

2013 SIS and CARS Vignettes **Table of Contents**

Brian Bailey	2
What Would Brown Say?/College Ready Documentary Film	
Andrew S. Bartlett	
Cardiovascular and Pulmonary Guide for Examination, Treatment and Prevention	3
Gregory Foran	
"King Hereafter: _Macbeth_ and Apocalypse in the Stuart Discourse of Sovereignty".	4
Yousuf George	
Rochester Math Teachers' Circle	
Zbigniew Granat	8
Scholarly Edition of Krzysztof Komeda's Musical Score for My Sweet European	
Homeland	8
Richard Hartmann	10
Novel Tin II Compounds as Catalysts for the Production of Biodiesel from Waste	
Cooking Oil	
Suzanne E. Johnston, Lisa Durant Jones, and Heather Coles	12
AphasiaScriptsTM Training with Individuals with Chronic Aphasia	12
Timothy Kneeland	
When did Snow Become a Disaster? Automobility, Suburbanization, and Federal Disa	
Policy	
Jennifer S.A. Leigh	
Partnership Pedagogy: Conceptual Review, Resource Reviews, and Book Development	
Proposal	
Josh Massicot & Jennifer Ryckaert	17
Collaborative research and creation of a piano method and supporting materials for	
students with special needs	
Shirley Sommers	
Standing Firm: Narratives of social justice educators	
Stephen Tajc	
Structural analysis of small molecule receptors for cations in aqueous solution	
Dawn Vogler-Elias and Shanna Jamanis	22
Examining an Interdisciplinary Approach to Preparing Professionals for Supporting	
Individuals with Autism	
Mary Ellen Vore and JJ Mowder-Tinney	
Patient Mobility Skills DVD: Learning Safe Techniques	24

Name(s):	
Brian Bailey	
Grant title:	
What Would Brown Say?/Co.	llege Ready Documentary Film
Type of grant: CARS	⊠sis

The purpose of my project was to...

Create a film about segregated schools by shooting footage of a group of high school students and their teacher as they attempt to inspire a community and a nation to question how we define the role of schools in preparing college-ready students and create a new, more diverse educational system in its place.

To accomplish this, I (we)...

Wrote, shot, edited, and produced a film on institutionalized racism, segrgeated schools, and college readiness by collaborating with The Rochester Participatory Educational Research Collaborative (RPERC) - a collection of East High School students, East High School teachers, Nazareth College undergraduate students, Nazareth College faculty, Nazareth College Alumni, Saint John Fisher College students and Saint John Fisher College faculty who are collaborating by conducting research in Rochester area schools using a participatory action research model.

Thus far, I (we) have...

Completed a rough cut of the film.

With the following interesting results...

The original film was going to be about segregated schools in Monroe County but then developed into a more expansive story about college readiness and how that is defined in our scoiety and our schools - much of which ignores the role of inequality in our communities.

In the future, I (we) hope to build on this project by...

Screening the film to American and International audiences - thousands of people have already viewed the film online and at screenings we have held from San Francisco to Boston to Rochester. If Nazareth College faculty and students are going to make a difference in the outcomes of Rochester City School District and other communities in which the needs are greatest, it is imperative that we engage in community-based research such as RPERC. Our film hopes to spread the results of this research.

Name(s): Andrew S. Bartlett	
Grant title: Cardiovascular and Pulmonary	Guide for Examination, Treatment and Prevention
Type of grant: CARS	⊠SIS

The purpose of my project was to...

develop a comprehensive and evidence-based guide for the examination, treatment and prevention of cardiovascular and pulmonary conditions (i.e., heart failure, chronic obstructive pulmonary disease, diabetes, Cystic Fibrosis, obesity etc.

The significance of this project was to provide an evidenced-based guide that would facilitate "best practice" in the profession of physical therapy. Secondly, the guide would assist physical therapy students to learn information in an organized and exciting manner. Lastly, the evidenced-based guide would be a resource for physical therapists and physical therapy students working in various clinics at Nazareth College and community in the treatment, examination and prevention of cardiovascular and pulmonary conditions.

To accomplish this, I (we)...

planned on developing a video library demonstrating examination and treatment techniques. We also planned on developing a lab manual, which provided specific written instruction and references.

