

SABBATICAL LEAVE PROPOSAL

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Please respond to the following questions on a separate sheet(s) of paper. The Sabbatical Leave Committee will use this document to evaluate and prioritize all proposals submitted. Please be as complete as possible, keeping in mind the criteria established for evaluation.

1. Briefly state the purpose of your sabbatical leave.

This application for sabbatical leave is to request the time necessary to completely restructure my Statistics 1 class into a “Flipped Classroom” format. This format requires quite a bit of time to plan, create videos and develop appropriate in-class activities.

I have been fortunate to structure my current Statistics 1 class to allow time for an in-class activity once every few weeks. I have found the students’ perform quite well on the exam material, which was directly related to the in-class activity. This is the driving force as to why I would like to have a predominately student performed activity based class.

Therefore, I believe that the flipped classroom format, which consists of a significant amount of student time, spent performing in-class activities, receiving supervised and immediate feedback and allowing for student-to-student collaboration is the best choice for the students.

2. Give all pertinent details of your proposed plan. This should include all activities, projects, research, itinerary, study, employment, expected outcomes, relationships with current coursework, etc. connected with your proposed leave.

The successful models of a flip classroom incorporate videos, which the students watch at home, and corresponding in-class work that allows the students to apply what they have learned in a guided environment. The key to the videos is that they are no more than five to seven minutes in length. The videos cannot be too long; otherwise the students will not stay engaged.

I will be able to make the necessary videos from home, using software that I currently use while teaching. For the past year, I have been using my iPad and the Doceri application to aide my teaching. I provide the students with an outline of notes, which we then fill in during class. These same notes are on my iPad which projects onto the classroom screen. Because I am using the iPad, I am filling in the notes real time with the students. These sessions are recorded with the Doceri application. These recorded sessions can be sped up where needed and have voice-overs added. This is how I will make the videos.

I have additional video making experience from past work with the Instructional Technology Develop Center, ITDC, on campus. I was working with Amit Shai, on a grant to assist students by making videos on how to convert between fractions, decimals and percents. During this experience, I learned that to produce a quality video, a significant amount of time needs to be dedicated to organization, planning, writing a script and performing multiple takes. Therefore, I see the video portion of this proposal being the most time consuming. One five-minute video can take days to complete.

I have spoken with Fred Rossmannek from the Instructional Media Production Services Department on campus regarding some of the logistics of storing and verifying the videos compliance with ADA and 508 requirements for closed-captioned material. For storage I will use a You-Tube video account. I already have experience uploading videos to You-Tube, so no training will be required. Fred said that the school could help me with the closed caption portion. Also, I know that there are programs that can perform this task and other screen reading programs, which can assist the student. In addition to these tools, I have two family members who are certified stenographers and can be used as a resource if necessary.

Aside from making the videos, there also needs to be a means to assure that the students watch the videos. I had originally thought about starting each class with a brief quiz on the material from the videos. I realized that model would take away from valuable activity time during class and may not be an accurate reflection of whether the students watched the video and/or understood the material. Thus I've decided that I will write a worksheet to accompany each video.

The worksheet will consist of three parts. The first part of the worksheet will be an outline of the video content, where the student can take notes as they view the video. The second part of the worksheet will include an opportunity for the student to respond to specific questions, allowing them to summarize key points and demonstrate understanding of the material. The last portion will be a short application section so that the students can "get their feet wet" using what they have learned. Although this may sound like a lot, the worksheet may only be one page, double sided, since the video will cover a small amount of material.

I will also need to create activities corresponding to the videos, which will take place during class time. This provides the student the opportunity to enhance their understanding of the material in a hands-on environment. I plan to vary these activities so that each class does not look like a duplicate of the prior class where only the content has changed. There will be group and individual activities. I currently teach the class with a few activities now which work quite well, but I will have to create many new activities to support the volume of material being covered outside of class.

3. Provide a timeline indicating how the activities in your plan will be completed within the time frame of the proposed leave.

I plan to structure the first two weeks of my course easing the students into the flipped classroom format. From that point forward, the students will be watching weekly videos outside of class, completing worksheets as they view each video and performing activities in class, following the viewing of these videos. To accomplish this task, I plan to work according to the following timeline.

September 2014 – Plan the first two weeks and create the corresponding videos, worksheets and in-class activities. This will be different from all other weeks or topics because the material will be designed as an introduction to the flipped classroom format and cover chapter one material. This portion is intended to ease the student into the new format. The material to be created for these two weeks will consist of 6 sets of videos, worksheets and activities. There will also be one short introductory video and a worksheet that will be sent out a week before class starts. This is intended to let the students know ahead of time how the class will be conducted. I will also use September time to set up a new You-Tube account specifically for this class and the webpage that will house the links for the videos and worksheets. I have extensive web-development experience.

October 2014 – I will be creating 6 videos, worksheets and activities for Chapter 2. I will also be starting the material for Chapter 3 and create 2 sets of videos, worksheets, and activities. I would like to pilot one set of videos, worksheets and activity in a statistics class at LBCC. I will wait until I have created 3 of the Chapter 2 videos, worksheets and activities, assuming that by then I will have strengthened my skills at creating the materials. This pilot will be depended upon an instructor allowing me to work with their class. I will time this so that the pilot study would take place before the students are tested on the material and thus it could also be good test preparation for them. (8 total sets of material will be created)

November 2014 – I will finish the Chapter 3 content by creating 4 more sets of material. I will also start Chapter 4 and create 4 sets of material. (8 total sets of material will be created)

December 2014 – I will finish the Chapter 4 content and create 5 sets of videos, worksheets and activities. (5 total sets of material will be created)

February 2015 – I will create 5 sets of videos, worksheets and activities for Chapter 5 and I will also start Chapter 6 by setting 2 sets of material. (7 total sets of material will be created)

March 2015 – I will finish the Chapter 6 content and create 3 sets of videos, worksheets and activities. I will also start Chapter 7 and create 4 sets of materials. (7 total sets of material will be created)

April 2015 – I will finish the Chapter 7 content and create 4 sets of videos, worksheets and activities. I will also start Chapter 8 and create 3 sets of materials. (7 total sets of material will be created)

May 2015 – I will finish the Chapter 8 content by creating 7 sets of materials.

