Developing Writers in Higher Education

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Published by University of Michigan Press

Gere, Anne Ruggles.
Developing Writers in Higher Education: A Longitudinal Study.

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Consider the following sentences written by incoming college students:

Since the beginning of time, people have feared new technologies.
Our culture today stresses perfection and nobody wants to be less than perfect.
Pressure always brings out the worst in people.
Every mature, established person has control over what they say and do.

Sentences such as these provoke the common lament that students overgeneralize, making claims they cannot support, or worse, intimating a presumptuous, homogeneous view of the world. The sentences apply observations and predictions across time, contexts, and people—suggesting not only that pressure brings out the worst in people, for example, but that it always does.

Of particular concern are students transitioning into higher education. Instructional materials from across the United States warn new college writers against generalizations as a fallacy. In just two examples, Bowdoin College and the University of North Carolina (UNC) cite generalizations as among the most common characteristics of ineffective introductions: Bowdoin warns students against “absurdly general phrases” such as “humans have always . . .”; UNC encourages students to avoid openings addressing “human beings” writ large.¹ These recommendations indicate that such generality is viewed as imprecise, unnecessary, or not credible to instructors. Instead, as noted in the Writing Program Administrators Outcomes
Statement, students must learn to craft credible, “appropriately qualified” claims. Due to the importance of college writing in educational access and attainment, these expectations are crucial for traditional and nontraditional students alike (Berlin; Penrose). They especially matter in a time of divisive and uncivil media discourse in light of the ethical implications of generalizing, since responding effectively to diverse perspectives requires global citizens who can distinguish when views apply across people and contexts and when they do not.

Curiously, generalizations are addressed in instructional materials far more often than in research. The research we do have suggests that many students either perceive they should generalize or struggle to avoid generalizing relative to more experienced writers. For instance, Ellen Barton’s discourse analysis of professional versus undergraduate essays shows that the greatest distinction between the two is generalizations. All of the student essays in the study contain generalizations, not only in introductions but also, in “striking contrast” to the professional essays, in idea development within body paragraphs (763).

Corpus analysis of writing by students transitioning into university likewise shows that incoming students are significantly more likely than advanced student and professional writers to suggest that claims are always or never the case (Aull; Aull and Lancaster; Hyland “Undergraduate Understandings”). A corpus analysis of a more expanded list of “generality markers”—always, never, indefinite pronouns (e.g., everyone), and generic nouns (e.g., people)—further shows that incoming college students generalize more than advanced students and published writers. Additionally the study shows that both genre and developmental level may explain these patterns, because generalization decreases by level but remains higher in essays than academic articles (Aull, Bandarage, and Miller). Moreover, research suggests that assignment design may influence student generalizing. For example, analysis of incoming college student writing shows a significant correlation between open-ended writing prompts and certain broad, generalized claims, suggesting that standardized writing exams may solicit generalized responses by intimating that students can reasonably argue about large-scale phenomena (e.g., tradition vs. technology) and heterogeneous groups (e.g., teenagers) without representing diverse views (Aull). Finally, generalizations seem related to student success: in a corpus analysis of advanced placement (AP) writing by secondary students attempting to gain college course credit, low-scoring AP essays are characterized by “emphatic generality,” in contrast to the “elaborated specificity” of higher-scoring essays (Brown and Aull).

Aside from these studies, we still know little about generalizations in student
academic writing, aside from the sense that students seem to generalize and should not. My anecdotal experience is that some instructors assume generalizing is a result of developmental immaturity and academic level, but this may overlook important caveats, including that in certain genres, an urgent and widely applicable claim may appear convincing and confident. Such a caveat highlights a broader issue: we know little about the relationship between generalizing and various aspects of student writing, including developmental level, genre, and discipline.

This study adds to our understanding of students’ writing development by distinguishing and analyzing two aspects of stance, certainty and generality, and by exploring the impact of genre, discipline, and student level on use of related stance features.5 A key reason for distinguishing generality and certainty is that generalization markers such as those in the sentences above—references such as nobody, people, and our culture today—seem to address not whether something is true, but the extent to which it applies across people and circumstances. More specifically, certainty, or the extent of the commitment or truth value expressed about a statement, is often expressed in hedges and boosters (e.g., that something may happen); and generality, or the extent to which an argument can be generalized, is often expressed in indefinite pronouns (e.g., that everyone agrees) and extreme intensifiers (e.g., that something always happens). This examination of certainty and generalization illustrates the larger point that language-level research provides an additional means for identifying writerly development.

Although certainty is addressed regularly in research on academic stance, generalization markers remain underanalyzed. They merit more attention not only because student writers often use them, but because they are generally associated with vagueness or nonacademic, conversational discourse (e.g., Biber et al.; Hinkel; Labov) and therefore may thwart student success. In other words, while generality and certainty are overlapping, distinguishing them seems important in studies of student writing, since achieving a credible, academic stance relates to both a credible level of certainty and a credible level of generality. Students must learn how much caution or certainty to express about a claim, thereby showing diplomacy toward other views and appropriate care with risky claims (Hyland, “Stance and Engagement”), and they must learn to express an appropriate level of generality to avoid extending a claim beyond a reasonable level of applicability.