Thus far, I (we) have...

Developed approximately 22 videos and written instructions demonstrating and explaining a variety of treatment and examination techniques.

With the following interesting results...

I have been able to use the videos and lab manual in class this fall, which has allowed students to better understand and learn the material.

In the future, I (we) hope to build on this project by...

I hope to develop an App to be used on IPADs and mobile devices. I also plan on providing more references for each of the examination and treatment procedures.

Name(s): Gregory Foran		
Grant title: "King Hereafter: _	_Macbeth_ and	d Apocalypse in the Stuart Discourse of Sovereignty"
Type of grant:	□ CARS	⊠sis

The purpose of my project was to...

expand upon my dissertation research, with a view to transform it into a scholarly monograph, or at least into a series of articles. The dissertation argued that _Macbeth_ taps into a post-Reformation Protestant desire to see the kings of the earth toppled in a millenarian coup, and explores the uses to which Shakespeare's play was put by later writers during the tumultuous seventeenth century. My initial goal was to expand in the dissertation's introduction in order to put the whole project on firmer footing with respect to Protestant millenarianism, and to write a new chapter exploring the medieval roots of _Macbeth_'s ambivalent treatment of kingship. After preliminary research into Shakespeare's debt to ancient Roman drama, it became clear that Seneca's _Hercules Furens_ was at least as relevant to my purposes as medieval drama. Accordingly, I decided to intensify my reading on this topic. Moreover, in early August, I received an offer from a scholarly journal to revise and resubmit an article version of the first chapter. The new research needed to address the reviewers' criticisms was unexpectedly vital to my understanding of the whole project, and I incoporated the revision of this chapter/article into my SIS-funded work.

To accomplish this, I (we)...

spent typically 4 work days each week during the summer intensively gathering sources, reading, annotating, and writing. I also met several times a month with my faculty "affinity group," where I discussed my research plan and shared pieces of new writing for critique.

Thus far, I (we) have...

read extensively in the primary and secondary literature of following areas: Seneca's _Hercules Furens, both in its Classical Roman context, and as it was received by the Renaissance; selected plays in four extant complete medieval English mystery cycles, with a special focus on the "Massacre of the Innocents" and "Trial of Jesus" plays; the historiography of the British Civil Wars, and in particular the roots of this conflict in the ecclesiological disputes of early 17th century England; the historiography of English republicanism, with particular attention to the "godly republicanism" of English Presbyterians during the Elizabethan period; and the development of Puritan millenarianism from the Reformation until the British Civil Wars. Working from a mass of notes taken while reading, I have written close to 20 pages of a new chapter on _Macbeth_'s Senecan and medieval heritage, and have extensively revised significant portions of a 30 page scholarly journal article on _Macbeth_.

With the following interesting results...

I had hoped to find in medieval English religious drama a close connection between scenes of Judgment Day and hostility toward monarchy. Yet it appears that the cycle plays that depict the Last Judgment are largely apolitical, focusing largely on reward and punishment of individual virtue and vice. Instead, the medieval plays dealing with Herod and with the trial of Jesus turned out to be more germane to my project. These plays depict the temporal authorities' anxiety that Jesus-as-messiah stands not only to supplant them, but also to overturn all law in Judea. In other words, the messiah is treated as a threat to the rule of law, just as Herod's tyranny is in a different register. More surprisingly, I found that this same ambivalence about law and lawlessness is at the heart of Seneca's _Hercules Furens_, a play about a tyrant slayer who becomes what he most hates. Given that both Senecan and medieval drama are acknowledged to be important creative resources for Shakespeare in _Macbeth_, it seems clear to me now that the way forward with my project is to coordinate Christ, Herod, Hercules, and Macbeth in an exploration of the tyrannical potential of messianism (and the messianic potential of tyranny). This method will help me make even stronger connections to the political situation in Interregnum England, when Puritan millenarianism reached a fever pitch in the midst of Cromwell's military dictatorship.

