Teacher Education Quarterly

A publication of the California Council on Teacher Education

Townsend, D. R. & Lapp. D. (2010). Academic language, discourse communities, and technology: Building students' linguistic resources *Teacher Education Quarterly, Special Online Edition*. Retrieved from http://teqjournal.org/townsend_lapp.html

Academic Language, Discourse Communities, and Technology:

Building Students' Linguistic Resources

By Dianna R. Townsend & Diane Lapp

Abstract

Because content area teachers find themselves teaching content and language, the objectives of this article are to showcase new understandings of linguistic resources for teachers and students and to address the importance of valuing different discourse communities while supporting students in developing academic English proficiency. Drawing on applied linguistics and sociolinguistics research, this paper follows two teachers and their students in building academic English proficiency and code-switching skills. In addition, suggestions for integrating technological resources as tools to support students' understanding of academic English and code-switching between different registers of English are shared.

Academic Language, Discourse Communities, and Technology:

Building Students' Linguistic Resources

By Dianna R. Townsend & Diane Lapp

Academic language instruction has to be woven into students' activities all day long. You have to have conversations with students, using it all the time; they have to be small mini-conversations over a really long period of time. The only way that's going to happen is if teachers know how to do it. ---Rayna Clark, middle school math teacher

The discourse of academic settings, just like the discourses of other contexts, is made up of specific linguistic features. Academic English, in particular, is dense and abstract, and this likely has explanatory power for the discouraging statistics about middle school students. Data from the National Assessment of Educational Progress (NAEP) indicate that 74% of eighth graders performed below proficient in reading in 2007 (IES, 2007). This trend may be related to the notion that secondary teachers often see themselves as content-area experts, not necessarily language teachers. Many who have become dedicated teachers, "began with a special interest and talent in a certain area, increased and refined their abilities through additional study, and at some point decided they wanted to convey this knowledge and interest to others," (Shearer & Ruddell, 2007, p.114). Yet, these content-area experts find themselves teaching both content *and* language.

Academic English is challenging for many students, especially those who have had little exposure before coming to school, but this broad acknowledgement of the difficulties of acquiring academic English does not give teachers much help with how to support students' growth in academic English at school. A large part of addressing the challenge of so many struggling readers in secondary school may involve looking more closely at the language of

secondary school, how it differs from other registers of English, and how teachers can help students "crack the code" of academic language and effectively code-switch in different contexts. Identifying the specific features of academic English can also help teachers appreciate the linguistic resources that students bring to the classroom from other discourse communities and better understand how to use these to support additive language growth.

Observing Teachers Supporting an Additive Model of Language Development

The objectives of this article are to showcase new understandings of linguistic resources for teachers and students and to address the importance of valuing different discourse communities while supporting students in developing academic English proficiency. We meet these objectives in two ways. First, we examine one math teacher's growth in understanding the challenges of academic English in her content area. Next, we present two students' growth in their ability to code-switch (Myers-Scotton & Ury, 1977) between academic English and social/conversational English. Each of these two scenarios comes from preliminary findings on studies which we are currently conducting. We identified components of these studies that would allow us to demonstrate the potential of technology to build linguistic resources. Thus, the final section of this article presents technological resources as powerful tools to facilitate code-switching and building academic English proficiency. Throughout the article, readers will see that we bring together two bodies of literature, applied linguistics scholarship on academic English and sociolinguistic literature on discourse communities (Gee, 1996). In our work, we have found these two bodies of literature to be complementary; both position academic English as just one register of English, which is neither more or less linguistically complex, among many registers. However, the applied linguistics scholarship allows for a close look at what makes academic English *academic*, while the sociolinguistic literature encourages a recognition of students' other discourses in the classroom, thereby making classrooms safe and relevant places for students to build additional linguistic resources.

New Understandings of Academic English

To examine new understandings of academic English, we will follow Rayna Clark's[1] participation in a study designed to meet two goals, (1) to learn what middle school teachers know about academic English, and (2) to determine if a professional development program

[1] *With the exception of Diane, Doumas, and Sarah, all teacher, school, and student names are pseudonyms.*

enhanced their sensitivity to the academic language demands of their content areas. The study in which Rayna was involved included a pilot implementation of an in-service course entitled, *Supporting Middle School Students with Academic English Demands in the Content Areas*. The first goal of the course was to heighten teachers' sensitivity to the components of academic English. The second goal was to model for them how to integrate scaffolds into their existing instruction which would support students with limited academic English proficiency in gaining both language *and* content proficiency. The five session course included these topics.

1) Academic English in the Content Areas: What makes academic English "academic", and what does it look like in my content area?

2) Academic Vocabulary Words: What strategies can be used to support both learning and teaching the words that belong to EVERY content area but are seldom taught?

3) Grammatical Features of Academic English (Oh no! Not grammar!): What strategies help students unpack complex phrases and sentences and subsequently improve comprehension?

4) Academic Features of Teacher Talk: How can we recognize our own speech patterns which help (and sometimes hinder) student comprehension?

5) Putting Pencil to Paper: What can we do to help students gain ownership of the subtleties of academic writing in every content area?

Rayna, a math teacher, had been teaching for four years at Evergreen Middle School, a Title 1 school. She was one of nine participating teachers in the study. Transcripts (from pre- and post-interviews and observations) and artifacts (from reflections throughout the in-service course) from all nine teachers are undergoing analysis, but Rayna's experience is presented here because it highlights her increasing sensitivity to academic English. Her interview and observation transcripts, and her reflections during the in-service course, were catalogued and analyzed for themes in her understanding of academic English. Findings showed that her growth is parallel to that represented in the literature on academic English, which has transitioned from broad dichotomies of simple versus complex language to a more nuanced understanding of academic language. Following is an overview of that transition and Rayna's parallel growth during the in-service course.

The Equal but Complex Variations of Language

Previous work on academic English focused on such seminal constructs as Basic Interpersonal Conversational Skills and Cognitive Academic Language Proficiency (BICS/CALP) (Cummins, 1981). The BICS/CALP framework helped researchers, and educators like Rayna, attend to different varieties of English because it highlighted the need to attend to content *plus* the challenging academic language in which content is embedded. Rayna's early impressions of academic English matched the BICS/CALP dichotomy of simple versus complex language. When asked about the differences between English in school and English outside of school during her pre-interview, Rayna responded "…the English that's spoken outside is very casual and tends to orient around social issues." When prompted to elaborate on what makes academic English difficult, Rayna responded, "…the vocabulary. They're not familiar with all the academic vocabulary. And also technical reading is incredibly hard." In these examples, Rayna's ideas echo the BICS/CALP model by suggesting that academic English is more complex than social/conversational English. However, despite Cummins' intentions of supporting English learners' readiness for mainstream classrooms (Cummins, 2001), the BICS/CALP model received criticism for privileging CALP over BICS (Aukerman, 2007). In other words, positioning CALP as a more complex register lends it a certain sophistication not afforded to BICS. The resulting impression of students who do not have mastery over CALP is that they are somehow linguistically deficient when, in actuality, their linguistic resources in other languages or other registers of English may be quite sophisticated.

