

## **ACU Internal Grants Grant Proposal Samples**

The examples below are actual submissions that were awarded grants in previous years. They are from a variety of disciplines, and each is an example of work that meets the expectations of the granting committees. Thanks to the authors for permission to share them.

### **I. Statement of Purpose, Goals, and Objectives**

Research questions or creative project clearly defined with an appropriate rationale; scope of the questions or project manageable within the time frame and context of the study; goals are clearly stated and objectives are measurable and achievable.

#### **Example A - Biology**

Bioremediation is the use of microorganisms to remove pollutants. This project seeks to evaluate the success of standard bioremediation techniques in a petroleum-contaminated, 'natural' grassland community. We seek to perform through inventories of the hydrocarbons remaining in the soil following bioremediation and the plant species that have recolonized the contaminated sites. These two data sets will allow us to compare progress in the short-term objective of bioremediation (removal of pollutants) to progress in the long-term objective (ecosystem recovery). Ultimately, we intend to investigate the direct effects of unremoved petroleum hydrocarbons on native species in a competitive community and find ways to fully restore native community dynamics following bioremediation.

#### **Example B - English**

The purpose of this study is exploratory in nature and will measure student learning and response to the inverted classroom.

This study of one section of ENGL 221, a sophomore British literature survey class, will be guided by the primary question: How effective is the inverted or flipped classroom approach in helping engaging students and enhancing their successful achievement of the course objectives?

The following ancillary question will guide the inquiry and data collection:

1. How do students respond to using their mobile devices outside of the classroom to listen to or watch content lectures, which locate and contextualize literary texts?
2. How do these pre-class lectures and other ancillary materials affect students in – class engagement with active learning assignments?
3. What kinds of pod-casts are most effective?

4. How can class time be used most effectively to enhance student engagement and learning?

### **Example C – Teacher Education**

The purpose of this study is to examine the role of reading response in two elementary classrooms: one in a primary grade and one in a grade level subject to the State of Texas Assessment of Academic Readiness (STARR). The study will be guided by the primary question: What is the role of reader response in the reading class? The following ancillary question will guide the inquiry and data collection.

1. How often do students have opportunities for reading response?
2. What formats of reading response are used?
3. What texts do students respond to?
4. How are the reading responses used by the teacher?

### **Example D – Biblical Studies**

The purpose of this work is to provide a reliable tool for those who wish to make use of the Syriac Gospel of Matthew in their research and reading but may lack confidence in their own ability to read or interpret the Syriac text. The resulting volume will present an idiomatic, annotated, contemporary English translation of the Syriac Peshitta text of the Gospel of Matthew. These materials will also fit into the larger Syriac Interlinear Project, aimed at making the Syriac text of the entire Bible accessible and conveyed according to the highest possible standards.

For my research, there are two principal goals: 1) to provide English readers with access to the Syriac text of Matthew, along with basic annotation; 2) to provide scholars with a more literal text and detailed annotation and analyses of this book, for more academic use. These will both be accomplished through the annotated translation of Matthew.

I am especially well suited to the project because of my facility with Syriac, my experience translating Syriac, my understanding of translation theory, my expertise with the biblical text, and the breadth of my experience in communicating with different audiences (academic, popular, scholarly, etc.).

## **II. Significance of Project**

Relevance and creativity of concept; significance of topic to faculty and student development and to ACU.

### **Example A - Biology**

Previous work in bioremediation of petroleum-contaminated, terrestrial communities has predominantly focused on restored function in human-dominated ecosystems (urban or agricultural sites) and/or human health concerns. This project is unique in its emphasis on biodiversity and ecosystem recovery in a nature of preserve. Such a study requires levels of expertise in analytical chemistry and community ecology that have rarely been combined. This work has been made possible for our study through collaboration with Dr. Kim Pamplin in the ACU Chemistry and Biochemistry Department.

