit a proposal to AAC&U Transforming STEM Higher Education conference with Dr. Kerrie McDaniel and attend the conference even if the proposal is not accepted
4. To collect data on from the Ogden Retention Survey on factors influencing student retention (IRB approval last year)
5. To assess student perceptions of new labs

SERVICE GOALS

1. To serve on the Ogden Retention Committee.
2. To chair the Biology Department Retention Committee
3. To serve on the Biology Department Graduate Committee
4. To transition students through the MAE program as it closes due to CAPE
5. To expand inquiry and problem-based content across the WKU Colonnade program after attending the AAC&U/CITL conference this summer
6. To identify a pipeline for graduate students with pedagogical interests that align with my own and to serve in their mentoring process as a primary advisor or on their committee

PROFESSIONAL DEVELOPMENT GOALS

1. To participate in professional development opportunities that forward my teaching and research.
2. To attend the AAC&U/CITL conference

Post Meeting Comments Added by Mentor

Attendance: Drs. Mountjoy, McDaniel, Grubbs, and Schulte

Teaching

Dr. Mountjoy met her teaching goals for 2018-2019. She spent considerable time revising the Biology 121 and 123 labs and lab manuals. She has created rich, problem-based labs with authentic scientific experiences and is working to assess the efficacy of these labs as well as develop the support materials for their implementation. She traveled to Kenya with Dr. Nancy Rice to help develop her Bush meat lab and has worked with Naomi Rowland to produce the molecular methods for the lab. She plans to integrate more faculty research into the labs in the future. Her teaching evaluations show scores that are above departmental and college median scores.

The committee suggested that she confidently implement new labs even though they may not be perfect yet. They indicated that the learning experience that TAs gain through trouble-shooting problems could be beneficial. In addition, they suggested to seek FUSE funding or look at other resources available on campus to produce videos and/or pictures for the lab manual.

Service

Dr. Mountjoy is involved in committees at both the departmental and college level. She is an active participant on both the departmental and the Ogden Retention Committees and is working with fifth week assessment data to help isolate reasons that students do not persist. She presented a talk to the Biology faculty on setting goals. Dr. Mountjoy advises students and runs the MAE program. She will be responsible for transitioning students to finish this program as the program is suspended due to CAPE. She is interested in looking for a way to attract more students to the online Master's program with interest in pedagogical research.

Research

Although research is not a requirement of this position, Dr. Mountjoy is actively monitoring student perception and efficacy of the new labs that she is developing. She is also gathering data about student retention in both the college and the department. She was awarded an International grant to travel to Kenya to develop project-based learning labs.

Other Comments

Dr. Mountjoy is actively seeking excellence in teaching, service and pedagogical research. She is attending professional development activities that progress her revision to the labs, her teaching and her service. The committee recognizes her enthusiasm and contributions to the department. The committee recommends that Dr. Mountjoy continue what she is doing to improve pedagogy and student learning in the Department of Biology.

Natalie Mountjoy 7/11/19

(Mentee- Dr. Natalie Mountjoy)

Kerrie McDaniel Digitally signed by Kerrie McDaniel DN: cn=Kerrie McDaniel, o=Western Kentucky University, ou=Department of Biology, email=kerrie.mcdaniel@wku.edu, c=US Date: 2019.05.21 16:09:52 -05'00'

(Mentor-Dr. Kerrie McDaniel)

Scott Grubbs 7/12/19

(Coordinator-Dr. Scott Grubbs)

B Schulte 7-12-19

(Department Head-Dr. Bruce Schulte)