Thus, examinations of academic English have moved from this conceptualization of simple versus complex language to models that do not offer such dichotomies. As Bailey and her colleagues explain: "The mental effort and cognitive ability necessary to contrive plausible excuses, negotiate and persuade, deceive and win over others in everyday life (BICS) is not any less than that required to comprehend a paragraph on the U. S. Civil War in a 5th grade social studies textbook (CALP)" (Bailey, Huang, Farnsworth, & Butler, 2007, p. 6). This recognition that all varieties of English can be equally complex can help teachers value the linguistic resources students bring to the classroom from other discourse communities as well as be more explicit when supporting students with the nuances of academic language. In fact, researchers often point out that understanding the linguistic features of academic English can empower students to use the language of power to challenge the status quo of entrenched inequities in the K-12 system (Fang, Schleppegrell, & Cox, 2006).

What Makes Academic English *Academic*?

Using an applied linguistics perspective that encompasses functional grammar, Scarcella (2003) defines academic English using the term *register*: "Academic English is a variety or a register of English used in professional books and characterized by specific linguistic features associated with academic disciplines. The term 'register' refers to a constellation of linguistic features that are used in particular situational contexts" (p. 19). Many education researchers have been motivated to better understand exactly what those linguistic features are and why they can be problematic for students who do not have much exposure to them (Achugar & Schleppegrell, 2005; Fang et al., 2006; Schleppegrell, 2007; Schleppegrell & de Oliveira, 2006; Spycher, 2007; Zwiers, 2007, 2008). Many of these researchers use a functional grammar framework. As explained by Halliday and Matthiessen (2004), functional grammar examines the functions of the different linguistic features that make up a register. Central to this approach is the acknowledgement that a register and the context in which it is used mutually realize each other. In other words, academic settings reinforce the academic English, and vice versa. The take-away point for teachers here is that the linguistic features of academic English serve important functions; by helping teachers and students understand those features and functions, academic English can be a tool for, rather than a hindrance in, accessing content and communicating abstract ideas.

Characteristics of Academic English

Two characteristics of academic English are density and abstraction. Despite students' (and sometimes our own!) frustrations when they cannot understand academic English, the purpose of density and abstraction is not to obfuscate ideas. Rather, the purpose is to allow a writer or speaker to express complex ideas as concisely as possible. As an example of this density and abstraction in academic English consider the following sentence from an article on scientists' efforts in studying the brain cells of elephants in order to find links to human's social interactions: "Allman was searching for a peculiar kind of brain cell that he suspects is a key to how the African elephant—like a human being—manages to stay attuned to the ever-shifting nuances of social interplay" (Chen, 2009, para.3). Note the amount of information conveyed in the first half of the sentence; to comprehend the sentence, a reader has to understand the term *searching* in the context of scientific examination, the notion that brains have cells that are linked

to specific functions, and the suggestion that African elephants and humans have something in common. The reader then has to hold this information in his mind while unpacking the rest of the sentence, which includes abstract words such as *manages, attuned, nuances*, and *interplay*. Using the register of academic English, the author of this piece was able to communicate abstract ideas concisely. However, a reader whose areas of linguistic expertise do not include academic English will likely not make all the inferences necessary to comprehend the passage. Teachers who understand that students' discourse communities may not have prepared them for academic discourse can help students break down academic texts and build experience that will help them add academic English to their repertoire of discourses.

Rayna Develops her Understanding of Academic English

These new understandings of what makes academic English *academic* can help teachers provide explicit instruction of the academic language demands of the content areas. As Schleppegrell (2004) explains, "Teachers need greater knowledge about the linguistic basis of what they are teaching and tools for helping students achieve greater facility with the ways language is used in creating the kinds of texts that construe specialized knowledge at school" (p. 3). Schleppegrell's assertion motivated, in part, the study in which Rayna was a participant. And, in the study, Rayna's development mirrored that of the development of research on academic English. In her pre-interview, as noted in her earlier quotes, her conceptualization of academic language involved a dichotomy of more casual language and more technical language. However, similar to the progression of the literature on academic English, Rayna's understanding of academic English developed. During the in-service course, Rayna's reflections suggested her increased sensitivity to the challenges of language in math. For example, in response to a question about linguistic blind spots, a concept adapted from Nathan and Petrosino's (2003) content area "blind spots", she wrote:

> "I think I have numerous blind spots when I teach. The saving grace is that I have a few confident students who will stop me and admit that they do not understand. For example, I did have a student ask the other day, 'What is isolate the variable?" and I replied, 'Make the x a loner. Do we have the x alone yet?"

This excerpt suggests that Rayna had begun to acknowledge that the language of math, which to her was straightforward and transparent, may have been blocking her students' access to the content of her lessons. Anecdotally, Rayna's kind, yet focused and organized, instructional

approach likely allowed for those "few confident students" to feel comfortable asking questions. In other reflections, Rayna expressed similar gratitude to her students for teaching her what was difficult about math language. In other words, their questions made her more aware of the linguistic challenges of math, in particular the technical vocabulary of the discipline. Schleppegrell (2007) explains that the technical vocabulary of math includes terms unique to math, "including words such as sum or fraction, but also words that are not solely mathematical but have particular meanings in mathematics, such as place, borrow, and product" (p. 142).

Furthermore, it was no surprise to Rayna that some of her eighth grade students would have trouble with this terminology, even after nearly seven months of practicing "isolating the variable." In her pre-interview, Rayna addressed some of the issues that her students, who were primarily economically-disadvantaged and Latina/o, faced. For example, she relayed a story about violent gang initiations undergone by boys and girls in her classes, and she explained "…sometimes when you're… talking about an isolated variable and you just have in the back of your mind this whole real world, the reality for them going, okay, what is the isolated variable really going to matter for that kid." Rayna clearly felt discouraged at times like these when she wondered how she could help students connect to her discipline when they had such serious day-to-day obstacles to face. However, one advantage of math language is that many of the technical terms used to describe math processes, like *isolate*, can resonate with students in other contexts. Rayna could capitalize on students' understanding of what it means to feel isolated and alone to help them connect to the math process.

Despite the challenges for students and their teachers in urban environments, Rayna saw the instructional power, and challenges, of academic language, both before the in-service course and in a more nuanced way after the course. Rayna's sensitivity to the nuances and challenges of academic English, as evidenced by the following quote, did progress in response to the in-service course. When asked in her post-interview about the differences between academic English and other registers, Rayna replied:

> It's usually read in school, it's usually spoken by the teacher in school, and it's usually expected of the student to regurgitate the same language in school. And it's not something that they're going to practice among their friends or their family. The academic vocabulary…tends to be the words in the dictionary that when you go to look up would have 12 different definitions. Like area. Math and

> area, multiple length times width. History and area, President Obama's area of expertise is U.S. constitutional law. Area? But that's not a rectangle or length times width.

Like many teachers, she wondered how to help her students understand the concepts carried by these terms. Invited to reflect on how her new understanding of academic English and academic vocabulary translated to practice, she showed growth in her ideas on how to support her students. When asked in her pre-interview about vocabulary strategies, she explained research-based strategies (Blachowicz & Fisher, 2000) that she incorporates, such as word walls, oral and written active practice, and multiple exposures to math terms and their synonyms. However, in her post-interview, she revealed a heightened sensitivity to academic word knowledge and the implications of that knowledge for her students:

> …we have conversations about what [academic] words look like in math and then their homework is to come up with some English definitions for what those words would mean, in their own words.…I actually have discussions about academic words and how there are words in school that you're not going to use at home.