### **Example B - English**

Koster, et. al (2009) writes, "The college literature classroom is often regarded as one of the bastions of traditional, a place where bound books and print texts are valorized at the expense of new media..." such stance, [however,]...merits re-examination in the digital age" (1-2). ACU English professors have, for the most part, moved beyond the valorization of print. Nonetheless, we have not yet piloted an inverted literature classroom. Yet as we move away from "the sage on the stage" approach to teaching literature, we are increasingly challenged by the "tension between coverage and depth" of the subject material "while enhancing the classroom experience" (Gannod 2009) with opportunities for meaningful engagement with classmates and with the text. One of the constant refrains in the English hallway is, old quo; one hour (or 80 minutes) is not enough time to teach literature." Sophomore students, in particular, need to understand the historical and cultural contexts of literary texts. I propose that providing this necessary information in a video and/or audio podcast will free class time for student engagement with the primary literary text in community.

### **Example C - Teacher Education**

Reading response provides students opportunities to demonstrate understanding and personal interpretation of a text. It encourages meaningful connection and does not limit students to one "correct" answer. Previous studies have demonstrated that as students become inundated with test preparation, they become less capable of verbalizing personal responses. Exploration of the role of reading response may offer explanations for and solutions to the decrease in creativity and divergent thinking as students progress through school.

### **Example D - Biblical Studies**

A number of English translations of the Peshitta New Testament have appeared over the years. However, several of them are outdated, due either to their limited textual base and lexical information or the archaic English used by the translators. More recent products have stimulated fresh interest in popular circles, but these tend not to be the products of textual

specialists. They suffer from the same textual Limitations as earlier versions, but they also tend to suffer from a lack of academic rigor and objectivity on the part of the editors and translators. They display bias, sectarian interest, a particular ethnic or theological agenda, and usually a tendency to exaggerate and misconstrue the significance of the Syriac base, for the sake of accenting its distinctiveness. In particular, recent translators exhibit a laudable desire to recover the “original Aramaic Jesus,” but without more linguistically and historically accurate methods of rendering the Syriac text, the results are regularly misleading. Furthermore, the existing products are all the work of individuals, working without the close oversight of editors and peer review. Certainly none of them had the aim of grounding a fully articulated electronic apparatus, as is in view in the project proposed here.

By utilizing the SEDRA 3 Syriac database, adhering to strict editorial procedures, and submitting the work to editorial oversight within the context of a large international team of specialist, the project will produce the most accurate text possible yet rendered in idiomatic English that is both accessible and accurate. The resulting volume will provide greater awareness of the Syriac text of the New Testament, especially on the part of students and researchers engaged in biblical and theological studies. It is also hoped that this tool will provide a stimulus to those who may wish to pursue further training in the Syriac language.

### III. Background to the Project

Literature review and/or historical context provides an excellent overview of the issue that is being explored; provides a convincing support for the purpose of the proposed study.

#### Example A - Biology

The Nature Conservancy's Tallgrass Prairie Preserve (TGPP) in northeastern Oklahoma is the world's largest preserved tract of native tallgrass prairie (39,000 acres). However, The Nature Conservancy has not acquired mineral rights for the preserve, and oil production has had a continuing impact on the landscape that must be balanced with conservation concerns. Occasional oil spills at the TGPP are nearly inevitable due to infrequent maintenance of marginal wells, and preserve managers continue to seek improved clean-up methods. In January 1999, a pipeline break resulted in a spill of approximately 11 m<sup>3</sup> of dewatered crude oil. From 2000-2004 a bioremediation study was conducted focusing on recovery of the soil ecosystem (Sublette et al., 2007). The bioremediation treatments included tilling and fertilizer application to increase the bioavailability of crude oil in the soil and stimulate naturally occurring hydrocarbon-degrading bacteria and fungi. Although this original study identified nematodes as soil organisms that can be used to assess progress in bioremediation rapidly at low costs (Sublette, et al., 2007), subsequent observations have suggested that the 2000- 2004 bioremediation has failed to restore the native plant community (unpublished data). Further, our preliminary data suggests a correlation between the presence of petroleum hydrocarbons and poor community recovery. These results were not expected during the design of the original experiment because hydrocarbons remaining after conventional bioremediation are generally thought to exhibit low toxicity (Baker, 1970; Chaîneau et al., 2003). Evidence collected in the 2000-2004 study, while not ruling out growth inhibition through inherent toxicity of remaining hydrocarbons, suggested that hydrocarbon related water stress may be the most significant factor limiting re vegetation (Brokaw, 2004).