In the future, I (we) hope to build on this project by...

continuing to write the project's new first chapter, and to revise the others in light of that new first chapter's framework for understanding _Macbeth_'s apocalypticism. In researching the scholarly argument about how deeply rooted English republicanism was before the 1650s, I came across arguments that English Renaissance tragedy invariably depicts the murder of kings and the collapse of hierarchy as a subject of dread. But this seems to ignore the element of wish-fulfillment in these tragedies, a desire for a clean slate that is more readily apparent in the apocalyptic imaginings of the period. I thus believe I have hit upon the key link between tragedy and apocalypse, and that my project will need to explore the generic affinities between tragedy and apocalypse. In order to theorize the 17th century fascination with the order-destroying and order-constituting power of messianic violence, I plan to read more deeply into the writings of Walter Benjamin (especially his "Critique of Violence"), and his later respondents, including Hannah Arendt and Jaques Derrida.

I am now convinced that this project has "legs" as a scholarly monograph. My Summer Innovation Stipend helped to re-energize my research efforts.

Name(s): Yousuf George		
Grant title: Rochester Math	Teachers' Cir	cle
Type of grant:	□ CARS	⊠sis

The purpose of my project was to...

The purpose of this SIS stipend is to support the forming of the Rochester Math Teachers' Circle (ROCMTC).

The ROCMTC is a collaboration between research mathematicians, middle school math teachers, and school administrators. The ROCMTC provides an opportunity for teachers to engage in mathematical problem solving and deepen their understanding of mathematics.

The primary goal of the ROCMTC is to inspire middle school mathematics teachers to become passionate and confident about teaching challenging problems. Our belief is that providing teachers with rich problem solving experiences alongside mathematicians that they will become better equipped to provide these same types of experiences to their students. Students then become more capable, collaborative, and creative mathematical problem solvers.

The Rochester Math Teachers' Circle has the potential for a very significant impact in the region. While the ROCMTC focuses on math enrichment for teachers, it is hoped that this, in turn, will result in better middle school math education for students as well. After all, the program can have a profound effect on the kind of mathematics these teachers present in their classrooms, and each teacher will reach thousands of students during the course of their career.

Another important aspect of the Rochester MathTeachers' Circles is to create a network among math teachers and research mathematicians. This network becomes an invaluable resource of ideas, activities, and support with fellow professionals.

To accomplish this, I (we)...

The primary way in which the Rochester Math Teachers' Circle seeks to accomplish its goals is through problem solving workshops for middle school math teachers led by a mathematician. Rather than emphasizing math exercises, the techniques discussed during the Teachers' Circles sessions aim to create a culture of problem solving among middle school mathematics teachers.

At each of our sessions, the first part will be devoted to actively engaging in mathematical problem solving together and the latter part of our time will be addressing teachers concerns, how to implement problem solving in the classroom and connections to the Common Core State Standards.

Thus far, I (we) have...

The Rochester Math Teachers' Circle held its first Summer Immersion Workshop in August, and we have a follow-up workshop scheduled for November 21. We obtained \$2,000 in external funding for the ROCMTC from Math for America for these two workshops, and have submitted grant applicaions for our 2014-2015 activities.

With the following interesting results...

The Summer Immersion Workshop was an unqualified success. Eighteen math teachers from across Monroe County were in attendance, and spent an entire day investigating deep, open-ended mathematics problems and discussing ways in which to bring such inquiry-based learning back to their own students. We received extremely positive feedback from the participants, and look forward to continuing the professional development strted at our Summer Workshop when we meet again in November.

I have spoken about the ROCMTC at the 2013 Joint Mathematics Meetings and the 2013 Circle on the Road conference.

In the future, I (we) hope to build on this project by...

We plan to expand on the two ROCMTC workshops in 2013 with a 3-day Summer Immersion Workshop in August 2014 and 6 follow-up workshops throughout the 2014-2015 academic year. We also plan to continue to share our experiences with the wider Mathematics Education community.

Name(s): Zbigniew Grana	at	
Grant title: Scholarly Edition	n of Krzysztof	Komeda's Musical Score for My Sweet European Homeland
Type of grant:	⊠CARS	□SIS

The purpose of my project was to...

prepare a preliminary scholarly edition of a musico-literary work by Polish jazz composer Krzysztof Komeda (1931-1969), entitled My Sweet European Homeland: Poetry and Jazz from Poland.

To accomplish this, I (we)...