This study explores the use of certainty and generality markers over time in the writing of seven undergraduate students studying humanities, social science, natural science, and business, to investigate how they craft a written stance before and after undergraduate writing instruction, and across different genres and dis-
ciplines. This includes examining the extent to which these undergraduate writers use certainty and generality features, in contrast to more advanced students and published academics. The following questions guided the analysis:

1. To what extent do markers of generality and markers of certainty show distinct trends in selected student undergraduate writing?
2. To what extent do stance features of generality and certainty change over time in selected examples of student writing?
3. To what extent do stance features of generality and certainty appear to be influenced by genre, discipline, and student level?

Analysis Methods and Corpora

I have argued that context-attentive corpus analysis in composition can blend both more traditional attention to context and individual texts with patterned meaning exposed by corpus analysis (Aull). Along these lines, this study includes a small-scale corpus linguistic analysis of recurring discourse features alongside attention to the discipline, genre, and academic level of the writers and the texts. Though this study focuses on a small number of students, it examines stance patterns in writing by the same students across three kinds of writing tasks: placement essays at the start of university courses, reflective and personal writing in non-discipline-specific courses, and discipline-specific writing in major-level courses. In so doing, the study explores discourse patterns associated with student levels, genres, and disciplines, and examines connections between those patterns and related writing expectations.

The writing analyzed in this study was completed by seven University of Michigan (UM) students as they moved through the Sweetland Minor in Writing, which is described in the Introduction and detailed more fully in appendix 2. The students were selected with four main criteria in mind: (1) students who had written Directed Self-Placement (DSP) essays as part of their initial UM writing course placement (Gere et al.), (2) students who had written general, non-discipline-specific writing (such as in general writing courses prior to major-level courses), (3) students who had written major-level, discipline-specific writing, and (4) students from a mix of disciplinary majors. This precluded, for instance, students who were writing minors and had submitted a DSP essay but had not yet taken major-level courses, as well as writing-minor students who had taken major-level courses but had not submitted a DSP essay. With these criteria, I aimed to examine a range
of writing tasks commonly confronted by US students across their undergraduate writing development, from placement essays completed prior to college-level writing instruction, to non-discipline-specific undergraduate writing generally completed in the first two years of college, to discipline-specific writing generally completed in the final two years of undergraduate study. Ultimately, these criteria narrowed the study to seven students majoring in distinct and common undergraduate disciplines, enabling a context-informed corpus-based analysis of stance features in seven DSP essays and forty-four undergraduate texts.

Distinctions among the forty-four undergraduate texts further enabled analysis of stance patterns according to genre, the broadly recognizable prototypes (or “family resemblances”) in the social actions of texts (Grabe; Miller). Reading through the undergraduate writing, I identified three genre-based categories beyond the two initial categories of non-discipline-specific and discipline-specific writing: (1) discipline-specific writing in the student's major discipline, such as reports or argumentative essays focused on discipline-specific questions; (2) non-discipline-specific, formal academic writing focused on an observed issue or problem and written for a general audience; and (3) personalized and reflective writing about student writing and other personal experiences.

The first genre category includes essays, reports, and research papers that focus on a discipline-specific issue, for instance, a research-based essay on anxiety disorders in psychology or a lab report on an aldol condensation experiment in chemistry. The second genre category includes students’ general academic essay writing, for example, an essay on how the media blame the victim in sexual assault cases, written for a general audience outside the discipline. The third genre category includes reflective, personalized writing. These categories capture valuable distinctions, because discipline-specific discourse can be distinct from non-discipline-specific discourse even on similar topics (Myers). Furthermore, corpus research on undergraduate writing tends to examine discipline-specific texts rather than general essays or reflective writing, probably because open-access corpora include the former (e.g., see Hardy and Römer; Nesi and Gardner). In this way, this study offers a unique look at a range of undergraduate writing assignments confronted by students. The undergraduate (non-DSP) writing genres in the study are noted by discipline and discipline group in table 5.1 below.

Interestingly, most of the texts fall into two mutually exclusive categories: discipline-specific genres and general essay genres. Both seem relevant to analyze in a study of undergraduate writing. Specifically, because “undergraduates are now expected to write ‘in the discipline’ or ‘across the curriculum’” and as a result will “need to write in a way that conforms to the practices of a discipline they may not
(yet) be familiar with” (Hardy and Römer 184), it is worthwhile to identify what discursive distinctions emerge across the students’ discipline-specific writing and in contrast with more general academic writing. Furthermore, even though general, argumentative essays have been critiqued as school genres (Russell; Wardle), they are the single most common genre in undergraduate courses and merit study in relation to student writing development. Such study could be coupled with investigations of student perceptions of genre, such as Lizzie Hutton and Gail Gibson’s in chapter 3.