Rayna explained that her students agreed that there are many difficult words, such as *function*, that they did not know, and she encouraged them to speak up to their teachers when they did not know words that teachers assumed they knew. While Rayna's encouragement may have empowered some of her students to advocate for themselves, Rayna's comments also highlight the need for teachers to attend to the language of their disciplines and draw out students' prior knowledge, perhaps with anticipation guides, of the terms that are central to comprehension in a text or learning activity. After developing sensitivity to the nuances and complexities of academic English in math and across content areas, Rayna proceeded to encourage her students to build their own metalinguistic awareness and to advocate for themselves when they recognized other teachers' blind spots. It is this strand of research which can offer teachers and students specific tools for working with different registers of English. As Achugar, Schleppegrell, and Oteiza (2007) explain, "Learning about language by developing a meaning-

based metalanguage allows language users to be reflective about the meaning and power of the linguistic choices that others and they themselves make" (p. 13).

Rayna's progression of building insights was shared here to demonstrate how new understandings of academic English may help teachers better support their students. Two emergent trends in the data from all participating teachers paralleled Rayna's growth. First, all teachers indicated how much more open they were to their students using various registers of English during class time. They seemed to relax their grip on "proper English" as the only appropriate form of communication in a classroom and started to recognize that there are different registers of English for different purposes. Second, participating teachers also indicated that they were much more cognizant of the language they used and when they might need to slow down, check in with students, give students opportunities to practice with language, and discuss why language is used in specific settings. Because teachers may need to build the linguistic sensitivity necessary to help students navigate different registers of English (Wheeler, 2008), the goal of this study was to identify middle school teachers' knowledge about different registers of English and to pilot an in-service course to help them identify the language demands of their content areas. The results were encouraging; participating teachers, including Rayna, appeared to finish the course with more knowledge of how to identify the language demands of their content areas and with an appreciation for the differing discourse communities of their students. For example, one English teacher reflected on a visit to a shopping mall where the majority of customers spoke, dressed, and communicated in discourse patterns much different from her familiar discourse patterns. She recognized that her discomfort at the mall, in which she felt out of place and awkward, likely matched the discomfort of some of her students when they entered her classroom, with her "preppy" dress and her insistence on "proper English" at all times in her classroom. She recognized that her students likely had more linguistic strengths in their home discourses than she had realized, and she began to encourage them to speak however they were most comfortable in their small group work.

These insights gained by Rayna and her colleagues led us to our next question. Once teachers recognize the linguistic demands of different registers of English, how do they guide their students in a similar process of developing linguistic insight and flexibility? To answer this question, we look into Diane's classroom and the work of her students as they learn to navigate different registers of English.

Supporting Students as They Learn to Code-Switch

There are, of course, teachers who are already sensitive to different registers of English and who support their students in code-switching, or the process of assessing "the needs of the setting (the time, place, audience, and communicative purpose) and intentionally choose the appropriate language style for that setting" (Wheeler, 2008, p. 57). This process can be complicated for the language-user, and supporting students' development poses particular challenges for teachers and teacher educators. For example, teachers need to understand the features of *both* the registers students come to the classroom with *and* the features of academic language. Without this knowledge, teachers cannot draw attention to the ownership that students already have of certain linguistic resources and the importance of adding new linguistic resources to their repertoire. The danger in not helping students identify the sophisticated linguistic resources they have already mastered from their various discourse communities is a classroom that devalues those resources rather than one that helps students *add* to them.

In this section we profile the work of Diane and her students as they developed linguistic sensitivity to different registers of English. In particular, Diane guided her students to examine the differences between the social/conversational register and the academic register of English. By teaching students about Discourses (Gee, 1996) and situationally-appropriate language, Diane drew her students' attention to the linguistic features of academic English without giving a privileged status to one register over another. This section also highlights the potential of technological resources to engage students in thinking about and practicing with different registers of English. Transcripts and analyses for this section were collected as part of a larger study that followed students from high school through their post-secondary experiences. The goal of this study was to support students with building code-switching resources that allowed them to be flexible in their use of different linguistic repertoires in different settings (i.e. academic, professional, social).We now enter Diane's classroom, an eleventh grade English classroom in an urban school, to share a piece of this study that shows the process of students' building sensitivity to their linguistic resources and adding new linguistic resources to their repertoires.

> "You'll need to wear a nice outfit, one like you'd wear to church. You know, try to sound and act situationally appropriate," Doumas laughed as he and Amanda practiced a skit via Photo Booth (Photo Booth, 2010) they were preparing to

perform for their peers. They and their classmates were busy completing a project inviting them to:

1) Identify a formal situation in which they had been or were likely to be involved.
2) Write and illustrate a dialogue between the people involved in the situation; write it twice-once using an informal discourse and once using a formal or academic English discourse. The formal discourse they referred to as "school talk".
3) Practice performing the described event via Photo Booth®, a software tool to make and edit photos and videos.
4) Critique and edit the written dialogue and the performance after observing their Photo Booth performances.
5) Share the performance with a couple of peers to get their input.
6) Edit the dialogue and performance again if needed.
7) Perform for the class and discuss how and why each interaction was situationally appropriate.

As shown in Doumas' statement, his writing, his graphic, and that of Sarah, another student in the same class (see Figures 1-5) these students were very aware that situationally appropriate language is often conveyed by more than just words. In other words, they were building sensitivity to Gee's (1996) notion of Discourse(s):

> Discourses are ways of being in the world, or forms of life which integrate words, acts, values, beliefs, attitudes, and social identities, as well as gestures, glances, body positions, and clothes. A Discourse is a sort of identity kit, which comes complete with the appropriate costume and instructions on how to act, talk, and often write, so as to take on a particular social role that others recognize. (Gee, 1996, p.127)

The students were gaining an understanding of the nuances of their home and school languages or discourse communities. They also realized that owning words meant that they were part of one of their Discourses (Gee, 1996) and that their use could be extended to new discourse communities they may choose to join or found themselves involved with. They had realized that language is a dimension of one's Discourse(s) that can be shared when and with whom the speaker wishes.

In particular, these students had chosen to add an academic Discourse to their language repertoire. This happened as they engaged in intentional conversations and activities shared with each other and with Diane. What occurred for them was an actualization of what Vygotsky (1978) described as a concept of internalization which happens by first developing a concept through social speech with others (externally) and then applying and owning the newly learned concept (internally) so that it is played out in one's independent behaviors (Wertsch, 1985). Through conversational interactions these students were learning to code-switch (Myers-Scotton & Ury, 1977); to identify and use language appropriate for a particular situation.

In their illustrations (Figures 1-5), Doumas and Sarah were clearly very aware of the discourse patterns that would probably result in 'getting the job'. Their illustrations indicate that they know how to switch from their informal or casual language register, which is the one shared between friends or intimates, to a formal language register used in the worlds of school and business (Joos, 1972). Like Rayna and many other teachers, Diane realized that for all students to function successfully in all situations in which they find themselves they must be exposed to this wide range of registers in ways that are additive rather than subtractive. Such a perspective is aligned with the recent research on academic English from a functional grammar perspective (Fang et al., 2006; Spycher, 2007; Zwiers, 2006), which formed the foundation of Rayna's in-service course. Academic English is only one register, or Discourse (Gee, 1996), among many, and it is not linguistically superior to other registers. Through her instruction Diane followed this approach by emphasizing that academic English is situationally appropriate in some settings while other registers are more appropriate in others.