I have assembled a research team of five undergraduate Nazareth College students who have assisted me with various aspects of the editing process. The research team consisted of:

Mary Lawrence' 15 – major: French and German (double major)

Anna Vitale'16 – major: German

Jake Wark' 14 – major: Music Performance (Saxophone) Lindsay Bronnenkant' 14 – major: Music Education

Joshua Forget' 13 – major: BA in Music

Thus far, I (we) have...

completed a preliminary transcription of almost the entire work. Mary Lawrence and Anna Vitale have worked on the textual layer of the work. They created a compilation of the 25 poems that were used in the work and translated select poems from German into English. They have also written select biographical notes of the poets.

Jake Wark has focused on the recorded version of My Sweet European Homeland. His main task was to transcribe select parts of the recorded work and to prepared their notated versions.

Lindsay Bronnenkant and Joshua Forget have worked on the musical layer of the work. They have reconstructed almost the enire score from the composer's handwritten manuscripts and engraved much of it using the Finale music software.

With the following interesting results...

I intend to resume the work on the edition during the winter break. If the two music students/engravers are willing to devote their time to the project without additional compensation, I will attempt to contact potential publishers and apply for additional sources of funding.

In the future, I (we) hope to build on this project by...

publishing the complete edition of the work. The publication might lead to conference presentations and/or additional publications on the subject. This project might lead to the development of a

course/teaching unit based on the work that will allow the students to directly engage with primary sources (composer's manuscripts); to have hand-on experience in interpreting historical artifacts and learning editorial practices required for the presentation of these artifacts to modern audiences; and to acquire skills in the creative design of a score in which music and texts are shown to interact. If the score is published, a team-presentation of it might be organized on campus.

Name(s): Richard Hartmann	
Grant title: Novel Tin II Compounds as Catalysts for the Production of Biodiesel from Waste Cooking Oil	
Type of grant: ⊠CARS □SIS	

The purpose of my project was to...

assess the ability of tin II compounds to catalyze an esterification reaction wherby used cooking oil can be tranformed into biodiesel

To accomplish this, I (we)...

Tested a variety of tin II compounds in their ability to catlyze the transformation of oleic acid into its methyl ester. We also investigated the same reaction with acetic acid in order to abtain hard data to share with a computational collaborater in Chieti, Italy.

Thus far, I (we) have...

Mainly made progress in the design and implementation of our experiments. Due to the nature of the work that we are carrying out, we need to maintain very precise control of a number of reaction conditions and although we thought we were doing so, our results this summer led us to realize that we were not. We have implemented new protocols (devised by students in conjunction with myself) and constructed new eqipment (done by students) and are now able to run 4 reactions in sequence under identical conditions. We have also implemented new data analysis techniques (student derived) which will serve to enhance the comparability of our data.

With the following interesting results...

We have found that The Tin II Bromide is a very good species for modeling the catalyzed esterification reaction. Wheter we are using methanol or its deuterated counterpart, the results consitently indicate its ability to catalyze the formation of esters. We have also begun to determine the rate constants for this reaction.

In the future, I (we) hope to build on this project by...

Expanding our understanding of the mechanism of the reaction. This is an important aspect of the problem as it will help us understand how the catalyst works to enhance the rate of the reaction. Based on this information we hope to make systematic changes to the catalytic system in order to enhance its performance. Some of the areas yet to be investigated in this area include:

- 1. Variation of the size of the alcohol employed
- 2. Variation of the geometry of the alcohol employed
- 3. Variation of the acid employed

We are also planning to expand the analytical techniques that we use to assess the extent of the reaction. Currently we use 1HNMR... a type of MRI, but we hope to corroborate this with gas chromatoraphy coupled mass spectrometry (GCMS), colorimetry, and atomic absorption spectroscopy (AA). All of these are techniques which we introduce in our chemistry core courses, but as of yet are only minimally employed in research.

Name(s): Suzanne E. John	nston, Lisa D	urant Jones, and Heather Coles
Grant title: AphasiaScriptsT	M Training w	ith Individuals with Chronic Aphasia
Type of grant:	⊠ CARS	□SIS

The purpose of my project was to...