June 2015 – I will prepare the binder and report to present when I return.

4. Describe how the proposed leave will contribute to your professional development, including how it relates to your current assignment.

I expect this experience will heighten my excitement for teaching and have an impact on all future classes, which I'll teach. Specifically the sabbatical will provide me the time necessary to deeply scrutinize and evaluate the main concept of each topic I am covering. This level of thought and evaluation will provide me the experience to produce more thought out lectures for all of my classes. I will also be gaining the experience of developing different types of activities. Another skill, which can be utilize for all of my courses. Overall I expect to be a stronger instructor from this opportunity.

5. Describe how the proposed leave will benefit the college and students.

Upon completion of the new course design, the students will be provided an experience, which will strengthen their skills as independent learners. Furthermore, this model will allow the students the opportunity to apply what they've learned inside of the class where they will receive immediate and detailed feedback. The full circle of this format will not only allow the students to understand the material at a deeper level but it will also expose them to a different style of learning which will impact all future learning.

6. List and describe the specific, tangible products you will bring to the college within 90 days after you return to your assignment.

Upon returning from sabbatical, I will provide a link to the You-Tube site that will house 55 videos. I will also have a packet containing the 55 worksheets, which the students will fill out as they watch the videos. The last piece of material will be 55 in-class activity plans. The breakdown of the 55 sets of material by topic is listed below in chapter order

Ch. 1 – 6 sets of videos, worksheets, and activities for the following topics:

1. Statistical terminology
2. Statistical meaning and implications
3. Types of data (Qualitative, Discrete, continuous),
4. Levels of Data (nominal, ordinal interval ration),
5. Types of Samples (Random, Systematic, Convenience, Stratified, cluster),
6. Types of Study (observational and experimental)

Ch. 2 – 6 sets of videos, worksheets, and activities for the following topics:

1. Frequency distribution
2. Relative & cumulative Frequency Distribution
3. Histogram

4. Pie chart, Perato chart & Stem and Leaf
5. Ogive and Polygon graphs
6. Misrepresentative Graphs

Ch. 3 – 6 sets of videos, worksheets, and activities for the following topics:

1. Median and mode of data
2. Mean of data
3. Range, midrange of data
4. Standard Deviation and Variance of data
5. Percentiles
6. Five Number Summary and Box plot

Ch. 4 – 9 sets of videos, worksheets, and activities for the following topics:

1. Probability terminology and form
2. Type of Probability (Classical, Empirical and Subjective)
3. Addition Rule with independence
4. Addition rule with dependence
5. Odds
6. Multiplication rule with independence
7. Multiplication rule with dependence
8. Conditional probability
9. “At least one” probabilities

Ch. 5 – 5 sets of videos, worksheets, and activities for the following topics:

1. Random Variable Distributions
2. Means, Standard Deviation and Expected values from a Distribution
3. Factorials and combinations
4. Binomial Distribution
5. Mean and Standard Deviation for Binomial Distribution

Ch. 6 – 5 sets of videos, worksheets, and activities for the following topics:

1. Using the Standard Normal Table to find Probability given z-scores
2. Using the Standard Normal Table to find Z-scores given probability
3. Using the Standard Normal Table to find Probability given data values
4. Using the Standard Normal Table to find data values given percentiles
5. Central Limit Theorem

Ch. 7– 8 sets of videos, worksheets, and activities for the following topics:

1. Understanding Confidence Intervals
2. Estimating Population Proportions using Confidence Intervals
3. Determining minimum sample size for a study on proportions
4. Estimating Population Mean when the population standard deviation is known using Confidence Intervals
5. Estimating Population Mean when the population standard deviation is not known using Confidence Intervals
6. Determining minimum sample size for a study on means

7. Working with the Chi-Squared Table
8. Estimating Population Standard Deviation using Confidence Intervals

Ch. 8– 10 sets of videos, worksheets, and activities for the following topics:

1. Understanding Hypothesis Tests and making claims
2. How to conclude a Hypothesis Test
3. Testing a claim about a proportion using critical values
4. Testing a claim about a proportion using p-values
5. Testing a claim about a mean when the population standard deviation is known using critical values
6. Testing a claim about a mean when the population standard deviation is known using p-values
7. Testing a claim about a mean when the population standard deviation is not known using critical values
8. Testing a claim about a mean when the population standard deviation is not known using p-values
9. Testing a claim about a standard deviation using critical values
10. Testing a claim about a standard deviation using p-values

7. Describe how you will share the outcomes of your proposed leave with other interested parties upon your return.

I would like work with Faculty Professional Development to lead a workshop for flex-credit where I will summarize my experience developing a Flipped-Classroom. I will want to wait for a few weeks into the semester, so that I can also include information on the implementation of the new format. I will also send a campus wide email looking for other instructors who have created a Flipped-Classroom, so that they can be a part of the workshop, if they wish.

8. If applicable, please disclose any additional sources of employment earnings during the proposed leave.

Non-Applicable

Signature of Applicant

Date Originally Submitted