Baker, J. M. 1970. The effects of oils on plants. *Environ. Pollut.* 1, 27-44.

Brokaw, J. M. 2004. Bioremediation of brine and hydrocarbon contaminated soils and direct gradient analysis of a tallgrass prairie. M. S. Thesis, Oklahoma State University.

Chaîneau, C. H., Yepremian, C., Vindalia, J. F., Ducreux, J., Ballerini, D., 2003. Bioremediation of a crude oil-polluted soil: biodegradation, leaching and toxicity assessments. *Water Air Soil Poll.* 144, 419-440.

Sublette, K., Jennings, E., Mehta, C. A., Duncan, K., Brokaw, J., Todd, T., and Thomas, G. 2007. Monitoring soil ecosystem recovery following bioremediation of a terrestrial crude oil spill with and without a fertilizer amendment. *Soil & Sediment Contamination* 16: 181-208.

### **Example B - English**

My experience with qualitative research in English studies has focused on the literary text rather than on the subjects studying the text. As I expanded my research to the scholarship of teaching and learning in the inverted classroom, I began by researching the idea of the case study and how to conduct a case study of a classroom experience. Robert Yin (2002) suggests that the preferred case studies allow a researcher to ask “how” and “why” questions when the boundaries of the study are blurred and the researcher uses many sources of research.

As I expanded my preliminary research to the idea of the flipped or inverted classroom, I discovered that although the use of podcasting in the higher education classroom is rapidly increasing (Lee, McLoughlin and Chan, 2008), little research has been published on podcasting or on flipping the English classroom. In a recent 2009 study, Mclean and White examine an inverted British Literature classroom project. The students’ surveys in this pilot class reported increased understanding and retention of course content as well as improved study skills.

In a 2007 study of the inverted classroom, Gannod reports that 85% of students in an architecture class responded favorably to the inverted classroom. He further notes that in the inverted classroom, the need to cover the course material is not limited by the traditional class time and successful students must be active learners rather than passive consumers of course material. Similarly, according to Lage, Platt, and Treglia (2000), case studies of a microeconomic inverted classroom from the mid-1990s report significant improvement in student perceptions of learning as well as favorable faculty perceptions of student engagement and motivation in the classroom.

### **Example C - Teacher Education**

A transactional theory of reading allows the author and reader to both have a role in the interpretation of a text, while the text remains in the center. Meaning cannot be found in the text or found in the reader. In line with Vygotsky’s (1978) constructivist notions, Rosenblatt (1978) asserts that “the reader’s creation of a poem out of a text must be an active, self-ordering, and self-corrective process” (p. 11). The text merely activates the thought process already existing in the reader. As Rosenblatt states, “The intrinsic value of a literary work of art resides in the reader’s living through the transaction with the text” (Rosenblatt, 1978, p. 132). Even subsequent readings of the same text by the same reader are likely to differ. The event of the reading should be held as the priority rather than looking for the “true text” or the “author’s intended meaning” (Rosenblatt, 1978, p. 113). Evocation of meaning depends on characteristics of the reader, the text, and the context of the reading event. According to Larry Sipe (1999), the context of the reader includes the immediate context, the classroom community, non-school contexts, diversity of cultural background, and the influence of gender and popular culture.

Written responses to reading have been accepted as evidence of the transaction between a reader and text. I.A. Richards (1929) broke ground in the research of reader response with his

study of literature students' varied responses to the reading of one poem. In his content analysis and resulting response categories, he attempted to explain why there were variances in responses. Purves and Rippere (1969) also designed a form of content of responses in accordance with developmental levels. In a study by Many and Wiseman (1992) the effect of teaching approach on third grade students' response to literature was examined. While there was no statistically significant difference between teaching approach and the students writing stance, a difference could be found across content clusters (Beach cited in Many & Wiseman, 1992). Within their aesthetic responses, students who were taught with an analytical approach were likely to focus on specifics of character development rather than describing visual events or emotional involvement. In terms of efferent responses, students taught with an analytical approach were more likely to focus on a discussion of literary elements. Responses from the literary-experience approach were more likely to include biographical connections to the text that seemed to clarify the story or response. Similarly, Wiseman and Many (1992) explored the effects of teacher approach on college students. The group that was taught with an efferent approach focused their oral discussion on literary analysis and their written responses on the perceptions of the author's intent or detached comments about the writing. In contrast, the group taught with an aesthetic approach focused on more personal connections and emotional reactions in their oral and written responses.