Though the above two categories were the most common, the third undergraduate writing category also emerged in the non-discipline-specific texts: personalized and reflective texts that appeared generally short and less formal stylistically—for example, a student’s open letter to her boyfriend’s parents about cross-cultural

<table>
<thead>
<tr>
<th>Discipline Group</th>
<th>Discipline</th>
<th>Genres</th>
</tr>
</thead>
</table>
| **Humanities**   | Language and Literature | Discipline-specific: literary analysis (2), research paper  
Non-discipline-specific: personal essay, reflective essay |
| Communication    | | Discipline-specific: advertising comparison, critical analysis, project proposal  
Non-discipline-specific: personal essay, blogging promotional piece |
| **Social Sciences** | Political Science | Discipline-specific: brief, research paper  
Non-discipline-specific: creative writing/letter, general writing argumentative essay, personal essay  
Reflective/why write essay |
| Psychology       | | Discipline-specific: argumentative essay (3), case study, conversational paper, final research paper  
Non-discipline-specific: cultural studies essay, definition essay, open letter to discriminatory parents |
| **Natural Sciences** | Biology | Non-discipline-specific: argumentative essay, personal/creative writing, reflective writing essay, writing tutor reflection  
Discipline-specific: scientific report, summary |
| Chemistry        | | Discipline-specific: scientific report (5)  
Non-discipline-specific: media commentary essay, personal essay |
| **Business**     | Marketing | Discipline-specific: editorial, critical analysis  
Non-discipline-specific: argumentative essay, summary cultural essay, summary essay |
dating, or reflective pieces on “why I write.” Therefore, to see what additional features emerged across these texts, I created a “personalized” category to capture all texts in which there is an explicit, first-person narrator offering an experiential point of view, often in reflective commentary on the students’ writing. Together with the DSP essays as their own category, these four genre categories captured all of the academic writing submitted by the University of Michigan minor students in the study; the details of each are noted in table 5.2. In addition to the levels and genres noted in table 5.2, the minor discipline-specific texts are further divided by the discipline groups noted in table 5.3.

As noted in the section three introduction, I use three corpora as reference corpora for three levels of writing, that is, as representative of more examples of writing at the same level. A larger corpus of DSP writing by all incoming UM first-year students between 2009 and 2013 serves as a reference corpus for incoming college writing at UM; all of these first-year students responded to a similar reading, writing, and reflecting task prior to college writing instruction (see Aull; Gere et al.). The Michigan Corpus of Upper-Level Student Papers (MICUSP) serves as a reference corpus for advanced student writing. MICUSP is the largest open-access corpus of student writing to date, consisting of over eight hundred A-graded pieces of writing across sixteen disciplines and seven genres (e.g., essays, reports) by students in their final level of undergraduate through the third level of graduate

Table 5.2. UM Writing Minor Corpora Texts and Token Numbers by Genre

<table>
<thead>
<tr>
<th>Corpora by Level and Genre</th>
<th>Minor Students’ DSP Essays</th>
<th>Minor Undergraduate Writing Texts*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Discipline-Specific Texts</td>
<td>Minor General Essay Texts</td>
</tr>
<tr>
<td>Text Number</td>
<td>7</td>
<td>21</td>
</tr>
<tr>
<td>Word Tokens</td>
<td>6,294</td>
<td>37,154</td>
</tr>
</tbody>
</table>

*Overall, the minor undergraduate writing corpus includes 44 texts and 78,459 word tokens.

Table 5.3. UM Writing Minor Subcorpora Texts and Token Numbers by Discipline Groups

<table>
<thead>
<tr>
<th>Minor Discipline-Specific Texts by Discipline Group</th>
<th>Minor Humanities</th>
<th>Minor Social Science</th>
<th>Minor Natural Science</th>
<th>Minor Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text Number</td>
<td>7</td>
<td>5</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Word Tokens</td>
<td>8,331</td>
<td>13,558</td>
<td>12,065</td>
<td>3,220</td>
</tr>
</tbody>
</table>
school (Römer and O'Donnell). Finally, the academic corpus of the Contemporary Corpus of American English (COCAA) serves as a reference corpus for published academic writing. COCAA contains published articles as well as essays across disciplines; it therefore approximates published academic writing in a range of genres rather than just formal academic research articles. These reference corpora, noted in table 5.4, are not assumed to be exactly parallel to the writing minor, but they provide approximate comparison points for how the stance features analyzed tend to be used across three general levels of academic writing. They capture hundreds or thousands of texts from the same student levels, and hundreds of thousands of texts of professional academic writing.

Markers of Generality and Certainty

As noted in the introduction, exploring generality and certainty means targeting the words that mark these concepts. Certainty markers include hedges and boosters. Hedges, which indicate qualified or cautious certainty, are such words as perhaps, might, and possibly; boosters, by contrast, indicate full certainty about a proposition and include words such as clearly, definitely, and without a doubt. For instance, the following MICUSP example from a graduate-level psychology text includes the hedge unlikely, which qualifies a statement about a study participant's autonomy: “Since Adam is suffering from FAS which will affect his life in every domain in significant ways, it will be unlikely that he will be able to achieve or will be expected by others to achieve autonomy as much as other children.”

