Data Power in Writing: Assigning Data Analysis in a General Education Linguistics Course to Change Ideologies of Language [1]

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Abstract: This study examines the intellectual consequences of writing about data in relation to disciplinary concepts. We collected and studied written assignments from sixteen students in which they had to analyze data provided by the instructor in a general education linguistics course. We also surveyed them at the beginning, middle, and end of the course to determine their prior experiences with language and language studies, their processes in completing assignments, and their attitudes toward language, data, and linguistic analysis. These assignments and surveys were supplemented with course documents and interviews with the instructor and two of the TAs. This study reveals that the students in varying ways and to varying degrees came to see language use and language users in more disciplinarily sophisticated ways and to discard stereotyping, discriminatory, or stigmatizing beliefs they might have held. The students also to varying degrees came to understand the nature of linguistic data and methods. Further, there were varying interactions between the experience with data and the exposure to disciplinary concepts, based on prior academic and non-academic experiences, as well as individual dispositions toward learning. Findings suggest that students learning to select, represent, and analyze data in answering disciplinary questions and arguing for disciplinary conclusions in their writing are significant parts of their development as academic writers.

Introduction

Forty years ago, George Hillocks called attention to the powerful effect observing could have on writing. His studies showed writing of students in both secondary and higher education improved substantially in overall specificity of evidence, creativity, organization, and reasoning after students engaged in activities to increase attentiveness to facts (Hillocks, 1979, 1982; Smith & Hillocks, 1989). While Hillocks focused on general observational practices, he noted that different kinds of data are attended to and recorded in different ways across the disciplines.

Since then we have become more aware of differences in disciplinary forms of writing, reasoning, text organization, and use of literatures (see Bazerman et al., 2005 and Bawarshi & Reiff, 2010 for

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reviews). Representing data in different disciplines through quantitative and graphic means has also gained attention (for examples, Gross & Harmon, 2014; Kimball, 2013; and Hutto, 2008). Poe, Lerner & Craig (2010), additionally, have shown that use of evidence is important to student disciplinary enculturation. Similarly, Simon (2012) found that when pre-service teachers in a teacher education program integrated evidence from their classroom experience into their reflective and analytical writing, they developed more nuanced understanding of the students in their classrooms. Development in their beliefs, however, required references to the disciplinary concepts in the theoretical texts they were reading in order to direct and organize attention to data--what Meyer and Land (2006) would call threshold concepts. Thus, the development of thinking as teachers benefited from exposure both to disciplinary concepts and to detailed observation and analysis of data from the classroom. Related studies with the same students demonstrated that detailed engagement and reference to disciplinary literatures, along with familiarity with disciplinary genres contributed to professional thinking about classroom experiences (Bazerman, Simon, Ewing, & Pieng, 2013; Bazerman, Simon, & Pieng, 2014). These studies together suggest that observation and representation of observed phenomena within disciplinary genres and concepts are part of developing disciplinary ways of perceiving the world, or what Goodwin (1994) would call *professional vision*.

To look further into students learning disciplinary practices of gathering, analyzing and representing data within the context of disciplinary knowledge and concepts, Bazerman and colleagues have been looking into the methods and methodological training of students in different disciplines and the effect that familiarity with disciplinary methods has on their writing. A study of engineering students (mostly from mechanical engineering) engaged in a year-long senior project showed that different kinds of data were gathered at different stages as parts of different kinds of reports. These data were collected in different ways and became sedimented in succeeding reports to be assumed within further work (Bazerman & Self, 2017). Another study of three students researching and writing senior projects in political science (Bazerman, 2019) indicated that greater familiarity with methods relevant to the particular project, led to increased clarity in planning, efficiency in data gathering, quality of argument, and sophistication of thought and analysis.

Unlike these other studies, the current study looks at general education students who are not as intrinsically motivated to be enculturated into disciplinary ways of thought; however, within the context of the class they are being asked to try out some more disciplinary ways of seeing things. Therefore, this study looks more directly into the intellectual consequences of observing and commenting on data through the disciplinary concepts for influencing students' beliefs and practical orientation to the phenomena around them. In particular, it examines how engagement of students with linguistic data in a general education course Language and Society changed both their academic characterization of language and their view of language encountered in daily life. This study reveals that the students in varying ways and to varying degrees came to see language use and language users in more disciplinarily sophisticated ways and to discard stereotyping, discriminatory, or stigmatizing beliefs they might have held. The students also to varying degrees came to understand the nature of linguistic data and methods. We also found varying interactions between the experience with data and the exposure to disciplinary concepts, based on prior academic and non-academic experiences, as well as individual dispositions toward learning.

History of Linguistic Tasks, Data, and Ideas

The students in this study were introduced to the methods and perspectives of linguistics in order to become sensitized to the relation between language and power. The kinds of work students were

engaged in the course were focally located within the historical development of the field, which from the beginning had been intertwined with power and shaped by the tools of data inscription available at each moment.

Formal language studies can be said to be coincident with the invention of writing, as the presence of the written word posed the problem of the relation of the spoken to the written word. In Europe, the driving force for these studies has been the interests of leading institutions to assert dominant dialects, like the church's desire to impose a standardized Latin or the nation states' project in early modern Europe to consolidate national identities. Print publishing, initially centered in major urban areas, also led to standardization of written forms. Standardizations of vernacular language, however, depended on the institutions of producers and social processes of dominance and sales, rather than scholarly study. Starting in the 17th century regulation became supported in some countries by academies of language, seeking stability and purity of language – notably the French Académie Française (1635), the Italian Accademia della Crusca (1652), and the Real Academia Española (1713). Elsewhere the formalization of dominant dialects was supported more organically by commercially produced grammars and dictionaries, which then became standards of education and arbiters of educational accomplishment.