Diane also realized that the language of the classroom where academic knowledge, information, skills and abstract ideas are shared (Chamot & O'Malley, 1994) is often not closely aligned with the discourse communities of students like those in her classroom; the majority of whom were students of color from working-class or economically disadvantaged backgrounds. These are the students who often experience a mismatch between their informal/home languages and the academic language they encounter at school (Hart & Risley, 1995; Heath, 1983, Heath, 1991). Just as we all continue to learn new vocabulary through reading and conversation so too must our students in the context of the classroom with teachers whose verbal and nonverbal behaviors (Comer, 2005) offer the security and respect for their informal language. By creating such an atmosphere, teachers can help students feel secure enough to 'try on' new more formal

academic registers. A perspective of additive communication invites instruction that better blends one's home and school languages (Brock, Lapp, Salas, & Townsend, 2009). With this realization, what occurs at home is very crucial since it is the base of the language growth for every student throughout his life. Since students come to school with language differences teachers must begin with instruction that is sensitive to these differences. This occurs when teachers believe that everyone, including themselves, continues to add the linguistic resources needed to successfully function in each new situation. Teachers must assume the role of a "cheerleader" encouraging, supporting, and modeling language-expanding behaviors for every student.

Here's an overview of the instruction that occurred in Doumas' and Sarah's classroom that was designed to support their additive language expansion. Throughout this overview you will notice side-boxes emphasizing the key principles of the instruction we describe; we include these as a tool to illustrate the instructional planning and key points we wish to emphasize.

Lesson Topic:
Language Is Natural and Should Change With the Situation

To develop an understanding that, like the clothes we wear, the language we use to communicate our thoughts depends on the intended audience and **one's purpose for the communication**, the students and Diane watched Sai's Ebonics Language Lesson - Naruto parody (see video). Diane saw her students watching, laughing, and talking about it, and she felt it was an appropriate and familiar text to begin this study of language. However, this video plays on stereotypes of urban youth that may be considered offensive. Therefore, we suggest using it as a springboard to critically dismantle these stereotypes and begin a conversation about the power of language to either convey, or inappropriately label, the identities of others.

Setting a purpose and building background knowledge that switching our codes of communication is situational.

After viewing the clip together, Diane and her students talked about the identities that were being conveyed by all of the speakers, and how the registers being shared were appropriately conveying the message(s). They talked about how the speaker of Ebonics needed his **register to function in a community shared with his friends** and perhaps his family. They laughingly noted that this was not the one that Sai needed to get a

Building language and insights through collaborative conversations.

job, but he, too, could learn street slang and would need it if these were his friends and he wanted to join this new community. An excerpted conversation illustrates the students' insights:

> Lajuana said, "How you choose to speak is about having the words to say what you want to say to whom."
>
> Dursa replied, "Woo, you go girl, it's about being understood by the listeners."
>
> "Good thing Sai is learning to talk with his homies or he'll be a dead brother," laughed Paola.
>
> "Yes, having all of the registers you need so that you can switch the words, tone and gestures as needed are very important. As this video clip shows registers can be used across cultures and races. We all need enough language to be able to function in every situation," responded Diane.

Next Diane invited the students to form groups of three and to watch and discuss the information shown on a video (view video). This clip is an overview of different registers of English. Diane asked her students to think about the registers that were being identified in the video and discuss which of these they owned and to what degree. She also asked them to notice how the tone, climate, word choices, phrasing, and audience changed in each example. After watching, as the students chatted, Diane circulated among them **listening in, jotting notes about their thinking, and talking with them** about the examples they were sharing. Her purpose was to give them an opportunity to expand their understanding of code-switching and also to offer them guided practice as they did so. After they finished Diane invited them to engage in a whole class conversation.

Supporting guided practice.

> Diane said, "Sarah, I heard you say that you know when to switch language from one group to another but that you aren't always sure exactly what to say. Would you mind sharing some of the specifics of what you said?"
>
> "Hmm, well, I'm never sure sometimes when I say things like my brother friend is coming over, or to my house, if it's right. I mean because sometimes people look at me funny. I'm trying to sound proper but I'm not sure I do."
>
> "Me too," said DeVaunte.
>
> "Yeah, how do you really know?" wondered Mykia.

These comments gave Diane a perfect opportunity to share with her students a series of lessons

utilizing a contrastive analysis approach similar to those designed by Wheeler and Swords (2006) to support students acquiring the knowledge needed to be able to code-switch. This series of lessons, which continued to explore the concept of language registers from informal to formal, also included topics such as possessive patterns, subject-verb agreement, word choice, and the important relationship between reading and language development.

Since Diane believes that to become able to powerfully share your vocalized positions with others you must hear and critique the intent and delivery of your message and its appropriateness for the intended audience, much oral rehearsal and language critiquing was enjoyed by the students. They performed often on Photo Booth, for themselves and their peers, skits that they created to illustrate the nuances of code-switching. The examples shared in Figures 1-5 provide a sample of what was learned. But what was more importantly learned was that no one has ever accumulated all of the language or codes needed for a life time of communicating. Indeed, **mastering the nuances of any register is a lifelong endeavor**, whether it is academic English or appropriate social banter. Who among us does not occasionally make odd or poor linguistic choices? We are all still learning! Our ventures into learning about different registers of English with Rayna, Diane, and their students' instantiate this so well.

Language learning is cumulative, and languages are dynamic as well!

Implications:
The Potential of Technology for Building Linguistic Resources and Code-Switching

We now leave Rayna's and Diane's instructional environments to offer suggestions about the power of technology to facilitate students' understanding of academic English and code-switching in various discourse communities. Given the engagement potential of technology, and the instructional potential of using multiple forms of digital media, technological resources can be capitalized on to support students' academic language development. Diane's use of the software Photo Booth and her examples of registers of English from YouTube®, showed the potential of technology for providing explicit demonstrations and active practice with language registers in a very engaging context. Following is a set of learning activities, designed to support learning of both language and content, inspired from our work in the two contexts profiled above. These learning activities use technological resources to employ authentic audiences and

multiple forms of digital media to communicate ideas. Again, in this section we have included side-boxes to emphasize the key principles of the instruction we describe.

Overview of Learning Activities: "Is All News Good News?"

In this learning activity teachers and students choose a topic and explore newscasts and news articles from different networks, newspapers, blogs, and other Internet resources on the topic. The goal is to identify the linguistic differences in the various sources, and then create one's own set of reports (on the same topic) using different registers of English. These activities lend themselves best to current events, and **such current events can be integrated into many content areas**. For example, the topic could be the political moves of Sarah Palin, the re-designation of Pluto as a dwarf planet and our solar system as having only eight planets, the financial meltdown of 2008-2009, or the controversies and media coverage surrounding the death of Michael Jackson. All of these topics have been explored with multiple registers of English (with differing contexts and audiences) in multiple forms of digital media. Taking a sampling of the coverage on any of these topics from the Internet would allow for active analysis of different registers of English, including word choices, sentence structure, density and abstraction, and appropriateness of voice for the intended audience. Following this analysis, and using what they learned about the topic and about how different registers can be used to address the topic in different ways, students would create their own "reports" on the topic for different audiences. Following is an example, using Sarah Palin's July, 2009 announcement that she would be resigning as governor for the state of Alaska.

Choosing a compelling and accessible issue to engage students.