<table>
<thead>
<tr>
<th>Reference Corpora</th>
<th>UM DSP (2009–13)</th>
<th>MICUSP</th>
<th>COCAA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text Number</td>
<td>17,029</td>
<td>743</td>
<td>~4 million words per year&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Word Tokens</td>
<td>16,836,976</td>
<td>1,917,748</td>
<td>85,092,288</td>
</tr>
</tbody>
</table>

<sup>a</sup>Within COCAA, the nine disciplinary subcorpora were used to compare features across the following: history, education, geography/sociology, law/political science, humanities, philosophy/religion, science/technology, medicine, and miscellaneous. The academic disciplines and discipline groups were selected to cover the range of the Library of Congress classification system (Davies), and the sizes of each subcorpus at the time of the study, 2015, follows: COCAA (all) (90,168,162 tokens), history (12,245,202 tokens), education (9,443,293 tokens), geography/sociology (16,180,080 tokens), law/political science (8,600,386 tokens), humanities (11,926,481 tokens), philosophy/religion (6,740,288), science/technology (14,075,316), medicine (6,700,484), and miscellaneous (4,256,632). Davies states that the balance between the size of discipline and discipline groups remains stable from year to year.
one more example, the following statement from a UM incoming student DSP essay includes the booster dramatically and the hedge relatively, which show more and less certainty, respectively: “Developing and implementing a more discriminatory process for recruiting teachers will dramatically increase the educational standards of this country in a relatively inexpensive way.” In these examples, the hedges and boosters modulate epistemic commitment, or give the writers’ “assessments of possibilities and probabilities” (Vande Kopple 97). Thus, certainty indicates the extent to which something might be true and is marked by hedges and boosters.

Though it overlaps with certainty, generality can be seen as a distinct and underexamined aspect of stance (Aull, Bandarage, and Miller). Generality refers to the scope of an argument, or the extent to which something can be applied across people and contexts. In this study, markers of generality include unqualified uses of indefinite pronouns and several generic nouns that appear in over 96 percent of student writing across the corpora. These pronouns and nouns are noted in linguistic research as markers of generalized and indefinite references. Specifically, studies of “universal and negative pronouns” none, all, each, and no* and every* pronominals (nothing, no one, nobody, everything, everyone, and everybody) are described as “marked exaggeratives” (Biber; Hinkle; Quirk et al.). Similar studies use the term “vague indefinite pronouns” to refer to any* and some* pronominals (e.g., anything, someone), which are cast as hedges because the reference remains unspecified (Hinkel; Quirk et al.). Generic nouns include people, world, society, human(s), and human being(s), as well as certain uses of today (e.g., students today). In addition, qualified uses of generalizations—those markers of generality modified by not or a hedge, such as almost anyone or not all people—are treated as a separate category, since these phrases emphasize applicability but do not imply that a claim is fully generalizable. Aull et al. show that not only uses of generalizations but also qualified generalizations distinguished incoming college writing from expert academic writing; expert academic writers use not only fewer generalizations but more qualified generalizations than students. This pattern suggests that generality is not unwelcome in academic writing, but that qualified generalizations may be one way that academic writers show emphasis while avoiding claims that imply there are no exceptions.

A full list of the generality and certainty markers analyzed in this study is included in the online appendix 8 (https://doi.org/10.3998/mpub.10079890.cmp.6), and analysis of these features in the reference corpora provides empirical support for focusing on these features. In other words, analysis of the certainty and generality markers in first-year UM student DSP writing, upper-level student writing
in MICUSP, and expert academic writing in COCAA suggests the importance of focusing on these features and differentiating certainty and generality.

Hedges, boosters, generality markers, and qualified generalizations appear in notably different frequencies across these three reference corpora. With one exception, all four sets of features were significantly different across all three levels ($p < .001$)—so significant, that is, that the likelihood that the distinction occurred by chance is less than 1 in 1,000. Furthermore, the trajectories across the three levels were compelling. Uses of generality markers and qualified generalizations were both significantly different across all three levels ($p < .001$), and they showed an opposite trend: the generality markers were highest in the incoming first-year writing and lowest in the published academic writing in COCAA, with the advanced student use falling in between. By contrast, qualified generalizations were lowest in the incoming first-year writing and highest in the published academic writing, with the advanced student use falling in between. Hedge use was highest in the advanced student writing, next highest in the published academic writing, and lowest in the incoming first-year writing. This difference in hedge use may draw attention to genre distinctions between the advanced student writing in MICUSP and the published academic writing in COCAA; MICUSP contains only discipline-specific writing, which tends to include more hedges than writing for a general academic audience (Hyland Disciplinary Discourses; Hyland Metadiscourse). This variation may likewise help explain the only distinction that was not significant, booster use between the incoming first-year writing and the published academic writing in COCAA. The published academic writing aimed at a general academic audience may permit more boosters. At the same time, it includes more hedge use, so even while booster use is not significantly different, the published academic writing contains more of a balance between certainty and qualification than the incoming first-year writing (Aull).