In conjunction with the emergent regulation of language, early philologists studied classic texts to construct idealized representations of languages, whether Latin or the vernaculars. In the early nineteenth century, however, the appearance of Sanskrit grammars in Europe inspired the comparative study of different languages to construct a model of the relations and evolution of languages (Turner, 2014, pp. 128-140). Within this textually oriented period of philological study, William Humboldt proposed that spoken language was more fundamental than that recorded in texts and regularized in dictionaries and grammars. This programmatic statement occurred simultaneously with attempts to record Native American and other unwritten languages, through various phonetic methods, leading to the International Phonetic Association system which, modified, remains the scientific standard to today (MacMahon, 1996).

The attempt to document and understand language moved linguists from prescription and regulation to description, although they continued to use the regularizing tools of dictionaries and grammars. Saussure then codified the study of langue as constructing a synchronic idealized system (*langue*), directing attention away from the specific conditions and purposes of particular utterances (*parole*).

Subsequently, the increasing sophistication of audio and video recording tools for data collection have facilitated and diversified the study of language, including examining language as a social phenomenon used and learned in interaction, as students were asked to do in this course. Accordingly, researchers such as Labov (1966) looked at how language variation reflected societal structures, how correlation studies of variation evidenced ongoing change produced by speakers in a community, and how dialect use in context displayed interactional needs and intentions, as well as produced conflicts (Gumperz, 1982). This kind of inquiry set the grounds for considering the ideologies of language held by different speakers, and how power differentials, stigmatization, and other forms of discrimination were systematically enacted across different speakers. The study of minoritized varieties, such as Smitherman's (1977) studies of African American English, was part of this revalorization and making explicit the systems of oppression created through language stigma.

Critical Discourse Analysis (Fairclough, 1989, 1995) has also continued to make explicit power dynamics, unequal distribution and access to language practices, and institutional and material

conditions that affect language ideologies. including issues of racism and xenophobia (Van Dijk, 1992, 2007; Reisigl & Wodak, 2001) and gender (Cameron, 1985; Bucholtz, 2014).

The history of linguistic observation and analysis set the stage for the work students were introduced in this course to recognize power differentials and stigmatizations that arose from linguistics' prescriptive history and embedded in current common attitudes toward dialect. Through recognizing these power differentials and stigmatizations the students would, the instructor hoped, develop a more contemporary and equitable linguistic perspective on the language around them.

Methods

Context & Participants

The course studied *Language and Society* was taught at a major West Coast public research university in the Winter 2018 quarter. It consisted of ten weeks of classes. The course was taught by one lecturer and four teaching assistants. The course fulfilled general education requirements and required attendance at two lectures and one TA section of approximately 20 students each section, which added up to approximately 175 students in the course. Most students were in their first year and had no previous linguistic courses; about half of the students came from multilingual backgrounds.

The course explored issues of language ideology. It focused on how lay people from different social groups generate and perpetuate stereotypes and prejudices about gender, region, age, ethnicity and/or social class through folk linguistics theories. The professor's goals for this course were to make visible these issues to the students, and to develop understanding about language from a disciplinary perspective. Thus, the professor was expecting students to change the way they conceptualize language differences, from a folk linguistics understanding to a disciplinary, theoretically-based understanding.

The course confronted students with data where stereotypes were being performed; these data were then analyzed in lecture and class discussions. In the assignments the students were requested to do similar analyses. All of the activities were meant to challenge lay attitudes students may have been applying to their experiences, as noted in the syllabus: "The content of this course addresses and confronts themes of prejudice, discrimination, racism, and sexism. Students are warned of the potential for challenging and discomforting discussions in class meetings." These challenging and discomforting issues were progressively introduced beginning with less threatening topics such as correctness, and moving to more troubling topics such as those related to homophobia and racism. As will be discussed in the conclusions, the TAs provided support in helping students meet these challenges and noted the student progress.

The lecturer, the teaching assistants, and 16 students (10 first year, 3 second year, 2 third year, and 1 fourth year) volunteered to participate in the study and completed all stages of the data collection process. These 16 student participants, who provided the primary data for the study, were recruited by a message posted by the class instructor on the class course management system that introduced the research and asked students to contact its principal investigator via email. The instructor and the teaching assistants were thus not aware of which students volunteered for the study. Six additional students initially volunteered and participated in the first stages of the data collection process but did not complete it; at least one informed us that she dropped the course, but

we do not know whether the others completed the course. We eliminated their partial results from the analysis. Both the TAs and the students received gift card rewards for their participation.

Data Sources

The study adopted a qualitative approach and employed several data sources: interviews, online surveys and written artifacts.

Interviews. We first conducted a one-hour semi-structured interview with the professor prior to the start of the term using the course management system website as a prompt for the discussion. The aim of this interview was to gather information about the goals and expectations of the course, the students, and the writing practices throughout the class. The professor gave the research team access to the online course management system. The professor made no changes to the website or assignments after or as a consequence of the interview. Two of the four teaching assistants working in the course also volunteered for two individual semi structured interviews each to identify what difficulties they found the students were having; how they as instructors dealt with those difficulties; and what progress students made over the term. These interviews lasted for an hour each and were carried out during the first and last weeks of the term.

Surveys. The students were requested to fill out a series of 3 online surveys throughout the course (near the beginning, in the middle, and at the end of the term). The first survey (S1) was designed to elicit demographic information, previous language and linguistic experience, course expectations, and initial perception regarding data practices in linguistics. Surveys one and three included the same set of four questions about perception of linguistics data. The repeated questions were:

1. Is viewing language as data different than everyday views of language? Explain.
2. What makes for good data for linguistics?
3. What makes for good analysis of data for linguistics?
4. How has collecting and/or analyzing data changed your view of language?