The learning activities start with inviting students to **generate ideas based on their background knowledge** on Sarah Palin, including who she is, facts about her vice-presidential candidacy with presidential candidate John McCain in 2008, and media coverage of her professional and personal life. Next, her resignation speech will be viewed (see video). In small groups, students will be invited to discuss their impressions of the content of her speech. They will also be asked to share their impressions of her body language, her tone, her use of metaphor, and her word choices throughout the speech. Guidance will be provided to lead students to consider the audience for the speech and what Palin hoped

Setting a purpose, building background knowledge and a related language base.

her audience would take away as her message. Students will also be encouraged to guess what Palin's next steps, political or otherwise, might be, and to critically examine how the content and language of her speech might be setting her up for her next steps.

Following this discussion, students will be asked to read three short online articles; one from CNN (a formal overview of Palin's resignation announcement (see video), and two blog posts (view website / website) that take opposing political stances to her resignation. The homepages of the two blogs will also be briefly examined for their use of multimedia to reinforce their messages for their targeted audiences. After reading the three articles for basic content, students will be invited to analyze the language registers used in the articles. Because these activities ask students to identify audience and message as well as the linguistic features that help to create the message for the desired audience, students' critical and media literacies can be strengthened concurrently with their linguistic resources. This may not come naturally, however, and teachers will need to be ready with **guiding questions to prompt students'** to question the intents of the authors, producers, and website developers.

Supporting guided practice.

Such questions can include:

1) Why did the author/commentator use this particular word or phrase?
2) What is a similar word or phrase that could be used here? How would it change the authors' message?
3) What language/images/body language did the author/commentator use that helped you trust (or not trust) him or her?

In the CNN article and the Meet the Press clip, what language/images/body language did the author/commentator use that tried to send the message that he or she is objective, intelligent, and/or balanced?

Using graphic organizers to guide their note-taking, students will be prompted to consider linguistic differences in the articles. The teacher will model several instances of language analysis; the appendix represents a **graphic organizer for identifying and exploring the linguistic features** of the texts, as well as the functions of those features. Language differences may include word choice, sentence length and complexity, active and passive voice, the use of qualifiers (words used to soften a message, such as *possibly* and *likely*)

Providing a model that supports knowledge and language expansion.

and non-qualifiers (words used to convey a strong message, such as *absolutely* and *definitely*), and any other linguistic features that (a) increase or decrease the density and abstraction of the texts, and (b) contribute to the desired message of the author for the targeted audience. Zwiers' (2008) work on supporting academic English development offers excellent resources for teachers and students on identifying these linguistic features. Following teacher modeling, students will continue the analysis in small groups, and the teacher will circulate to listen and learn from the students and to support their identification of linguistic features and their critical examination of the texts.

Following these analyses, students will watch a Meet the Press interview with John McCain on Palin's resignation, an example of a formal interview (see video) and two clips from The Daily Show with John Stewart, examples of political satire (see video / video). Again, tone, word choice, audience, and use of other linguistic features will be compared. The goal of all of these analyses is to help students build linguistic resources in different registers of English. In addition, these clips and articles can serve to build students' background knowledge in political controversies and the language that is used to fuel them. These analyses can be catalogued in a graphic organizer similar to the appendix.

Finally, students will be asked to create two online "reports" of Palin's resignation. In groups, students may choose to prepare newscasts, interviews, blogs, articles, or any other product that involves language and digital media. The objective is to prepare two different reports on the same topic, both of which should employ the appropriate linguistic features (as well as digital media features depending on their chosen projects and access to technology) for the targeted audiences. To give each other feedback, groups will serve as each other's "target audiences" and give feedback on whether the desired message was conveyed appropriately. To provide the feedback, students will complete a graphic organizer similar to the appendix for the groups they observe, but with as many categories of language features/characteristics as is necessary for the projects developed by the students. In the first round of feedback, **students can evaluate each other's projects and then share their graphic organizers with the original authors to discuss the effectiveness of their use of different language features**. This set of analyses and creative endeavors, with cycles of feedback and a great deal of collaboration, can help teachers meet several key objectives. First,

Collaborative conversations support language and knowledge growth as well as independence.

engagement is likely given the use of collaboration (Sturtevant et al., 2006) and technology. Next, content standards can be met as long as the content of the digital resources are matched to state standards. In addition to developing content knowledge, students can build their critical thinking skills by examining topics from such different perspectives. Finally, students can build the linguistic resources they need to code-switch and to access content area concepts.

Conclusion:
Implications for Teacher Educators

Academic literacy is essential for academic success (Short & Fitzsimmins, 2007), and students with limited exposure to academic English need explicit support in building their academic language proficiency. Rayna's professional development experience showed the potential for teachers to build knowledge of the linguistic demands of the content areas, and Diane's code-switching lessons showed her students' readiness to build both their sensitivity to language registers and their code-switching capacity. At the end of Rayna's in-service course, she and her colleagues were asked if the course caused shifts in their thinking or their practice. Rayna responded:

> It has changed my thinking as an educator and as a new parent. I can do so many more meaningful worthwhile strategies to modify the learning environment to maximize learning that sticks. But, I feel I need to do quite a bit of trial and error with the language strategies before I'm going to be effective.

Rayna's reflective comments illuminate the importance of integrating language support, particularly with helping students' code-switch and employ new linguistic resources. Her comments also demonstrate the extent to which teachers need time to practice and reflect on supporting students with academic language. Finally, as illustrated, the role of technology in supporting both teachers and students in this learning process can be a powerful one. The opportunities to explore topics as they are expressed using different registers of English and with different digital media are limitless. And, the engagement potential of such resources is particularly important for adolescents, many of whom are "digital natives" (Prensky, 2001) and very comfortable with technology.

While we have focused on teacher and student level implications of the intersection

between technology and building linguistic resources, there are many implications for teacher educators. In particular, teacher educators should consider their own sensitivity to different registers of English and any practices they have with pre-service teachers of making language expectations explicit. Teacher education, including both theory and methods, has unique linguistic features of its own, and this suggests that there are two questions we need to ask ourselves. First, to what extent are we, as teacher educators, inviting pre-service teachers into the discourse of educational settings? Second, to what extent are we, as teacher educators, supporting pre-service teachers in building linguistic sensitivity to different registers of English? Pre-service classes and coursework should include a consideration of audience, code-switching, situationally-appropriate language, and the diverse and sophisticated linguistic resources that all K-12 students bring to the classroom. Such a consideration, across courses and content-areas, can equip K-12 teachers with the linguistic sensitivity needed to both honor their students' linguistic resources and help them add new linguistic resources to their repertoire.

References

Achugar, M., & Schleppegrell, M. J. (2005). Beyond connectors: The construction of cause in history textbooks. *Linguistics and Education, 16,* 298-318.

Aukerman, M. (2007). A culpable CALP. *The Reading Teacher, 60,* 626-635.

Achugar, M., Schleppegrell, M. J., & Oteiza, T. (2007). Engaging teachers in language analysis: A functional linguistics approach to reflective literacy. *English Teaching: Practice and Critique, 6,* 8-24.

Bailey, A. L., Huang, B. H., Farnsworth, T., & Butler, F. A. (2007). *Developing Academic English Language Proficiency Prototypes for 5th Grade Reading: Psychometric and Linguistic Profiles of Tasks*. University of California, Los Angeles: The National Center for Research on Evaluation, Standards, and Student Testing.