**Analysis of Findings**

**Textual Examples**

The minor writing in this study bears out these patterns. Their DSP essays, written prior to their UM matriculation, contain frequent generality markers. Furthermore, the scope of the generalizations appears especially wide, for example, across very large groups. As they begin to write for undergraduate courses, the minor writers show adjustments in their levels of both generality and certainty. The following examples in various minor texts help illustrate stance feature use across student level, genre, and discipline.
Minor DSP text examples:

**Generality:**

1. *The children of today* are the leaders of tomorrow, so if we do not put great significance on the way in which teachers are chosen, children will be deprived of an effective education and won't be able to handle society’s money. (DSP essay of Shannon, communications major)

**Qualified Generality**

2. Each quality may *not always* be exhibited, but we have the flexibility that computer programs do not to take into account. (DSP essay of Amanda, English major)

   The first excerpt includes generalization markers (*children of*) *today* and *society’s*. It seems to use the generalization about children to project urgency about a shared ideal (Aull, Bandarage, and Miller). This excerpt also extends the generalization to definitive, causal projections about what will happen if teacher selection is not prioritized. By contrast, the second excerpt includes a qualified use of generality by using the phrase *not always*. The next two example passages include *may* and other examples of certainty markers.

**Certainty:**

3. This method would *undeniably* improve America’s educational system by replacing the bottom six to ten percent of public-school teachers that currently hinder it. (DSP essay of Owen, political science major)

4. For example, how a celebrity interacts with people *may* be *very* different from how a mechanic *may* interact. (DSP essay of Ayanna, business major)

Here excerpt three includes the booster *undeniably*, which draws attention to the writer’s full certainty about the claim about how to improve the hiring of teachers. The fourth example includes the following certainty markers: the hedge *may* and the booster *very* as well as the generalization marker *people*. In this example, the booster *very* highlights the level of difference the writer describes, while the hedge *may* avoids suggesting that the writer can definitively prove that celebrities and mechanics behave differently. The use of the generality marker *people*, though, makes the claim less precise than most academic arguments. The same DSP essay goes on to suggest that “As humans, we are versatile in our responses and behavior. It is impossible to find one single pattern.” These generality markers indicate very broad
developing writers in higher education

predictions, so that while generality markers are also used in more advanced academic writing, the scope of these incoming first-year student predictions is much wider than claims made by more experienced writers. In their argumentative essay writing prior to undergraduate instruction, then, the students often construct a stance characterized by generalized predictions and observations.

Minor essay genre text examples:

*Generality:*

5. The media leads *general society* to believe that the “sexual situation” [e.g., late at night] that results is the victim’s fault, and therefore not rape. There is a common misconception in our *society* that victims should choose their actions more wisely if they don’t want to be involved in that situation. (Argumentative essay by Amanda, English major)

6. Choices are a part of *everyone’s* lifestyle everyday [sic]. We live with them, treasure them and can be disappointed by them at any time. Choices can have both good and bad consequences. (Argumentative essay by Ayanna, business major)

7. By maintaining normality in *society, order is also sustained.* With the same idea, *no one* would want “crazy” people walking around on the streets. (Argumentative essay by Justin, psychology major)

*Qualified Generality*

8. Anyway, the very words that humans created can be insufficient to describe this meaning. *Not everything* can be described with words. (Reflective essay by Ayanna, business major)

Excerpt five includes the generalization marker *society* twice. The first use is modified by *general,* but both uses as well as other uses of *society* throughout the full essay seem to refer to the same entity—readers of and commenters on social media and online news outlets—though neither *society* nor *media* is explicitly specified along these lines. Example six opens with a generalization about *everyone,* which is followed by the use of *we* and the projection of shared experiences. All of the statements are broad insofar as they do not address the topic of “choices” in terms of kinds of decisions. The seventh example includes the generalization markers *society* and *no one* in what appears to be an effort to imply that “normal” and “crazy” are socially constructed and maintained; in this case, *no one* seems to refer to a typical person, without exception, who is influenced by said social norms. Excerpt
eight shows the use of a qualified generalization that explicitly counters a potential generalization.

_Certainty_

9. When weapons of _any_ kind are made permissible in public schools, equal access to learning cannot be attained. Students will be confronting daily with the knowledge that their pupils carry swords, which will _undoubtedly_ interfere with their learning. (Argumentative essay by Owen, political science major)

10. Ethnographic fieldwork is dependent on the development of intimate relationships with members of the society being studied. The ability to initiate, foster, and maintain these relationships is _greatly_ influenced by the background of the ethnographer. (Argumentative essay by Susanne, biology major)

Passage nine includes the generalization of _any kind_, which intimates that the writer sees no exception to the claim that weapons should be kept out of public schools. The passage also includes the booster _undoubtedly_, which explicitly conveys full certainty about the claims—imagine, for example, the same claim without the booster. Excerpt ten includes a claim intensified by the booster _greatly_, though like many boosters in advanced academic writing, the booster intensifies a rather specific claim—this one about the influence of ethnographer background on ethnographic fieldwork.