The second (S2) and third (S3) surveys included questions that examined the students writing processes in relation to data in the first two assignments and final two assignments respectively. The third survey also inquired about their uses of data in the group project and their overall evaluation of the course. (See the Appendix for the complete set of survey questions.)

Written artifacts. The written artifacts consisted of completed samples of the four major written assignments and the final group project, which were submitted by the student participants after completing the surveys. Additionally, the team collected class syllabus, readings, and assignment prompts from the online course management system that served as background information.

The four major assignments, done individually, focused on language ideology from a sociolinguistic perspective. All four major assignments presented questions to be answered about provided sets of data. The assignments were designed inductively: the students were expected to identify language traits and later examine and contrast language judgments made over different minoritized social groups. By comparing the empirically trackable language data with the stereotypes that people believe to be true, the students were requested to build up language claims that aligned with sociolinguistics theory. The professor expected that this contrast of data and language theory would lead students from a superficial understanding of the phenomena into a more complex one.

The first assignment (A1) asked students to consider how the "proper" use of the word "literally" was represented in the mass media. The students were asked to explain the positions of three

journalists and some dictionaries on the use of "literally" as an intensifier and the characterization of people who used "literally" in that way. A final question asked students to consider what would happen to the authors' opinions if the use of "literally" as an intensifier were not inherently wrong. This question invited reflections on ideologies of propriety, language standards, and stigmatization of users of non-standard forms.

The second major assignment (A2) examined ideologies expressed in slang terms and about the use of slang. Students were asked to select from an online slang dictionary words that they did not know, words that they did not use, and words that they found incorrect. Additionally, they were asked to provide one slang term that they did use but that was not in the dictionary. In every answer the students had to explain the reasons for their selections, an operation that uncovered much of their own language ideology. Furthermore, the assignment highlighted that slang has been precisely defined and studied by linguists and contains more nuances than they might have been aware of.

The third major assignment (A3), focusing on language stereotyping and performativity, asked students to analyze satirical "Ask a Mexican" newspaper columns by Gustavo Arellano. The prompt provided contextual information about the source, genre, and author's aim to guide the analysis; for example, "as it is a satire, the column may appear at first to mock Mexican and Mexican-American culture, but the deeper intent is to confront stereotyping." The students had to answer three questions about the columns they selected. The first question asked about the author's intention in relation to language choices; the second question asked for a technical linguistic consideration of code-switching; and the third question asked for an explicit examination of language issues raised in the columns.

The fourth major assignment (A4) focused on language stigmatization, mockery, and racism found in an online tool that changed language excerpts into different "dialects" (e.g., "Redneck", "Jive", and "Cockney"). The students were asked to identify the procedures or tricks used to create the dialects, the accuracy of the dialect representations, and how those procedures stereotyped and stigmatized groups of people associated with those dialects. The last question asked students to evaluate the website's disclaimer: "The Dialectizer takes text and claims to render it in a non-standard dialect, solely for comedic intent."

The last major assignment was a group project that consisted in creating a Public Service Announcement (PSA) that addressed language stigmatization of some group. The students were required to present the PSA orally, together with a short, written explanation of the group's goals and processes. Because we could not get enough data about the different groups our voluntary subjects participated in, and the contribution of each to their group, we were not able to include this group assignment in our analysis.

Data Analysis

Once we had collected all of the data from the three surveys and the written assignments, we entered the answers in an Excel spreadsheet. Through collaborative examination of the answers we developed categories of analysis that emerged from the data according to the attitude that the students held about their own language practice, others' language practice, and linguistic methods. Saldaña's (2013, p. 111) procedures for grounded coding based on understanding attitudes as ways of thinking or feeling about people, things, or ideas, allowed us to capture the diverse spectrum of elements in our participants' perspectives. Any disagreement that the two researchers had about the categories or how individual responses should be categorized were discussed and negotiated

until agreement was reached. Table 1 shows the codes and a brief description of how we identified them.

Table 1: Codes Developed about Language Attitudes from the Survey Data

Category	Code	Description
Self	From rule governed propriety	Refers to right or wrong, correct or incorrect, appropriate
	Stigmatizing in own views	Refers to others in stigmatizing, stereotyping ways, respect, esteem
	Acceptance of diversity	Refers to differences, diversity in others
	Flexibility in own choices and relating to others	Refers to options for her/is own language repertoire
	Understanding own privilege or benefit	Refers to her/is own place and role as speaker in a power relationship dynamic
	Affiliation and identity	Refers to her/is own life
Noting in others	Observing prescriptive attitudes around one	Talks about others holding/performing/exercising prescriptivism: right, wrong, appropriate, etc.
	Noting stereotyping and stigmatization	Refers to particular others holding/performing/exercising stigmatizing views or stereotypes about other people: offense, respect
	noting systematic prejudices	Refers to prejudice- having negative, hostile opinions- that a group of people has toward a group of people
	Curiosity about those stigmatized, experience of dialect speaking	Refers to the people that are in the place of the stigmatized
Linguistic method	Basic Rules	Expresses understanding of theoretical concepts
	Noting linguistic data	Empirical evidence from language

	Conceptually prepared but refined through methods of discipline	Refers to process of selection, analysis, stages of working with data

Additionally, for the repeated questions in the first and third survey we categorized how well the students elaborated their responses in relation to the goals of the course, assigning a 0 to those answers that were left blank or that gave information not related to the question and/or that we could not make sense of; assigning a 1 to those answers that identified the problem and that expressed understanding of the phenomenon; and assigning a 2 to the students that developed their answer by justifying it or giving an example. Finally, we categorized the survey responses whether the students were aligning or not with the goals and ideas set for the course. We coded for alignment to conceptual orientation of the course by using the following symbols: (-) if they expressed ideas against the orientation of the course, (+) if they expressed ideas that were aligned with the orientation of the course, and (=) if they expressed neutral ideas that were neither for nor against the orientation of the course.