Blachowicz, C. L. Z., & Fisher, P. (2000). Vocabulary instruction. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson & R. Barr (Eds.), *Handbook of reading research, volume 3* (pp. 503-523). Mahwah, NJ: Lawrence Erlbaum Associates.

Brock, C., Lapp, D., Salas, R. G., & Townsend, D. (2009). *Academic literacy for English learners: High quality instruction across content areas*. New York: Teachers College Press.

Chamot, A. U., & O'Malley, J. M. (1994). *CALLA Handbook: Implementing the Cognitive Academic Language Learning Approach*. Reading, MA: Addison-Wesley Publishing Company.

Chen, I. (2009). *Brain cells for socializing*, from http://www.smithsonianmag.com/science-nature/The-Social-Brain.html

Comer, J. (2005). *Leave no child behind*. New Haven, CT: Yale University Press.

Cummins, J. (1981). Empirical and theoretical underpinnings of bilingual education. *Journal of Education, 163,* 14-29.

Cummins, J. (Ed.). (2001). *Language, power, and pedagogy: Bilingual children in the crossfire*. Bristol, UK: Multilingual Matters Limited.

Fang, Z., Schleppegrell, M. J., & Cox, B. E. (2006). Understanding the language demands of schooling: Nouns in Academic Registers. *Journal of Literacy Research, 38,* 247-273.

Gee, J. P. (1996). *Social linguistics and literacies: Ideology in discourses*. New York: Routledge Falmer.

Halliday, M. A. K., & Matthiessen, C. (2004). *An Introduction to Functional Grammar: Third Edition*. London: Hodder Arnold.

Hart, B., & Risley, T. R. (1995). *Meaningful differences in the everyday experiences of young American children*. Baltimore, MD: Paul H. Brookes.

Heath, S. B. (1983). *Ways with words*. Cambridge: Cambridge University.

Heath, S. B. (1991). The sense of being literate: Historical and cross-cultural features. In R. Barr, M. L. Kamil, P. B. Mosenthal & P. D. Pearson (Eds.), *Handbook of Reading Research, volume II* (pp. 3-25). New York: Longman.

IES. (2007). *NAEP Data Explorer*. Retrieved June 13, 2009, from http://nces.ed.gov/nationsreportcard/nde/

Joos, M. (1972). The styles of five clocks. In R. D. Abrahams & R. C. Troike (Eds.), *Language and cultural diversity in American education* (pp. 145-149). Englewood Cliffs, NJ: Prentice-Hall.

Myers-Scotton, C., & Ury, W. (1977). Bilingual strategies: The social functions of codeswitching. *Journal of the Sociology of Language, 13*, 5-20.

Nathan, M. J., & Petrosino, A. (2003). Expert blind spot among preservice teachers. *American Educational Research Journal, 40*, 905-928.

Photo Booth. (2010). Software. Retrieved from http://www.apple.com/macosx/what-is-macosx/photo-booth.html

Prensky, M. (2001). Digital natives, digital immigrants. *On the horizon, 9*, 1-6.

Scarcella, R. C. (2003). *Accelerating academic English: A focus on English language learners*: Regents of University of California.

Schleppegrell, M. J. (2004). *The Language of Schooling: A Functional Linguistics Perspective* (Vol. NJ). Lawrence Erlbaum Associates: Mahwah.

Schleppegrell, M. J. (2007). The linguistic challenges of mathematics teaching and learning: A research review. *Reading and Writing Quarterly, 23*, 139-159.

Schleppegrell, M. J., & de Oliveira, L. C. (2006). An integrated language and content approach for history teachers. *Journal of English for Academic Purposes, 5*, 254-268.

Shearer, B., & Ruddell, M. R. (2008). Engaging students' interest and participation in learning. In D. Lapp, J. Flood & N. Farnan (Eds.), *Content area reading and learning: Instructional strategies* (pp. 115-132). Mahwah, NJ: Erlbaum.

Short, D. J., & Fitzsimmins, S. (2007). *Double the work: Challenges and solutions to acquiring language and academic literacy for adolescent English language learners*. Washington, DC: Alliance for Excellent Education.

Spycher, P. (2007). Academic writing of adolescent English learners: Learning to use "although". *Journal of Second Language Writing, 16*, 238-254.

Sturtevant, E. G., Boyd, F. B., Brozo, W. G., Hinchman, K. A., Moore, D. W., & Alvermann, D. E. (2006). *Principled Practices for Adolescent Literacy*. Mahwah, NJ: Lawrence Erlbaum Associates.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Cambridge University Press.

Wertsch, J. (Ed.). (1985). *Culture, communication, and cognition: Vygotskian perpsectives*. Cambridge, MA: Cambridge University Press.

Wheeler, R. S. (2008). Becoming adept at code-switching. *Educational Leadership, 65*, 54-58.

Wheeler, R. S., & Swords, R. (2006). *Code-switching: Teaching standard English in urban classrooms*. Urbana, IL: National Council of Teachers of English.

Zwiers, J. (2006). Integrating academic language, thinking, and content: Learning scaffolds for non-native speakers in the middle grades. *Journal of English for Academic Purposes, 5*, 317-332.

Zwiers, J. (2007). Teacher practices and perspectives for developing academic language. *International Journal of Applied Linguistics, 17*, 93-116.

Zwiers, J. (2008). *Building academic language: Essential practices for content classrooms*. San Francisco, CA: Jossey-Bass.

