2013 Innovative, Development, Exploratory Awards (IDEAs)

Name: Sarah Beck  
Department: Teaching and Learning  

Project Title: Teacher Thinking in the Assessment of Writing: A Pilot Study  

Abstract: The goal of this project is to pilot a methodology for documenting and analyzing the formative assessment practices of experienced teachers of writing at the secondary level (middle and high school), with a particular focus on how teachers use information gleaned from their assessment of students' writing, and of students as writers, to plan their instruction. The larger project that this pilot study will support stands to make an important contribution to the literatures on writing assessment and on formative assessment. Existing literature on writing assessment and instruction lacks theoretically informed accounts of how teachers use assessment information to plan instruction, including what sources of information teachers draw upon (standardized tests, formal classroom assessments, informal observations) and how they integrate these sources of information within a framework of knowledge about writing, knowledge about teaching strategies, and knowledge about students. Given current attention to the need for better literacy instruction for adolescent English Language Learners (ELLs), it is also important to explore whether and to what extent teachers teaching writing in the context of English as a Second Language (ESL) instruction use different kinds of knowledge about writing and about students to plan for instruction than teachers of writing in an English Language Arts (ELA) class. Study participants will be recruited through reputational case selection, in a nomination process that will rely on (1) a professional network of writing teachers, and (2) field-based contacts obtained through the field placement office in NYU's Department of Teaching and Learning. Participants will be recruited from among both ESL and ELA teachers. Data to be collected from participants will include: interviews with teachers, observations of teachers' instructional practice, and analysis of teacher comments on student writing. A major goal of the data collection and analysis will be to explore how these different sources of data can be analyzed together to convey a coherent account of teacher reasoning in the practice of formative writing assessment. It is anticipated that findings from this pilot study will lead to a larger program of research, involving multiple case studies of teachers, and that this larger program of research will: (a) improve our understanding of how formative assessment can support students' development as writers; (b) illuminate ways in which teachers are lacking important information about students, information that could be provided by new assessment methods and technologies; and (c) provide models of teacher decision-making and principled use of assessment data to inform the teaching of writing that can be a resource for teacher educators in literacy and the English Language Arts. Also expected is that the research will support the PI's ongoing research program related to the assessment of writing by highlighting opportunities for developing new approaches to, and tools for, writing assessment that could be of use to teachers.

Name: Sean Corcoran  
Department: Communicative Sciences and Disorders
**Project Title:** Pathways to an Elite Education: Application, Admission, and Matriculation to New York City's Specialized High Schools

**Abstract:** In this project, we will conduct an empirical analysis of the pipeline from middle schools to enrollment in a NYC specialized high school, identifying factors associated with application, admission, and matriculation to an elite high school. While we do not observe students’ SHSAT scores, we have access to detailed information on all applicants, including their middle school performance on state tests of English language arts (ELA) and mathematics in 7th and 8th grade. We will describe the distribution of achievement for applicants and admitted students, and the power of these tests in predicting application and admission. Using a sequential logistic model, we will identify factors associated with progression through this pipeline, holding constant ELA and math performance, including gender, race, immigrant status, and residential location. Among other things, these results will identify populations that are high-achieving, but potentially under-represented in the elite high schools. In the second part of our analysis we will examine the role middle schools play in this pipeline. We will estimate the extent to which there are middle school effects on application and admission—that is, school average differences in the likelihood of these events conditional on achievement and other student characteristics. We will then use these middle school effects to explore how they are related to school characteristics—their size, teaching staff, student body composition, ability distribution, and so on. This analysis aims to identify contextual factors associated with higher or lower rates of specialized school application and admission, for students with similar levels of state test performance. This part of the study will aid in identifying school resources or other contextual factors associated with progression to an elite high school.