In addition to coding and descriptive quantitative analysis, we developed qualitative individual portraits of the change in each of the sixteen students' perceptions of language, based on a careful reading of each student's assignments alongside their responses to the survey questions. We compared and contrasted each student's responses to the different prompts, with focus on the language used, data and theory referenced, length and breadth of answers. In particular we attempted to reconstruct phenomenologically the way students seemed to be perceiving, thinking about, and evaluating language use in both the material of the assignments and their daily lives. We used the coding categories to help us see developing themes and changes in the individual student assignments and responses, but our interpretations were not restricted by those categories. The two authors wrote their initial characterizations separately and found they agreed with only minor differences that were discussed; we then integrated the two accounts into a combined narrative for each student through several rounds of negotiated revision. The narrative of each student's changing views of language ranged from 500 to 700 words.

Students' identities were anonymized in the final reporting.

Results

Descriptive Quantitative Analysis

The descriptive quantitative analysis of the coded statements in the repeated questions on the first and third survey showed few strong patterns. The coding of themes was too varied over different questions to support a simple interpretation, though when we looked at individual patterns of individual students in relation to the demographic information about them, we were able to discern each student's perspective.

Similarly, when we looked at the detail of the responses to the repeated survey questions, we found little change from the beginning of the term to the end, indicating that the repetition of questions themselves did not lead to more elaborate or precise answers. For the first three repeated questions, the mean of the codes for problem and phenomenon statement and elaboration from both the beginning and end of the term were in the narrow range of 1.25 to 1.375 (indicating that although students regularly defined the problem and phenomenon they only sometimes elaborated

in detail). For the last question on how the collecting or analyzing of data has changed perceptions of language, the mean at the beginning was only 0.8125 because a number of students did not respond or responded they had not yet collected or analyzed linguistic data. At the end of the term, the mean code returned to 1.3125. Thus, it appears that the length and detail of the answers were more a result of the survey format and the perceived requirements of the questions than the students' conceptual and practical understanding.

The one clear pattern we did find was that over the term the students were less likely to provide null answers to the repeated questions and their positions aligned more closely with the orientation of the course (See Table 2). This changes toward the alignment of the class has also been identified in the written assignments, as will be developed in the following section.

Table 2: Alignment to Course Goals

Question	First Survey	Third Survey
1. Is viewing language as data different than everyday views of language? Explain	contrary to course 0	contrary to course 0
	neutral to course 6	neutral to course 1
	aligned with course 6	aligned with course 13
	null 4	null 2
2. What makes for good data for linguistics?	contrary to course 1	contrary to course 0
	neutral to course 6	neutral to course 4
	aligned with course 8	aligned with course 12
	null 1	null 0
3. What makes for good analysis of data for linguistics?	contrary to course 0	contrary to course 1
	neutral to course 4	neutral to course 0
	aligned with course 12	aligned with course 14
	null 0	null 1
4. How has collecting and/or analyzing data changed your view of language?	contrary to course 0	contrary to course 1
	neutral to course 0	neutral to course 0
	aligned with course 7	aligned with course 15
	null 9	null 0

These results are hardly surprising, and do not necessarily tell us much about specific engagement with data. That is, students who completed the course would be expected to be able to repeat

generalizations presented in classes and readings, but this does not provide evidence that these generalizations influenced their perceptions and analyses of their daily language experiences. We need to look more closely at evidence of individual perception and thought to see whether these principles were in any way internalized.

Qualitative Analysis

To examine each student's individual, even idiosyncratic, evolution of engaging with and relating to data, we created analytic qualitative narratives for each of the students that combined close readings of their assignments with their survey responses. We found almost all students showed some evolution of attitudes and perceptions, though the changes were in some cases subtle and in all cases specific to the experiences and ways of thought of each student. Nonetheless, within these different patterns of development, learning to select, represent, and analyze data in answering disciplinary questions and arguing for disciplinary conclusions in their writing improved the consistency of their answers. Based on these more detailed analytic qualitative narratives we present in the next section a summary of the major changes in those narratives. We organize the students into phenomenological categories, but even within these categories, there was significant individual variation.

Social Scientists. Over half of the students (those in this and the next group) arrived in the course with some issues or orientations in mind that would attune them to social issues related to language. Of those, four students -Cristina, Francisco, Marcy and Erika- presented explicit political or social scientific orientations since the beginning of the course that later developed into elaborated social scientific claims about ideologies and stereotyping.

The students in this group were aware early on the course about social evaluation, stereotyping, and stigmatizing; and all of them adopted critical stances toward the data. For example, in the first assignment Cristina (a first-year student from a Spanish-speaking home, but with no previous linguistics course) commented that: “Critics with an inflated sense of pride for preserving the elitist 'standard' variety of language blame esteemed writers for 'legitimizing' its improper use.” (Cristina, A1). Similarly, Francisco developed the consequences of propriety and argued that: “people are finding ways to prop up marginalized groups and gaslight them for using their language varieties that go against the standard.” (Francisco, A1). These claims express the students’ awareness toward the phenomena as well as their strong opposition against the methods related to standardization and proprietary processes.