**Minor discipline-specific text examples:**

**Generality:**

11. As marketers, we recognize that we not only serve our organizations but also act as stewards of _society_ in creating, facilitating and executing the _transactions_ that are part of the greater economy. (Marketing brief by Ayanna, business major)

12. In order to strengthen our data we should have each run the five reactions ourselves. Each individual has a different way of performing the experiment regardless of how uniform we try to design the experiment. One individual may scrape out the round-bottom flask until _every_ visible speck of the precipitate is out, and another may not. (Lab report by Abby, chemistry major)
Qualified Generality

13. His references almost always have other underlying messages that a typical scholar of today must search for more deeply, but at the time were usually well known within the intellectual sphere. Images involving religion or classical mythology do not necessarily agree in today’s world, but they worked well for Milton to address multiple perspectives that his audience could comprehend no matter what they believed in. (Research paper by Amanda, literature major)

The generalization marker society in excerpt eleven refers to marketers as stewards of the social lives of people writ large, while excerpt twelve includes the generality marker every to emphasize the necessity for thorough work in lab preparation, helping to convey the students’ understanding of how they can improve. This lab report example also includes the hedges may and may not to further emphasize the variability of experiment execution. The thirteenth excerpt from a discipline-specific literature research paper includes a qualified generalization, almost always, to make a claim about references in Milton’s literature; this matches the use of qualified generality to make a “near-generalization” (Aull, Bandarage, and Miller 38). The passage also contains several other stance markers, including the generalization markers of today and today’s world, as well as the hedges usually and not necessarily.

Certainty:

14. The next peak occurs at 6.7 and corresponds to the multiplet that has an area of three so it must correspond to Group C and E. (Scientific report by Abby, chemistry major)

15. This factor [chronic and excessive worry or anxiety] certainly applies to Austin who explains that he can spend at least 3 hours and sometimes the entire day in “worry land,” a term that he coined himself to explain the time when he thinks about little events that occur in everyday life and worries about what will happen in the future. (Case study by Justin, psychology major)

The passage in excerpt fourteen indicates certainty in a statement that demonstrates knowledge: must intensifies a discipline-specific statement about correspondence between the noted peak and the groups in the study. Likewise, the fifteenth excerpt demonstrates knowledge, suggesting that a factor of a psychological disorder not only applies, but applies without doubt, to a patient discussed in a psychology case study.
As do corpus patterns across the texts displayed in the next section, these example uses appear to confirm that the minor students make some changes in their written stance as they develop as writers and encounter more genres and discipline-specific courses. The changes suggest that in minor course work, and perhaps as well in extracurricular settings discussed by Ryan McCarty in chapter 4, the students are implicitly or explicitly encouraged to find ways to craft credible claims, by avoiding certain generalizations and showing certainty vis-à-vis supported claims that demonstrate their knowledge.

**Corpus Patterns**

Corpus analysis of stance markers across the corpora point to several distinctions based on writing level, genre, and discipline. In terms of all stance features in the minor writing—generality markers, qualified generalizations, hedges, and boosters—the greatest distinctions emerge between the DSP essays and all of the undergraduate writing (minor essays and minor discipline-specific writing).11

**Differences based on student level**

In the comparison of the minor DSP writing versus all minor undergraduate writing—both essays and discipline-specific texts—there are several significant differences. Somewhat significant distinctions include that qualified generalizations increase to a moderately significant degree \( p < .05 \), and boosters lessen significantly \( p < .01 \). The only highly significant differences \( p < .001 \) occur in generality marker use, across all three levels: use of generality markers is highest in the minor DSP and lowest in the minor discipline-specific texts, while the minor essay texts fall in between. Interestingly, there are no other significant differences between the minor essays and the minor discipline-specific writing; in other words, in terms of qualified generalizations, hedges, and boosters, there are no significant differences across the writing completed by minors after at least some UM writing instruction. These patterns therefore imply evidence of writing development as soon as minor students begin practicing undergraduate writing, in that after their DSP essays, the students modify their use of all certainty and generality stance markers across the genres they write. Furthermore, given that students qualify more, and intensify and generalize less, the specific modifications they make point to a coherent theme in writing development, toward more circumspect writing.

**Differences based on genre**

Other findings suggest additional genre-based trends. In terms of qualified generalizations and hedges, there are no significant differences between minor DSP essay writing and minor essay writing, suggesting that students, regardless of level, qual-
ify generality and certainty less often in essay writing and more often in nonessay, discipline-specific writing. The essay genre, then, appears to influence qualification (or downplaying) of both certainty and generality, even as such downplaying increases by level. Along with level-specific minor writing patterns, these findings furthermore suggest that generality marker use appears to be influenced by both genre and student level. In other words, even as students generalize less and qualify more once they begin undergraduate coursework, they still generalize more and qualify less in essay writing. (See tables A and B at https://doi.org/10.3998/mpub.10079890.cmp.6 for more detailed findings.)