Figure 1
Doumas' Code-Switching Notes: Informal Discourse

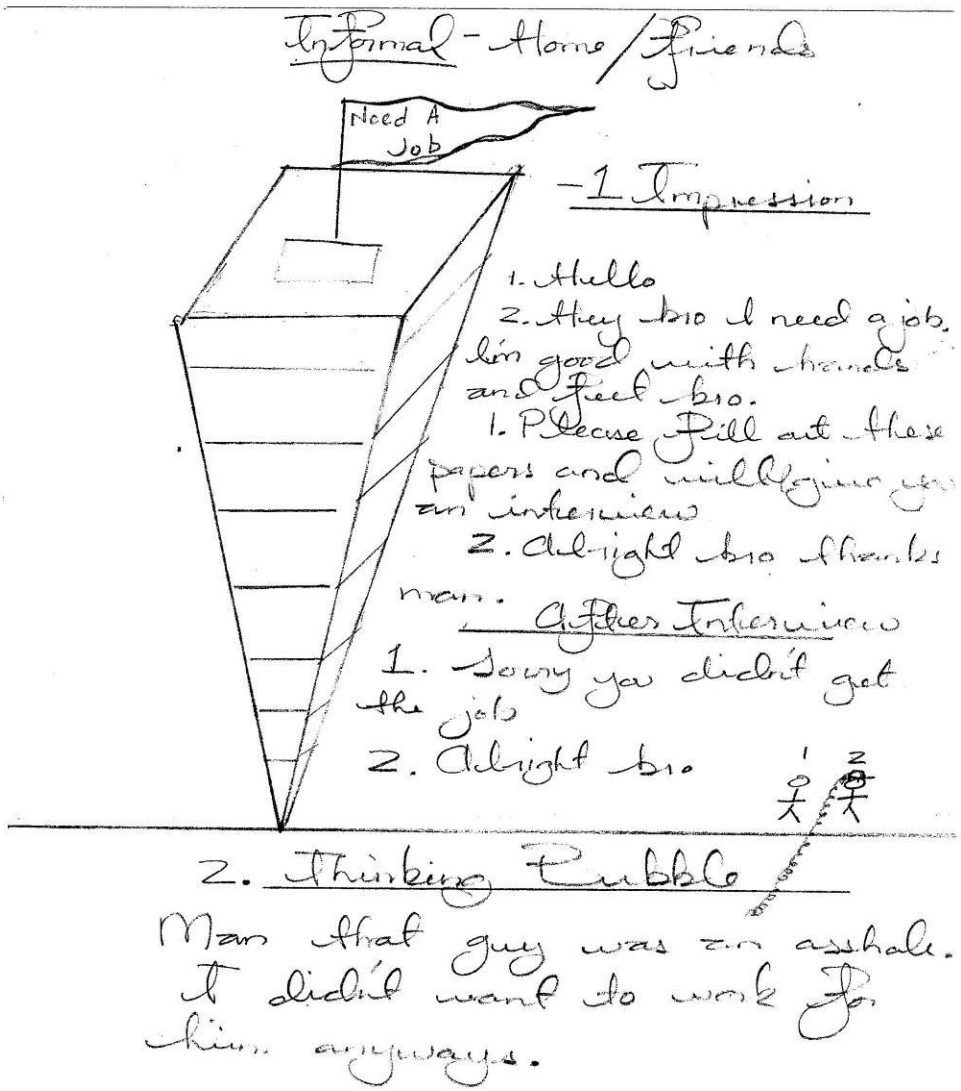


Figure 2
Doumas' Code-Switching Notes: Formal Discourse

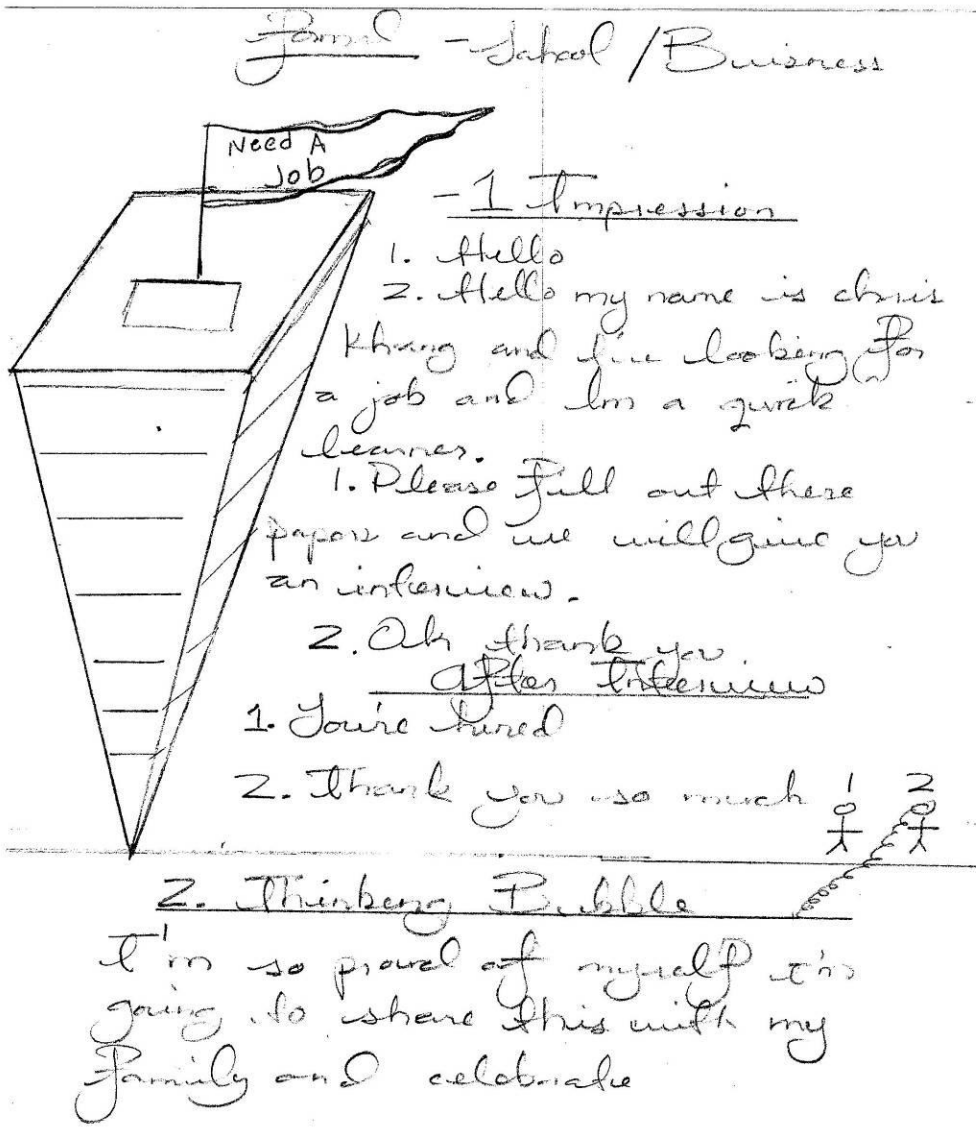


Figure 3
Doumas' Code-Switching Notes: Explaining Differences between Formal and Informal

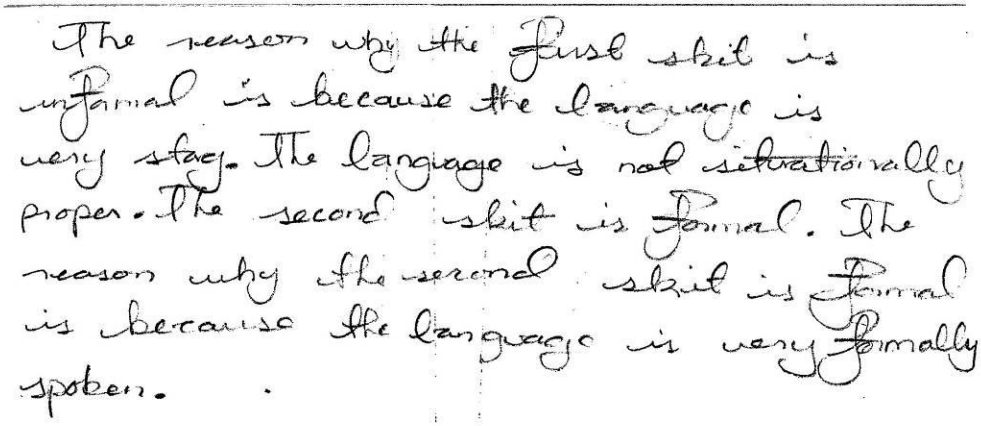

The reason why the first skit is informal is because the language is very slang. The language is not situationally proper. The second skit is formal. The reason why the second skit is formal is because the language is very formally spoken.