These students’ initial critical stances were combined with either theoretical or methodological knowledge learnt from previous courses and grew in complexity as they started to incorporate and/or develop linguistics concepts and methods. Thus, their answers became more detailed and precise. For example, Francisco, who had previously taken three linguistics courses, came into the class with a level of expertise about linguistic concepts. In his first assignment, he described the data as follows: “Through word rage, linguistic shaming, gaslighting, and sticking to a language subordination model these columnists are using their access to power to promote stereotypes and oppress language variation” (Francisco, A1). In the cited answer, the student was able to provide a number of concepts and technical terms from the field to answer the questions, but he barely used data to support his answers, leaving little connection between theory and data. The level of sophistication of Francisco’s responses increased by the end of the course, as one of his answers about code switching in the third assignment showed:

> I do not believe Arellano's writing patterns can be considered code switching because he only inserts spanish (sic) words when they want to borrow a word. In general, Arellano is speaking in English with insertions of spanish (sic) in a mock way to uphold that satirical taste of their paper. (...) He over emphasizes his statements by adding thing like, "you're so pocho because," or something like "at the end of the dia" thus these words are utilized as a form of an intensifier, mainly to establish the satirical aspects and less to provide authentic examples. (Francisco, A3)

In this last answer, Francisco went beyond identifying the phenomena under study. His analysis was subtle, pointing to techniques of highlighting and erasing, and its consequences. He included a brief description of the process that the writer was carrying out to justify his answer. He also gave a rhetorical explanation about why the author might have chosen to express that way and offered data to support his point. All of these movements, that show a level theoretical and methodological understanding, were missing in his first assignment.

Over the term this group of students became technically and disciplinarily more exact in data identification and analysis, enabling them to capture more nuances and generate richer interpretations of data. This extended view of data allowed them to evaluate the language and attitudes of others around them. Marcy, a third-year psychology student, for example, had broadened her appreciation of data from quantitative data at the start of the term to include qualitative data and the role of critical evaluation by the end. She reported in the third survey that this extended view of data allowed her to evaluate the language and attitudes of others around her. Similarly, by the end of the course Erika, a fourth-year psychology and sociology double major, considered data as central for any linguistics study and reported that: "I am now more knowledgeable about language use and folk linguistic beliefs (...). I am better able to identify when myself or others are making assumptions or stereotyping language users (...)" (Erika, S3). In the same line, each student expressed being transformed in relation to their own thoughts and perceptions about others, as well as in understanding the other's experiences.

Personal Engagement. Different from the Social Scientists group that brought in disciplinary concepts and methods to understand the assignments' data, the students in this group had identities or individual experiences that resonated with materials in the course from the beginning of the term, leading them to develop specific insights, which in some cases rose to more general perceptions. In the following paragraphs we describe some of the different identities and experiences that these students -Diana, Mauricio, Eva, May and Carlos- brought in, as well as the different ways in which their backgrounds helped them accomplish the tasks.

The five students that were part of this group drew on their personal backgrounds as points of departure to interpret language stereotypes and ideologies. Only one, Mauricio, had taken a single previous introductory linguistics course. Drawing on their personal backgrounds enabled them to develop richer analyses and responses, in contrast to the limited interpretations in those answers where they omitted their experience. For example, Eva was a trilingual (English, Cantonese, and Mandarin) student with Cantonese spoken in the home but no reported international travel. In the first assignment Eva accepted unreflectively the prescriptivist views expressed in the critics' of using literally as intensifier. But in the second assignment, one slang term hit close to home and she was able to recognize its stigmatizing effect:

> Another term I wouldn't use is "fob" which is commonly used to describe people from overseas, particularly Asians. I wouldn't use this term because I personally find it

> offensive since my parents and some relatives moved here from overseas and are sometimes referred to as 'fobs' because of their inability to fluently speak English. (Eva, A2)

Then in discussing Arrellano's columns, she noted the negative effect of pressure for bilingual speakers to adopt normative dialects:

> This propels the idea that Latino Americans have to assimilate into American culture by adopting the "normal" way of speech in America. It also shows that the people asking the questions have beliefs that there is a specific way that people should speak and problematizes other languages and bilingualism. (Eva, A3)

In this last excerpt, even though Eva did not explicitly mention her family, as she did in the earlier example, she brought to her analysis the immigrant experience in order to understand and communicate propriety and stigmatization processes.

In some cases, the interpretation of the data was shaped by the students' identities and experiences, specifically in terms of class, race, and gender. By the end of the course, these identities and experiences were revisited with disciplinary-informed ideas. Diana, for example was a first-year student with no previous linguistics courses and from an English-only household, with no reported international travel, but over the term she developed an understanding of the limitations and privilege of her position. Diana's responses on all assignments were linguistically aware of hierarchies of dialects, but at the beginning she showed agreement with those hierarchies and maintained some stereotypes of dialect users. For example, in the slang dictionary assignment she would not use a word because it was usually used by "males who grew up in a poor neighborhood" and she identified being female from "a well-off neighborhood." But in the next assignment she developed a critique of how Arrellano's columns would be perceived by a white, privileged audience, and in the last assignment she recognized that the Dialectizer did not represent actual varieties, was demeaning, and stereotyped speakers of nonprivileged varieties. Additionally, she stated that selection and analysis of data made her "more curious to know how they [stigmatized dialect speakers] have been treated because of their language." (Diana, S3). She moved from interpreting data from her privileged position to a non-judgmental examination, leading to an empathetic desire to understand the experience of dialect users as well as a critical attitude toward those who adopted her prior stance.

Within this group the level of generalization from personal experience to linguistic theories and methods varied. On the one hand, some students like Diana or Mauricio (a first year FtM transgender student from a Spanish-speaking household, with no reported international travel) were able to point out in the final survey and/or assignments how language ideology and identity are performed through language. Mauricio in the first assignment perceived language through a lens of correctness but throughout the course drew on his gendered experience to understand language processes. In the last survey, Mauricio expressed a change in his understanding of the language use of the people he encountered in daily life: "I accept their differences in pronunciations and their meanings of words" (Mauricio, S3).