#### **Example D – Biblical Studies**

Logos Software has commissioned the Syriac Interlinear Project, under the direction of Gorgias Press, which holds the copyright on the SEDRA 3 text database and other critical components to be used by Logos. This project will contribute to an early phase of the larger project, yet produce stand-alone print publications also.

The first volume of the print series has already appeared and serves as a partial model for other collaborators in the series: Gillian Greenberg, Donald Walter, George A. Kiraz, and Joseph Bali. *The Book of Isaiah According to the Syriac Peshitta Version with English Translation*. Gorgias 2012.

As mentioned previously, other English print versions of the Syriac New Testament exist, some of an academic but outdated type; others of a more popular and generally biased nature: David Bauscher. *The Original Aramaic New Testament in Plain English with Psalms and Proverbs*. 6th ed. Bauscher, 2011.

John Wesley Etheridge. *The Peshitto Syriac New Testament: Translated into English* 1846.

George Lamsa. *Holy Bible from the Ancient Eastern Text*. 1933.

Janet M. Magiera. *Aramaic Peshitta New Testament Translation*. Light of the World Ministry, 2006.

Lonnie Martin. The testimony of Yeshua: Greek and Aramaic Books Rewritten in the English Language from the Aramaic, Harmonizing and Contrasting the Greek (usually mislabeled “the New Testament”). CreateSpace, 2007.

James Murdock. The Syriac New Testament Translated into English from the Peshitto Version. 1852.

Andrew Gabriel Roth. Aramaic-English New Testament. 4th ed. (Hebrew Letters). Netzari, 2011.

Paul Younan. Peshitta Aramaic/English Interlinear New Testament Holy Scriptures: The Good News of our Lord Jesus the Messiah. 2000.



#### **IV. Research Method or Creative Plan**

Design and procedures adequate to support the study's objectives and are all fully supported by the literature review. Scope of project feasible in regard to time and resource limits.

##### **Example A - Biology**

Natural communities are exceedingly complex, requiring a wide variety of expertise to describe and understand. Previous work on the 1999 TGPP oil spill has investigated soil chemistry, microbial metabolism, and bacterial, nematode, and plant species compositions (Sublette et al., 2007). Additional studies involving bacterial, nematode, and plant toxicology will likely be necessary to test hypotheses in the future. However, our research during 2012 seeks to begin by testing the following more limited hypothesis: the plant community at the 1999 TGPP spill site remains significantly different from native TGPP communities because soil hydrocarbon levels remain significantly higher than those found in native communities. In order to support this hypothesis we intend to rigorously test whether the plant species composition and soil hydrocarbon composition are indeed significantly different from those found in other communities. Of course, this first step in the research will not demonstrate the clear causal relationship claimed in the hypothesis but does provide an opportunity to reject our hypothesis if either characteristic is not found to be significantly different from those in other communities. We believe one of the strengths of this research program will be the ongoing series of tests available to target different aspects of this hypothesis in a way that will employ many research students from a variety of disciplines.

##### Experimental Design

During 2012, we will analyze soil samples from the spill site and measure plant species composition in order to compare the spill to native communities at the TGPP. Due to the large scale and undesirability of oil spills, statistical significance cannot be tested through replication of the spill conditions. Instead the best alternative for such 'case studies' is to employ replicated controls for comparison with the unreplicated experiment (Oksanen, 2001). There are two categories of controls in this project. 'Native prairie controls' will consist of nearly 40 native sites that have been previously measured for plant species composition (McGlenn et al., 2010). These 'prairie controls' are randomly chosen sites at the TFPP in which all plant species have been identified and quantified in permanent 10 x 10 meter squares (quadrats). Soil samples have also been taken from the corners of each 'prairie controls' quadrat. A second type of control consists of a small area of land adjacent to the spill site that was subjected to bioremediation treatments in order to control for the effects of bioremediation on an uncontaminated prairie. In order to compare the spill site and 'bioremediation control' to the multiple 'prairie controls', we will perform the same plant species inventories and soil sampling design used by McGlenn et al. (2010) in permanent 10 x 10 meter quadrats spaced evenly throughout the spill and 'bioremediation control' areas. Four quadrats will be established in the spill area, and two quadrats will be established in the 'bioremediation