- 1. Investigate the effects of AphasiaScriptsTM (computer training) on functional verbal communication in individuals with chronic, non-fluent aphasia; its effects on increasing quality of life by enhancing communication within family and community communication interactions.
- 2. Evaluate the efficacy of treatment delivery of a computer-based treatment program in a college clinic setting.
- 3. Enhance the learning opportunities for students in delivery of a computer-based aphasia treatment program.

To accomplish this, I (we)...

- 1. Purchased and loaded the AphasiaScriptsTM program onto three computers in the CSD department.
- 2. Sucessfully recruited 6 subjects.
- 3. Have trained students and faculty in the utility, development and use of the AphasiaScriptsTM program.
- 4. Additionally trained faculty and students regarding use of secure remote supervision (telesupervision) programs available through IT/Nazareth college.
- 5. Developed a protocol for pre/post assessment, and program implementation and delivery, as well as data collection/tracking of client progress over the course of the treatment.

Thus far, I (we) have...

- 1. Have interviewed each subject and pre-assessed each subject's speech and language abilities.
- 2. Have personalized each subject's AphasiaScriptsTM program for their functional use.
- 3. Have worked closely with Social Work services to address subject's transportation needs as indicated.
- 4. Have trained each student, faculty, and subjects in use of computer technology and program implementation.
- 5. Have trouble-shooted potential program/implementation 'bugs'.
- 6. Have developed tracking protocols for subject's cueing and prompting needs.

With the following interesting results...

- 1. Wide variations in the subject's abilities to utilize technology efficiently and to learn the AphasiaScriptsTM program, though noteable progress in skills have been evident in all subjects.
- 2. Subjects' desire to spontaneously utilize the functional scripts they are practicing outside of actual training time.
- 3. Subject generalization of personalized scripts to spontaneous language use.
- 4. Greater appreciation of pros/cons of the AphasiaScriptsTM program with particular subject types/diagnoses.

In the future, I (we) hope to build on this project by...

- 1. Developing use of this program with a larger number of individuals who may benefit from such an approach.
- 2. Use of the program for remote service delivery (telepractice).
- 3. Further exploration of the use of conversational 'scripts' for leveraging of client's functional communication in the community.
- 4. Continue to actively train and use the AphasiaScriptsTM program in the service delivery provided by the Brain Injury Clinic.

Name(s): Timothy Kneela	and	
Grant title: When did Snow	Become a Disa	ster? Automobility, Suburbanization, and Federal Disaster Policy
Type of grant:	□ CARS	⊠sis

The purpose of my project was to...

Study policy decisions which contributed to the creation of winter "disasters" in American urban centers. Prior to 1977 although blizzards and ice storms were considered hazardous they were never officially deemed to be federal disasters, this changed in 1977 due to a blizzard that struck Buffalo, NY. Since that time dozens of winter storms have been declared federal disasters.

To accomplish this, I (we)...

Traveled to Washington DC to study the Daniel Patrick Moynohan Papers and other material at the Library of Congress

Traveled to Kansas City, Missouri to study the material at the American Public Works Association

Thus far, I (we) have...

gathered materials that indicate the growth of a "bare pavement" policy in US urban centers from the early 1960s on. Several factors were important for this. One was the development of technologies that led cities to abandon sanding streets and instead adding salt to their snow and ice control. Another factor was the abandonment of public transporation lines that depended on tracks which could more easily be cleared with bus lines which depended on roads. The growth of the suburbs was another factor that led to more automobiles on more roads which strained the ability of county and muncipal governments maintain during severe winter weather. Altogether these turned what was once an inconvenience into a tragedy as snow clogged streets paralyzed travel, made the movement of people and goods impossible and led to hardship and economic loss for those living in areas caught in blizzards

With the following interesting results...

In keeping with research on natural disasters it is evident that in this circumstance the environmental or "natural" aspects are perhaps less important in creating a disaster than public policies which create a crisis.

In the future, I (we) hope to build on this project by...

Preparing a conference paper, perhaps publishing an article and writing a full length book on this topic. In addition, I will be working with students in Natural Disasters (PSC/HIS 413) to use this material and apply it to the study of winter hazards in the Western New York region.