On the other hand, Eva, May (from a Cantonese speaking household but with no reported international travel), and Carlos (a third-year history major from an English-speaking household who spent 6 weeks in Catalonia) were less effective in generalizing from their personal experience to disciplinary understandings. As her peers in this group, May's answers were more coherent and

consistent when she included her personal experience than when she did not. Still, by the end she demonstrated little development in terms of understanding disciplinary specific theories and methods. This could be illustrated when contrasting her response about the meaning of good linguistic analysis in the first survey with her response in the third survey. In the first survey she answered that good analysis means: "...considering all possible factors that led to the end result and inferring how a result might differ if certain variables change." (May, S1); whilst in the third survey she stated that: "Objective analysis is always a good analysis for linguistics and looking at everything with an open mind." (May, S3). This last excerpt is so broad that it disregards disciplinary specificities, even though the issue stated about 'objectivity' might be related to analysis without biases or stigmatizations.

Without prior related orientations or experiences. The last group of seven students -Rachel, Paula, Kavi, Faith, Laurence, Atsuko and Havva - did not have any particular prior orientation or experience that they overtly revealed as interacting with the course. They treated the course as self-contained, only presenting new materials and concepts to make sense of within the context of the course. As with the previous two groups, some engaged more fully and deeply with the material, and all to some degree seemed responsive to data they had to discuss as part of the course requirements. Interestingly in this group, the students most impacted by the material reported no prior multi-lingual experiences, while the ones who responded least to the material had substantial multilingual experiences that might be relevant, though they did not engage with these experiences in their assignments.

Rachel and Paula were both first year students from English-only households and with no reported substantial overseas experiences and no prior linguistics courses. They both expressed being sensitive to language ideologies from the beginning of the course and over the term their understanding of language ideology deepened. This change can be illustrated by contrasting Paula's answers in the first and fourth assignment. Paula interpreted the issues of language ideology raised by the word "literally" in the first assignment: "This is prevalent by the way he describes the people he believes to use the word most often, painting them as ignorant party goers who care more about pictures on Instagram than the language they speak." (Paula, A1). Even though Paula was able to identify the phenomenon, understand the author's position, and identify the targeted group, she relied on metaphoric language (e.g., "painting") as well as informal language (e.g., "ignorant party goers") to develop her answer, and did not employ any specific term or disciplinary language. In contrast, by the last assignment she incorporated disciplinary language, for example in the following excerpt when she describes the discriminatory effect of the Dialectizer toward certain language variations:

> The way it attempts to find humor in cultural differences inherently assumes that the dialects [it represents] are marked and need translations. It implies that if you speak a "nonstandard dialect" (which does not exist, as the idea of a standard implies that dialects are incorrect and without conventions), those who speak the "correct" dialect will need a translator to be able to communicate with you and vice versa. (Paula, A4)

In this passage Paula not only uncovered the intentions of the Dialectizer but also developed the effect of the Dialectizer using words and ideas from the course.

Four of the students in this group had come from multilingual homes, -Kavi (from a Tamil-speaking household and spending a year in a Tamil-speaking region), Laurence (from a bilingual English/Vietnamese background), Atsuko (Japanese-speaking household and spent two months in

Japan) and Havva (from a Farsi-speaking home and spending two months living in a Farsi-speaking country). One more, Faith, had studied elementary Italian. Only Atsuko had taken a previous introductory linguistics course. Even though these students presented multilingual backgrounds, their initial stance toward the data was less sensitive to language ideologies and in some cases their answers perpetuated them. Kavi's interpretation of the first assignment's data about the word "literally" illustrates this statement: "People are allowed to have views about the English language (…). Even though esteemed literary icons have misused the word "literally" in this manner, the authors still retain their opinions that this usage is evident of a linguistic Armageddon" (Kavi, A1). Kavi here is still asserting the right to stigmatize word use.

However, Kavi was also able to develop a critical understanding of the stigmatization and stereotyping processes by the end of the course. In his last assignment he described the Dialectizer as follows: "From the get-go, we have a stereotyped name for the dialect itself: Redneck (...) the addition of such a stereotyped word implies inferiority" (Kavi, A4). This last passage shows Kavi's new stance and progress in the course. At this point he rejected language stigmatization. He could likewise identify language stereotypes in different dimensions and he could explain and develop its effects on the perception of the targeted social groups. This was also supported by his response in the last survey about how analyzing data has changed his view of language: "I am more sensitive to hearing prescriptive notions and am better at helping that person change their views." (Kavi, S3)

Finally, all of the students in the group reported more or less change in the way they perceived language after working with data even though the impact was limited in practice. Just like Kavi, Rachel considered that this course made her aware of her own language attitudes and she was now working actively to change them. Paula, Havva and Laurence noted having become more "open-minded" and flexible about language practices, while Faith highlighted that this course also made her "less strict in my view of how 'proper' English should be used, and see many types of language as acceptable communication." (Faith, S3).

Discussion & Conclusion

The students from the course under study brought varied language ideologies that, in more or less explicit ways, interacted with the course concepts and theoretical foundation. Even within the limitations of a single ten-week course they all became more articulate about language ideologies, able to use relevant technical concepts, able to interpret the data through the framework of the class, and able (except for one) to some degree to recognize and apply these concepts in their daily life. The TAs noted and commented on these changes, which seemed to occur to some degree whatever particular experiences or identities students brought to the course. In the last interview, both of the TAs who agreed to be interviewed commented on changes in the students' language attitudes and ideologies. Some students had by the end developed strong conceptual alignment with the class, while others were only in early stages of gaining conceptual clarity.