**Name:** Tara McAllister Byun & Adam Buchwald
**Department:** Communicative Sciences and Disorders

**Project Title:** Covert Contrast in Child Phonology: Ultrasound Imaging Investigation of Velar Fronting

**Abstract:** Speech sound errors in word production are a hallmark of both normal and impaired language development. In one common type of error, children neutralize the contrast between two sounds that are typically distinct in adult productions. For example, a child with the phonological process of velar fronting may neutralize /k/ and /t/ sounds so that words such as "tea" and "key" sound the same ([ti]). While traditional accounts of language development treat these errors as an indication that two categories have been merged at a cognitive-linguistic level, instrumental measures can sometimes reveal subtle differences between two sounds that adult listeners perceive to have been neutralized. In such cases, we say that the child is maintaining a covert contrast between the two sounds. The presence of covert contrast suggests that the child’s error may have arisen at a more peripheral level, with implications for the planning of treatment to remediate such errors. Covert contrast has attracted considerable attention in the clinical literature in recent years as new technologies reveal that the phenomenon is more widespread than previously realized. The objective of this proposal is to test a theory driven hypothesis about the nature of covert contrast in child speech using ultrasound imaging of the tongue. Ultrasound has the potential to expand our understanding of covert contrast because it can directly reveal
whether a child is using distinct patterns of tongue movement to produce sounds that the adult listener perceives as neutralized. The proposed project is innovative because it represents the first ultrasound study of covert contrast in the common child process of velar fronting. Our working hypothesis is that ultrasound imaging will reveal covert contrast in the child speech process of velar fronting. That is, the shape and position of the tongue for a target /t/ sound (as in [ti] for "tea") is predicted to be measurably different from its shape and position in a fronted /k/ sound (as in [ti] for "key"). Our rationale is that this study will fill a gap in the knowledge base on covert contrast in child speech while laying the framework for a broader program of study that will apply insights from the study of covert contrast to determine best practices for the treatment of pediatric speech sound disorders. Thus, the contribution of this study will be significant because the results will have direct implications for clinical management of a common sound production error. This project will also lay preliminary foundations for a broader program of research investigating the efficacy of ultrasound imaging as a biofeedback mechanism for clients during intervention for speech sound errors.

Name: Mary Platek  
Department: Nutrition, Food Studies & Public Health  

Project Title: Natural History of the Course of Nutritional Status among Oral Cancer Patients Undergoing Treatment at NYU Cancer Institute  

Abstract: Oral cancer patients often present with malnutrition or cachexia, a multifactorial syndrome characterized by loss of lean body mass with or without the loss of body fat (1). Patients with oral cancer, a subset of head and neck cancer, frequently suffer further nutritional deterioration due to treatment effects (2, 3). Poor nutritional status is associated with adverse clinical outcomes (4–6), yet validated nutrition screening and assessment and use of evidence based nutrition protocols are not part of universal standard of care. The main goal of this project is to understand and accurately describe the natural history of the nutritional status course of oral cancer patients as they undergo treatment at the New York University Cancer Institute (NYUCI). Patients will be screened for their risk of malnutrition and the adequacy of their nutritional status, a reflection of how well their physiologic nutritional needs are being met, using a validated nutrition tool before and after treatment. Additionally, other nutrition related indicators of status, recently suggested by two consensus papers, will be collected. The nutritional care experience of each patient will be tracked and treatment outcomes will be examined. The results of this pilot project will make a significant contribution to the clinical nutrition and oncology literature and will inform new projects that test clinical nutrition interventions for oncology patients who are at high risk for poor nutritional status. NYU and the NYUCI could be a leader in the nutritional care of oncology patients and a role model for evidence-based clinical nutrition interventions in the U.S. and globally. Furthermore, nutrition intervention is a cost effective treatment strategy that could have a potentially large impact on the quality of life of oral cancer patients (4, 7).

The project will provide the necessary support for this new investigator to acquire adequate pilot data that will inform larger NIH-funded projects aimed at developing interventions to improve clinical care services provided to oral cancer patients undergoing treatment. The work that is initiated for oral cavity cancer patients will then extend to other cancer types with a high prevalence of malnutrition/cachexia (i.e., other types of head and neck,
gastrointestinal, lung and advanced cancer patients). There are no other clinical nutrition intervention projects being conducted at NYU and oncologists are seeking ways to improve the quality of care that they provide to patients.

**Name:** Jerry Voelbel  
**Department:** Occupational Therapy

**Project Title:** Cognitive Remediation for Individuals with Chemotherapy Induced Cognitive Impairment

**Abstract:** Chemotherapy is standard of care for many types of breast cancers; however, the sequel of cognitive impairment is a significant and debilitating side effect with many forms of chemotherapy. Prevalence of chemotherapy induced cognitive deficits ranges between from 16% to 75%, with patients experiencing moderate to severe cognitive impairment. The main goal of this project is to examine if cognitive deficits caused by chemotherapy can be remediated with a well-established, effective standard cognitive remediation program. Neuropsychological studies have recently identified some of the objective cognitive deficits in individuals that have undergone chemotherapy. Despite this, no study has attempted to remediate these deficits and improve the lives of these individuals. This pilot study will be the first to demonstrate improvement of chemotherapy induced cognitive deficits in cancer survivors with a computerized highly repetitive cognitive remediation program designed to improve auditory processing, verbal working memory, verbal attention and verbal memory. This study will be performed in collaboration with colleagues at NYU Cancer Institute and the Clinical Cancer Center where patients are treated for breast cancer. The Breast Cancer Research Review Committee at the NYU Clinical Cancer Center has reviewed and approved the proposed study. This study will put NYU Clinical Cancer Center and the study investigators at the forefront of quality of life clinical research of breast cancer survivorship. Since the remediation of chemotherapy induced cognitive deficits has not been examined previously, funding for this proposal will provide evidence of the feasibility of remediating cognitive deficits within this specific population.