Name(s)	:	
Jennifer	S.A.	Leigh

Grant title:

Partnership Pedagogy: Conceptual Review, Resource Reviews, and Book Development Proposal

Type of grant: \square CARS \boxtimes SIS

The purpose of my project was to...

The overarching goal for my SIS research project S'13 is to review the conceptual foundations of partnership research as it relates to teaching practice. This literature review will lead to several specific outcomes: a review of existing teaching and learning literature that relates or informs partnership pedagogy, a draft conceptual model that integrates partnership pedagogy literatures such as corporate social responsibility, inter-organizational learning, and leadership frameworks, identification of thought leaders in this emerging domain for networking and collaboration purposes, and a professional development workshop.

To accomplish this, I (we)...

Consulted cross-sector partnership scholars that are part of the Annual Review of Social Partnerships and discussed their view of the teaching and learning dimension and approaches to a systematic literature review.

Thus far, I (we) have...

Identified the various disciplines where cross-sector partnership pedagogy resources are present, created a coding scheme for reviewing various pedagogical materials for the systematic review, identified numerous thought leaders in academic and practice, and written an article on cross-sector partnership resources with an emphasis on case resources.

With the following interesting results...

The first key finding at this point is that the most developed pedagogy materials for cross-sector partnerships in the management disciplines are traditional case studies. There are several smaller case publishing house that focus predominately on responsibility management topics like cross-sector partnerships, however the larger case publishers are also active in this area as well. The second key finding is that the public administration education literature has more coverage of this topic and it is more deeply embedded in curricular objectives as a discipline.

In the future, I (we) hope to build on this project by...

Presenting my findings at the Cross-Sector Social Interactions Conference (Boston 2014) and the Academy of Management and organizing a professional development session at the Academy of Management (Philadephia 2014). Additionally, Dr. May Seitiandi, the editor of the open source journal where I am a section editor on cross-sector social partnerships(ARSP), has been approached

by some publishers regarding the journal's interest in publishing a book in this area. We are currently reviewing the strengths and opportunities with the various outlets. Lastly, due to the vast nature of the case resources and numerous outlets it has become apparent that there's opportunity to conduct an analysis exclusively on these materials alone.

Name(s): Josh Massicot & Jennifer Ryckaert
Grant title: Collaborative research and creation of a piano method and supporting materials for students with special needs
Type of grant: □CARS ⊠SIS
The purpose of my project was to

While the National Center for Education Statistics has recorded a steady annual increase in students with documented special needs, there are currently no teaching materials that address this unique pedagogical demand. In spite of this obstacle, increasing numbers of piano teachers are taking on the challenge of working with these individuals. Our project goals are two-fold: to design a method that can be utilized by a variety of learners, and to create materials that support teachers.

To accomplish this, I (we)...

Jen and I met throughout the summer to design a curriculum for a method book. Quite early in this process we realized that having a supporting activity book would be integral to the process. We have used the SIS grant to recruit and hire a graphic designer and illustrator - a recent Nazareth graduate to turn our designs and ideas into professional work that can be utilized by students and teachers.

Thus far, I (we) have...

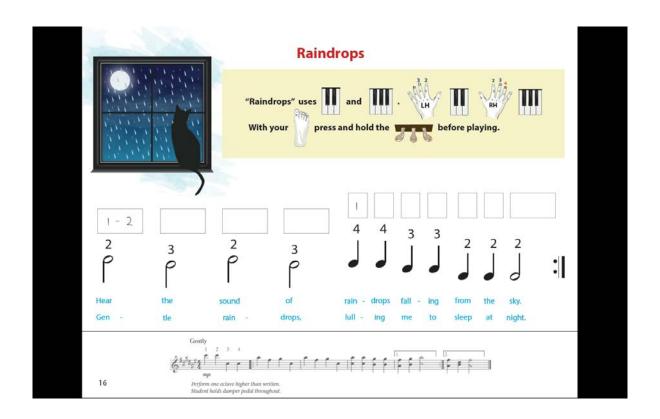
In conjunction with our illustrator, we have completed twenty pages of the method book, which includes original teaching pieces, accompanying duets, lyrics, and student prompts. In addition to this work, we have collaborated to design fifteen pages of the activity book and organized the first three chapters of the accompanying teachers' manual.