The TAs noted how difficult it was for students to analyze the data as samples of language structures and to connect different conceptual levels of analysis. For that reason, in discussion sections they worked with students through other pieces of data in other media, such as TV shows, and provided guiding questions that would help students make sense of the language ideologies in play. One of the TAs emphasized the role that personal experience could take to create stronger connections and understanding of the concepts. The other TA considered the role that the students' disciplinary orientation might take in the students' understanding of the class.

Although all of the students brought different experiences that interacted with the course contents and activities in different ways, we could identify some general trends in relation to their initial and final stance toward language. Under the category of students that we labeled as Social Scientists all entered with some understanding of language as an object of investigation. Two were advanced students who were social science majors, another had taken several previous linguistics courses, and the fourth was sensitive to stereotypes and stigmatizations conveyed through language. They were skilled in handling data and doing analysis within humanities and social sciences frameworks, and that showed up in their definition of data on the first survey and in their first assignment answers. While the two more advanced students already had well-articulated social scientific orientations, the two first-year students had a more precise analytic approach than other first-year students. By the end of the term they became even more explicit and precise in their linguistic analysis.

The second group of students had some personal engagement with language issues from the beginning of the course. They had a variety of attitudes toward language, although these attitudes did not draw on a technical understanding of language. By the end all of them had come to a more disciplinary understanding of language ideology, though some were more consistent in observing the application of academic concepts to their daily lives.

The students in the last group did not explicitly bring their personal or academic experience to the first survey or the initial assignments. Within the requirements of the course all were able to express the concepts and analyze the data as expected, but the degree of personal application and depth of analysis varied. In the course of the term two recognized their own position as language speakers and the impact of that stance in the interpretation, which then led to changed attitudes on their language use and position. Several also noted in passing examples of experiences they have had that intersected with the course concepts, but they varied in their ability to generalize the concepts to their lives. In particular, several students who had multilingual experiences only partially connected those experiences to the course assignments and they only applied the course concepts to their experiences in limited ways. These students may have been showing a linguistic version of the kind of resistance that Tatum (1992) found when studying undergraduate students from different racial backgrounds who resisted studying issues of race, class, and gender. Tatum found that some students resist engagement with the class contents due to taboos, idealized and overgeneralized conceptions of the US as a just society, and initial denial of holding prejudices toward others--even if they did recognize prejudice in others.

We also noticed a contrary motion among some students already having a strong affiliation with a major, who transformed a personal engagement with the material to a more objective disciplinary orientation, where disciplinary identity overtook the personal, although they still understood the application to daily life. This suggests a three-step process, where students moved from fulfilling school expectations to some kind of personal engagement (where most students in this course wound up) to a more scientific disciplinary orientation and identity.

When the quarter ended, almost all of the students showed some terminological and conceptual alignment with the course. Furthermore, all but one reported awareness of language in their lives increased in some way. Twelve students reported being able to recognize language attitudes and ideologies in others, and six of these were also able to identify their own language attitudes. Three others focused on their own language attitudes without reflecting on others. Four students took the further step of actively committing to try to change the language ideologies of others.

As the quarter developed, all of the students but two included more explicit references to the specifics of data. In most of the cases they moved from offering descriptions or paraphrasing of the data in the first assignment to citing specific words from the data as part of analyses in the later assignments. In the two cases that the number of explicit references to the data declined by the end of the quarter, the analyses of the data became more detailed and developed by the end; that is the analyses were more focused and in-depth. In most of the cases, the discussion of the data increased in complexity by the end of the quarter by the inclusion of conceptual terms to interpret the data. In some few cases of students just beginning to engage with the concepts, the data are not discussed but are used as point of departure for generalizations about the overall meaning of the data set (for example, Havva and Laurence). We can see the struggles of these students in coming to perceive the linguistic data through the lenses of linguistic concepts as part of the troublesomeness of threshold concepts that Meyer and Land (2006) describe.

Overall, all of the students experienced change in their perceptions about language no matter what initially they brought to the course. Their growth in language awareness was reflected both in their assignments and in their final survey answers. This change was consistent with the professor's aim for the course: "I need them to be able to recognize those stereotypes, understand where they come from, and think about ways in which they can work against those stereotypes, or address or mitigate those stereotypes in variation." Thus, the professor expected that all of the students become more sensitive toward the performative and ideological dimension of language which allowed them to extend the contents of the course to their own language practices and/or to others' language practices. These expectations coincided with disciplinary stances toward data and analyses using disciplinary conceptual tools. In Goodwin's (1994) study of "Professional Vision," archeology students, in order to note and record differences in soils, needed to develop skills in matching *in situ* dirt to Munsell color charts that provided detailed color codes, tasting soil samples to determine sandiness, and measuring and mapping elevations and excavations. Through these practices they could come to see and record variations in strata, structures, and activity that influenced the dirt and residue. The students in our study similarly were expected to identify *in situ* language ideologies in the language practices of themselves and others, using the conceptually defined coding schemes of the discipline. In both cases, observing the object of study through conceptual tools is part of the process for developing disciplinary tools of analysis and the ability to make disciplinary arguments.

The Teaching Assistants for the course guided students in developing practices of applying the coding schemes of the linguistics profession. As educators they were attuned to changes in students' abilities to apply these concepts to language use, and were able to notice signs of student development even within the limits of a ten-week course. The practice students gained in the course of treating language as data led them to a more reflective examination of language in the world around them. The practice treating language with data helped them notice unreflective assumptions, biases, and stigmatizations in how people around them used language as well as the ones they themselves held. This more disciplinary perception of language influenced the language choices they made and how they evaluated the language uses of others.