Comparative use of stance features is also interesting across the three genre-specific categories within the minor in undergraduate writing: minor discipline-specific writing, minor general, essay writing, and minor personalized/reflective essay writing. All three of these corpora consist of writing by the minor students after some college instruction (thus, the DSP texts are excluded). These corpus patterns show that discipline-specific writing and the personalized writing are most distinct from one another, a finding similar to that of Lizzie Hutton and Gail Gibson in chapter 3. More specifically, though, they are most distinctive in terms of generalization marker use as well as booster use ($p < .001$). They are not significantly distinct in terms of use of hedges. Furthermore, the general essay genre and personalized writing appear only significantly distinctive from one another in terms of boosters, which are used most in the personalized writing. Here too, these patterns suggest cases in which genre, rather than level, especially influences the minor students’ written stance. They also show that these writers use generality and certainty markers distinctly, or in distinct frequencies from one another, which supports the idea that it can be analytically useful to differentiate them in research on stance. For instance, minor students use generality markers significantly more in their personalized writing than in their essay writing, but there is no significant difference in their use of hedges between the two. The minor students may therefore be developing genre-specific stance features even as they are also making broader adjustments: overall, the students seem to develop their use of features related to a more circumspect stance—one with less generality and more qualification—but students furthermore use the most circumspect features in their nonessay writing. (See table C at https://doi.org/10.3998/mpub.10079890.cmp.6 for more detailed findings.)

**Differences based on discipline group**

Consider next the minor students’ stance feature use across the minor discipline-specific writing, according to three common discipline groups: humanities, social sciences, and natural sciences. In these comparative corpus analyses, there are a
few highly significant differences. One is that generalization marker use is significantly higher in minor humanities writing than in minor natural sciences writing \((p < .001)\), and it is also significantly higher in minor social science compared to the minor natural science writing \((p < .001)\). At the same time, minor social science writing contains significantly more qualified generalizations than the natural science writing \((p < .001)\). A final highly significant distinction is that boosters are more frequent in minor humanities writing than in natural science writing \((p < .001)\); they are also moderately significantly higher in minor social science than in minor natural science writing \((p < .01)\).

Interestingly, the minor humanities writing includes the most generality markers as well as the most certainty markers, in both hedges and boosters. The certainty marker patterns match those found in Hyland (“Stance and Engagement”), in which academic research articles in the humanities contain the greatest relative frequencies of hedges and boosters, followed by social science and finally by natural science writing, which contains the fewest. Hyland attributes these patterns to the importance of showcasing writers’ interpretive reasoning in the humanities, in contrast with the more empirical evidence used as the basis for claims made in social science and especially natural science writing. It is important to note that this is a matter of relative frequency of stance markers across disciplinary groups, rather than use and nonuse. That is, all disciplinary groups use features to adjust stance; for instance, as evidenced in the textual examples in the last section, a booster in a natural science lab report can emphasize the writer’s knowledge and the reliability of the results. But boosters and hedges appear to be a more frequent part of a credible academic stance in the humanities than in the natural sciences, with social sciences often falling somewhere in between, in both the writing in Hyland’s (“Stance and Engagement”) research article analysis and in the minor writing. These patterns therefore indicate that the minor students may be approximating discipline-specific writing expectations consistent with published research articles, perhaps reflected in the discipline-specific texts they read for class and guided by instructor feedback that mirrors discipline-specific norms. These discursive distinctions point to discipline as another dimension of the students’ writing development. (See table D at https://doi.org/10.3998/mpub.10079890.cmp.6 for more detailed findings.)

**Differences based on student and professional level**

Finally, to explore how stance feature use in minor-discipline-specific writing compares to that in more advanced academic writing, we can turn to the two advanced reference corpora: MICUSP, the reference corpus for slightly more advanced student writing, and COCAA, the reference corpus for published academic writing.
In terms of generality, the minor discipline-specific writing appears similar to both corpora: there are no significant differences in the frequencies between minor discipline-specific writing and either advanced student or published academic writing in generalization marker use. There are also no significant differences between minor-discipline-specific writing and advanced student writing in terms of qualified generalizations.

In terms of certainty, the minor student writers use significantly fewer hedges and significantly more boosters than the advanced student writers in MICUSP ($p < .001$). They likewise use fewer hedges ($p < .05$) and significantly more boosters ($p < .001$) than the published academic writers in COCAA. This pattern in minor student writing—of both more often intensified, and less often qualified, epistemic commitment—suggests that even though they begin to qualify their claims more as they move from secondary to undergraduate writing, students may still not be modulating stance to convey as much caution as more advanced writers, a point discussed further below.13

Conclusion

The focal corpora in this study are too small to draw broad conclusions, and more research is merited to explore stance features across level, disciplines, and genres. Still, notable discourse patterns emerge that point to student development, including: (1) an apparent developmental trajectory in use of stance features such as hedges and boosters, in which hedges increase and boosters decrease over time in academic writing (cf. Aull and Lancaster); (2) hedge and booster patterns in discipline-specific minor writing that appear to approximate professional academic expectations (cf. Hyland “Stance and Engagement”); and (3) the curbing of generalizations as a potential way that minor students begin to negotiate academic writing expectations.