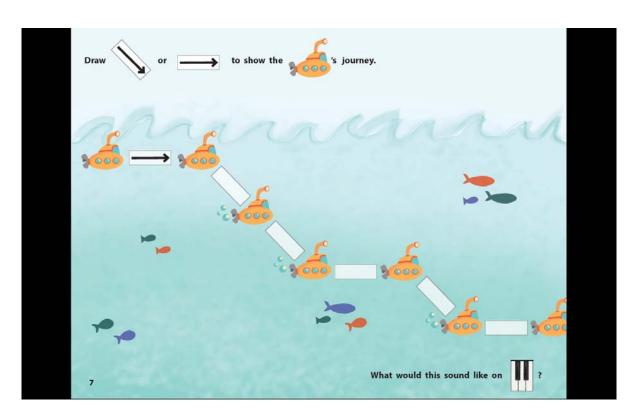
With the following interesting results...

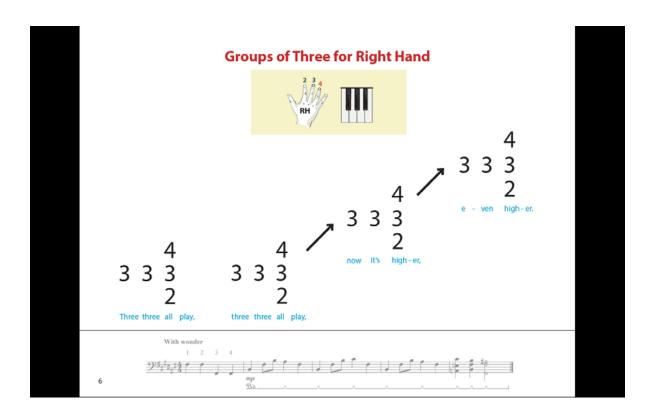
The materials we have designed are unparalleled in their utilization of experiential learning and implementation of current practices in music education. Through the process of designing and creating teaching materials for students with special needs, we have learned (through early testing) that we are also creating materials that fit the learning needs of typically developing children. This knowledge radically expands our potential audience, and also influences how we have proceeded with our work.

In the future, I (we) hope to build on this project by...

We have completed approximately one third of our teaching materials. With current remaining and anticipated future funds, we want to focus on completing, printing, and testing these materials. After receiving and analying teacher and therapist feedback, we will be actively seeking publication.







Name(s): Shirley Sommers
Grant title: Standing Firm: Narratives of social justice educators
Type of grant: □CARS ⊠SIS
The purpose of my project was to write and complete a book on narratives of social justice educators.
To accomplish this, I (we) collected all relevant data and started writing the book.
Thus far, I (we) have Completed six chapters
With the following interesting results The first three chapters have been submitted to the publisher for pre-publication marketing purposes.
In the future, I (we) hope to build on this project by presenting and marketing the book at national and international conferences.

Name(s): Stephen Tajc
Grant title:
Structural analysis of small molecule receptors for cations in aqueous solution
Type of grant:

The purpose of my project was to...

Hydraulic fracturing technology is an effective method for accessing previously unattainable natural gas resources in shale rock formations, but is not without environmental concerns. With a tremendous supply of water required for drilling, in combination with contaminated flowback wastewater with excessive dissolved metals, there has become an essential and urgent need for new methods of wastewater treatment. This proposed research explores the ability of pyridine-2,6-dicarboxylic acid (dipicolinic acid or DPA) as a diverse cation (metal) binding small molecule receptor with the unique potential to biodegrade.

To accomplish this, I (we)...

We used chemical synthesis tecniques to characterize the structure activity relationships of DPA and DPA derivatives to specific metal cations that are commonly found in hydraulic fracturing contaminated flowback wastewater. In addition we analyzed the binding of DPA-cation interactions via spectroscopic methods here at Nazareth.

Thus far, I (we) have...

We have successfully synthesized 15 DPA derivatives and have observed the binding of DPA to 7 different heavy metals in aqueous solution. I did not anticipate the tremendous amount of successful work my students would accomplish this summer.

With the following interesting results...