Figure 4
Sarah's Code-Switching Notes: Informal Discourse

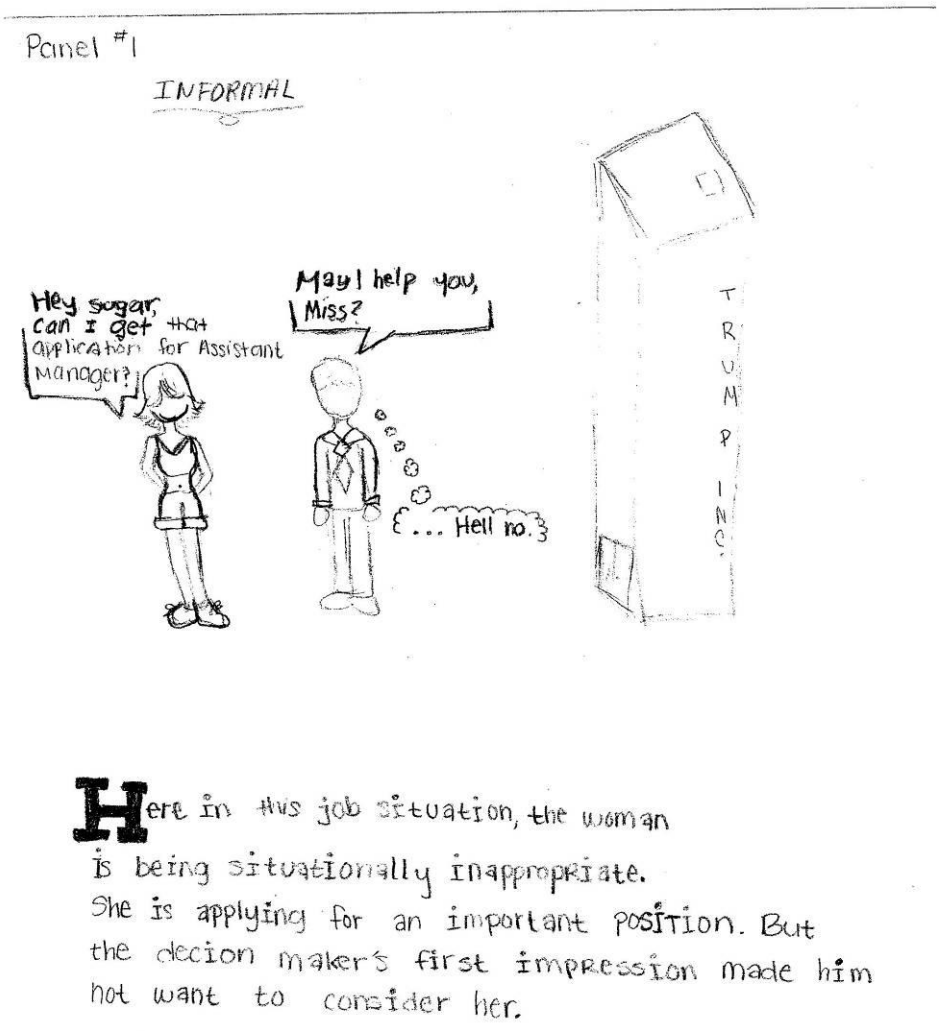
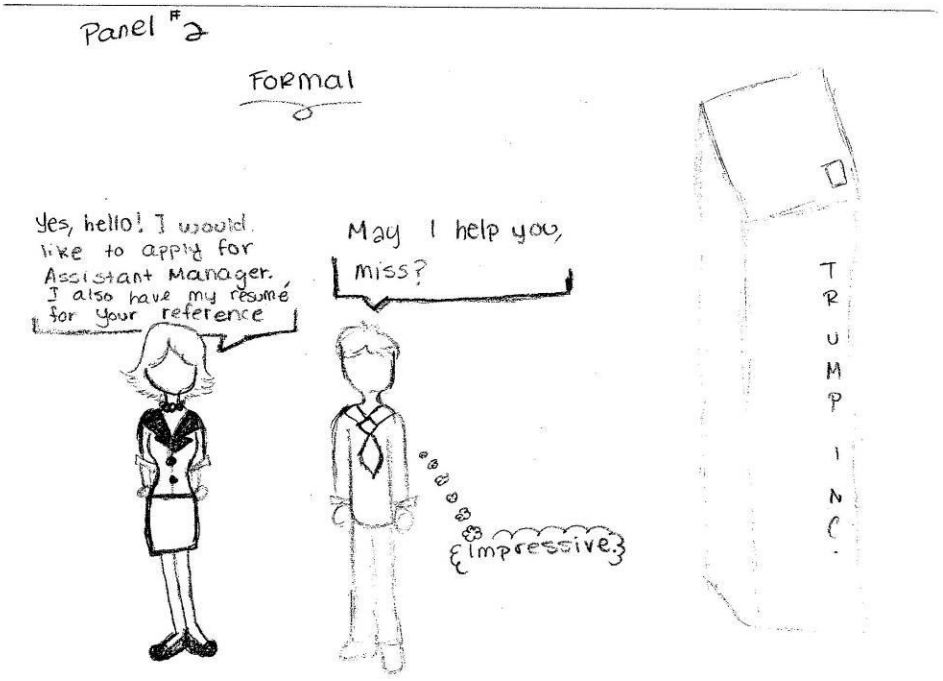


Figure 5
Sarah's Code-Switching Notes: Formal Discourse



In this situation, the woman is situationally appropriate. In order to get the position, she is interested in, she came in formal attire. She also used formal as well as a friendly tone to appeal to the decision maker's criterion.

Appendix

Sample Graphic Organizer for Identifying Linguistic Demands of Texts from Different Registers

*This is just a sample. Other tables can include many more examples of language features/characteristics.

Source and Target Audience	Language Features/Characteristics	Purpose of Language Features
CNN Article: General public with access to internet/cable	Written in 3rd person, uses quotes from others to show different, sometimes extreme, viewpoints	-helps create objective stance and seem less opinionated, gives credibility to writer
	Word choice and sentence structure on Palin's reasons for resigning: "She resigned because of the tremendous pressure, time and financial burden of a litany of ethics complaints in the past several months, she said. The complaints were without merit and took away from the job she wanted to do for Alaskans, Palin said."	-long sentences with multiple clauses used to express abstract ideas concisely (this is an example of the abstraction and density of academic language)
***The Huffington Post* blog post): Readers, likely of liberal political persuasion, with access to internet**	1st person, expresses own extreme viewpoints	-shows position/opinion and helps to create relationship with like-minded readers
	Word choice and sentence structure on Palin's reasons for resigning: "Then, she went on to say she'll be leaving office before her term is up ***because serving out the term she was elected to serve wouldn't be best for the people who voted her in***. In other words, I'm leaving you -- but only because it's the best thing I can do for ***you***.	-uses punctuation and italics as persuasive devices to draw the readers' attention to the main ideas of the argument. -draws on a humorous personal anecdote (i.e. breaking up with girlfriends) to reinforce argument against

	It's easy to criticize, I know. But today I feel qualified. Because this is the identical excuse I gave to every girlfriend I broke up with in my twenties and thirties."	Palin and connect with readers
Red Girl in a Blue State blog post: Readers, likely of conservative political persuasion, with access to internet	1st person, expresses own extreme viewpoints	-shows position/opinion and helps to create relationship with like-minded readers
	Word choice and sentence structure on Palin's reasons for resigning: "it seems common decency left the building when it comes to the rabid left and their feelings for Sarah. She is their enemy. She and her family have been hounded relentlessly since September '08 when she was first announced as McCain's running mate. From lies, rumors and outright smears to frivolous lawsuits and baseless investigations the conduct of her opponents has been beyond revolting."	-writes without capital letters, suggesting a younger writer trying to connect with a younger audience -short, punctuated sentence "she is their enemy" positions Palin against the media -repeats ideas (lies, rumors, outright smears) as persuasive device