control' area. The spill and 'bioremediation control' sites will be considered significantly different from native prairie if they exhibit characteristics that are more extreme than any of the prairie controls based on multivariate statistical procedures, including Principal Components Analysis and NPMANOVA (Anderson, 2001).

#### Data Collection

Data collection for the 2012 phase of this project includes measurement of soil hydrocarbons from all spill and control sites and measurement of plant species composition at the spill and 'bioremediation control' sites. Soil hydrocarbons will be measured by ACU undergraduate research assistants throughout the year using a gas chromatograph/mass spectrometer (GC/MS) in the ACU Chemistry Department in collaboration with Dr. Kim Pamplin. Plant species composition of the 'prairie controls' was previously determined by Dr. Michael Palmer, Botany Department, Oklahoma State University (McGlenn et al., 2010), and plant species composition at the spill and 'bioremediation control' sites will be measured by Dr. Joshua Brokaw and his ACU undergraduate research assistants in collaboration with Dr. Mike Palmer over a periods of two weeks in June 2012 (with yearly June measurements continuing for the foreseeable future).

Anderson, M. J. 2001. A new method for non-parametric multivariate analysis of variance. *Austral Ecology* 26: 32-46.

McGlenn, D. J., Earls, P. G., and Palmer, M. W. 2010. A twelve-year study on the scaling of vascular plant composition in an Oklahoma Tallgrass Prairie. *Ecology* 91: 1872.

Oksanen, L. 2001. Logic of experiments in ecology: is pseudoreplication a pseudoissue? *Oikos* 94:27-38.

Sublette, K., Jennings, E., Mehta, C., Duncan, A., Brokaw, K., Todd, T., and Thomas, G. 2007. Monitoring soil ecosystem recovery following bioremediation of a terrestrial crude oil spill with and without a fertilizer amendment. *Soil & Sediment Contamination* 16: 181- 208.

### **Example B - English**

Because I will be teaching only one section of ENGL 221, Major British Writers I, I propose a case study approach.

The case study will use qualitative data collection methods, including individual student interviews, three interim course evaluations, and a final course evaluation administered to all sophomore literature classes by the English department. Additionally students will create a portfolio that includes writing samples and reflections. Data collection will take place in the fall of 2012. Data analysis will be ongoing and recursive. We will begin analysis using open coding methods, identifying broad themes then creating categories and finally presenting conclusions and implications. In spring 2013, we will evaluate the data and write a journal article and conference presentation.

### **Example C - Teacher Education**

The comparative case study (Walcott, 1990) will use qualitative data collection methods including three semi-structured interviews of the each classroom teacher, collection of student work samples that represent reading response, and a series of classroom observations. Data collection will take place in the Fall of 2012. While site selection is yet to be finalized, we anticipate working with one first-grade and one fifth-grade class in a local elementary school. Data analysis will be ongoing and recursive. We will begin analysis using open coding methods, identifying broad themes then creating categories and finally presenting conclusions and implications.

### **Example D - Biblical Studies**

On the basis of the BFBS Syriac text and the SEDRA 3 text database, the Syriac text will be rendered into English in such a way that users will readily see the correspondence between the English translation that is offered and the Syriac text upon which it is based. Advanced grammatical and lexical tools will be used throughout, but also existing translations will be submitted to the project editor to be checked for accuracy and coherence to style standards. The Syriac and English text will be edited for facing-page presentation so that both may be studied together. This revised translation will be enhanced with annotations, giving indicate biblical citations, offering alternative translations, and clarifying the translator's choices according to the standards of the project. Introductory material will provide background information about the Syriac text, explain issues related to the significance of the text, discuss difficult passages, and explain the translation technique employed. Appendices will compare the different versification used in existing editions and take up issues related to selected textual variants.