DPA does not seem to be selective for a particular metal. In nature, spore forming gram-positive bacteria utilize DPA as a survival technique by binding the DPA specifically to calcium. We were surprised to see that DPA bound stronger to magnesium than it did calcium. This implies that we could synthetically modify the chemical structure of DPA to be more specific to other metals.

In the future, I (we) hope to build on this project by...

Anaerobic bacteria have demonstrated the ability to degrade DPA as a source of nutrient. As spore forming bacteria release DPA when environmental conditions become favorable, the existence of a symbiotic relationship with DPA degrading bacteria is not unexpected. A continuation of this proposed research will involve students evaluating DPA derivatives as a source of nutrients for varieties of bacteria. This multidisciplinary aspect would provide and excellent opportunity for our students to gain knowledge of biology, microbiology, and environmental science.

Name(s): Dawn Vogler-Elias and Shanna Jamanis		
Grant title: Examining an Interdisciplinary Approach to Preparing Professionals for Supporting Individuals with Autism		
Type of grant: □CARS ⊠SIS		

The purpose of my project was to...

To further analyze data that was collected Fall 2012 regarding preservice preparation in the area of autism and prepare two manuscripts for publication. In addition, we planned to use the information from our analysis to propose a potential interdisciplinary graduate program in autism at Nazareth College that would integrate graduate students from various disciplines, including education, speechlanguage pathology, occupational therapy, physical therapy, music therapy, nursing, creative arts therapy, and social work.

To accomplish this, I (we)...

We requested additional funding to support our work throughout the summer to accomplish these goals. We also met with a number of faculty and senior staff to discuss implementation of the Interdisciplinary Specialty Program in Autism at Nazareth.

Thus far, I (we) have...

Conducted an additional literature review and developed outlines for two manuscripts and a grant proposal. We have also analyzed the survey data and created tables to summarize the analysis. We submitted a proposal that was accepted for a 2-hour presentation of our qualitative and quantative data at the New York State Speech-Language and Hearing Association (NYSSLHA) Convention in April 2014.

With the following interesting results...

We used the results of the survey (of both professionals and families) to develop I-SPAN (Interdisciplinary Specialty Program in Autism at Nazareth). I-SPAN is being piloted this fall with 18 participants in the first course, Exploring Autism from Multiple Perspectives (SMD/CSD 661). Participants in I-SPAN include graduate students in Inclusive Childhood Education, Early Childhood Education, and Communication and Sciences Disorders; and professionals in Music Education, Creative Arts Therapy, Occupational Therapy, Transition Services, and Special Education.

In the future, I (we) hope to build on this project by...

To continue to support the I-SPAN program, we have researched a variety of grants and are prepared to apply for a Department of Education Personnel Preparation grant (to be announced in January/February 2014). Although we have substantial participation for a pilot project, we hope to

secure funding to support graduate students in this program. We will also continue to refine and submit the two manuscripts for publication in relevant peer-reviewed journals.		

Name(s):		
Mary Ellen Vore and JJ Mowder-Tinney		
Grant title: Patient Mobility Skills DVD	D: Learning Safe Techniques	
Type of grant:	⊠sis	

The purpose of my project was to...

The goal of this project was to develop a DVD that included clinical hands-on foundational skills that are learned in the first professional year of the PT program. These foundational skills included patient transfers, mobility and gait patterns. The DVD allows students opportunities to review this information throughout the program and assure their skill and safety level.

To accomplish this, I (we)...

Based on current PT curricula, we prioritized the types of transfers, mobility and ambulation skills required for entry-level PT students. We developed scripts that included safety measures, patient instruction and PT interactions. Procedural instructions were given to 3rd year PT students to perform and video tape the skills with grantees supervision and feedback. The grantees reviewed the videos, edited and provided voice over instruction.

Thus far, I (we) have...

To date we have 13 video clips that are sequentially ordered from the least amount of assistance required by a patient to the greatest amount of assist. These videos were burned to a DVD as well as placed on the Moodle PT clinic metacourse for student access.

With the following interesting results...

At this time we have not had the opportunity to integrate the use of this DVD since it was designed for a summer course.

In the future, I (we) hope to build on this project by...

A trial of these videos will be integrated into PTR 524 for both summer session A and B. This will allow for the reassessment of the current textbook for this content. This DVD may be marketed to other PT programs for their students.