This study using different methods on a different population confirms and extends Hillocks (1979, 1982) early recognition of the importance of observation and analysis of observed details to the specificity of disciplinary methods expected in university writing. Students learning to select, represent, and analyze data as part of answering disciplinary questions and arguing for disciplinary conclusions in their writing are significant parts of the process of them developing professional vision. This is true even in the earliest stages of becoming familiar with disciplines, as in their initial

general education courses in linguistics studied here. This study constitutes an invitation for future projects to consider how disciplinary methods of collecting, selecting, and analyzing data should be considered a significant component of Writing in the Disciplines.

Appendix

Survey questions

First Survey

1. Name _____
2. What year are you at UCSB: 1, 2, 3, 4?
3. What is your major or intended major? _____
4. How many languages do you speak with some fluency? ____ Which ones? ____
5. Were you raised with another language in your household? YN? What language? _____
6. Have you have spent more than a month in a country or community where language other than English is dominant? YN? How Long? ____ What language? _____
7. Previous Linguistic Courses (format as a grid or follow up pages). For which
   a. Course number and name _____
   b. Did you analyze data or argued from data? YN? Describe what data you analyzed and how. _____
   c. Did you collect your own data? YN? Describe what data you collected and how. _____
   d. What was the ratio of your own data to course provided?
      i. less than 1/4
      ii. 1/4-1/2
      iii. 1/2-3/4
      iv. 3/4-all
   e. Did you get instruction or support in collection? YN? Describe.
   f. Did you get support in analysis or forming an argument? YN? Describe. _____
8. How do you evaluate your ability to collect, analyze and argue from data?
   a. poor
   b. moderate
   c. competent
   d. very competent
   e. advanced

Perception of language/data:

1. Is viewing language as data different than everyday views of language? Explain _____
2. What makes for good data for linguistics? _____
3. What makes for good analysis of data for linguistics? _____
4. How has collecting and/or analyzing data changed your view of language? _____

Goals:

1. Why are you taking this course? (choose as many as appropriate)
   a. out of interest. What aspect interests you most? _____
   b. as preparation for or part of the linguistics major
   c. to fulfill my GE/major requirements
   d. It fits my schedule
   e. I have heard good things about the course or the professor.
   f. I have taken previous courses from this professor.
   e. Other reasons _____
2. What are your expectations of the course? _____

Second Survey.

Name _____

Assignment 1. Literally as intensifier assignment.

1. Describe the data you used for this assignment. _____
2. How did you use this data in writing your paper? _____
3. How did you learn to use the data this way? _____
4. Did your TA or instructor help you understand how to use the data before you wrote the paper? YN? explain _____
5. Did your TA comment on your selection or use of data in grading your paper? Y N Explain _____
6. Did writing this assignment change your opinion about use of the word literally or about word choice more generally? How?

Assignment 2. Slang Dictionary Assignment

1. What criteria helped you select your examples from the slang dictionary

a. for the three you didn't know? _____
b. for the three you wouldn't use? _____
c. for the one that was wrong? _____
d. for the one not in the dictionary? _____

2. Did writing this assignment change your view of slang or social attitudes toward slang? How?_____
3. Did your TA or instructor provide support for choosing your examples beforehand? YN? explain _____

Third Survey.

Name _____

Third Assignment. Arellano column assignment

1. How did you pick which columns to choose? _____
2. How did you locate examples within each column? _____
3. How did you determine which letters were concerned with language issues?_____
3. Did the TA or instructor provide support for choosing your examples beforehand? YN? explain _____
4. Did your TA comment on your selection or use of examples in grading your paper? YN? Explain _____
5. Did writing this assignment change your view of why Arellano was mixing English and Spanish or more generally people mix languages? How? _____

Fourth Assignment. Dialectizer

1. How did you decide to use certain examples of word changes, spelling tricks, or grammatical alterations rather than others to discuss? _____
2. How did you identify patterns or dialect rules from these examples? _____
3. How did you evaluate the accuracy of the Dialectizer?
   a. fully accurate
   b. for the most part accurate
   c. accurate in some ways and not others
   d. largely not accurate
   e. not accurate at all

4. Where did you find examples from actual use to evaluate the accuracy and how did you select the particular examples you discussed? _____
5. Did the TA or instructor provide support for choosing your examples beforehand? YN? explain _____
6. Did writing this assignment change your views about imitating dialects and dialect stereotypes? _____

Group project:

1. How did you select the stigmatized language community to make your PSA about? _____
2. What made you aware of these stigmatizing beliefs? Did you gather evidence of these stigmatizing beliefs? _____
3. How did you collect and select your examples of the language practices to use in the PSA? _____
4. Was this similar to the procedures in your previous assignments or different ?
   a. exactly the same
   b. builds off of assignment methods, but varied,
   c. sort of similar but not exactly
   d. not at all

   Explain _____
5. How did you incorporate your evidence into the PSA in order to change people's views? _____
6. Was the prompt alone sufficient and helpful or did you need any extra help? _____
7. Did your instructor/TAs help you when selecting data or using it in the PSA? How? _____
8. How did the goals of this assignment fit within the goals of the course and the previous assignments? Does including this assignment in this course make sense to you? _____

Overall

Perception of language/data:

1. Is viewing language as data different than everyday views of language? Explain _____

2. What makes for good data for linguistics? _____
3. What makes for good analysis of data for linguistics? _____
4. How has collecting and/or analyzing data changed your view of language? _____
5. How has your analysis of the data from this course changed how you use language and respond to other people's use of language? _____

Learning process:

1. Did you find the feedback on graded assignments helpful? Did your grades become better each time?
2. Are there other sorts of data beyond examples of language you have come to see as relevant to the topic of language and society? Which? _____
3. What was the most difficult thing in terms of data in each assignment (collection, selection, analysis)? How did you come up with solutions?
4. How do you evaluate your ability to collect, analyze, and argue from data?
   a. poor
   b. moderately
   c. competent
   d. very competent
   e. advanced

   Explain _____

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Notes

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