One take-away from these findings is that generality and certainty markers are distinct in terms of student use, indicating that it is analytically and pedagogically useful to differentiate these aspects of stance. Both appear to be influenced to some extent by developmental level, genre, and discipline, but to different degrees. Specifically, the minor writers use certainty features significantly differently in their writing before UM instruction than they do after any UM writing instruction. In addition, relative to generality marker use, the certainty marker use in minor writing approximates that of more advanced writing across the genres they write: after...
some undergraduate instruction, these writers begin to use more qualification, and less definitive certainty, regardless of genre or field, and they also adjust in field-specific ways. For instance, minor humanities writing includes the most markers of generality and also the most markers of certainty, in both hedges and boosters, indicating that the minor students may be approximating discipline-specific writing expectations consistent with published research articles. The minor discipline-specific texts are furthermore similar to advanced discipline-specific texts in terms of generality markers.

These trends indicate that as students read and write more academic texts, some of their stance marker use shifts, and they do adjust levels of certainty and generality, at least to some extent, across rhetorical situations. Because these students receive instruction and engage in reflective writing practices as part of their writing minor, the patterns may indicate that students have benefited from these explicit practices. Specifically, students in writing minor courses may have received clear course-, genre-, and field-specific expectations, and been asked to reflect on these expectations. Other students may likewise benefit from clear expectations related to the generality and certainty of claims appropriate to a given task, including clear guidance about whether a writing goal is to approximate professional academic writers or not. Several other studies in this collection, including those by Ryan McCarty and Zak Lancaster, show what we can learn about student writing development from language-level analysis, and in turn, how insights from such analysis can support the development of student writers.

More specifically, insofar as the minor students qualify more and boost less after some UM undergraduate writing instruction, the students seem to have developed a greater understanding of how to qualify certainty and generality as part of negotiating the expectation that academic writing will show diplomacy and caution (cf. Hyland, “Stance and Engagement”) and will be careful and open-minded toward competing positions (cf. Thaiss and Zawacki 5–7). At the same time, several studies in this collection indicate that many instructors do not aim for students to approximate the norms of professional academic writing in their discipline-specific course assignments. It may therefore be true that circumspect claims are welcome in undergraduate writing for a range of audiences and purposes. It may also be necessary and valuable for instructors to clarify whether they hope students will follow the norms of discipline-specific academic publishing or have alternate goals, such as making their ideas legible for a more general, popular audience. Specifically, as I hope this study shows, discourse-level choices can help illuminate macro-level constructs such as audience and purpose by connecting them to how they are re-
alized and discoverable in language-level choices. Attention to discourse patterns in students’ own and others’ writing can help highlight distinctions in expectations related to stance, as well as specific choices students have for fulfilling them.

In a similar vein, the findings illustrate that students are learning multiple expectations related to expressing stance in different genres and disciplines. They therefore point to broader considerations for assessment, corpus research, and teaching. In terms of assessment, the findings suggest that we have more to learn about the intersection between stance patterns and genres regularly assigned in writing courses and standardized assessments. A specific finding is that stance features differ significantly between undergraduate essay genres and undergraduate discipline-specific writing. Research already suggests a mismatch between standardized secondary writing prompts and college-level writing assessments (Gere et al.), and this analysis further suggests that students must negotiate clear differences in stance expectations between early college and discipline-specific writing. Along these lines, we could see essay patterns such as generalizations as support for shifting “from nearly exclusive use of the essay” in early college writing to genres such as proposals that are more often expected in upper-level courses and workplaces (Burstein, Elliot, and Molloy 134), based on the idea that the generic conventions of the essay do not necessarily support the kinds of social and rhetorical actions students will encounter later. But if students can make discursive adaptations across genres, an apt question is instead, or additionally, how to help facilitate such adaptation. This brings us to considerations for research and teaching, which in turn can help inform writing assignment design.

An important research implication is that we need more studies of how language-level choices are shaped by genre and discipline, as well as other influences discussed in other chapters. Accordingly, we need more corpora that are organized and balanced vis-à-vis these facets of student writing development. Such corpora, with equal representation (to the extent possible) of different genres, fields, levels, etc., make it possible to expose distinctions that resonate with the interpersonal and genre-based expectations of different rhetorical tasks.

A final implication, and one I pose as a call for greater understanding, relates to how we conceptualize and examine what constitutes a credible and also civil claim. This study suggests that these minor students move away from emphatic and generalized claims and toward more circumspect ones as they practice and study writing. The findings in turn highlight several significant possibilities, as well as a responsibility to learn more. They point to discourse as a direct contributor to how writers position their own views. Incoming first-year writing tends to position the writer’s claim as the only one; as the students write in undergraduate courses, they
begin to position their claims as one credible option, especially in the nonpersonalized writing. These are shifts that highlight patterned discourse as evidence of distinctions across levels, genres, and disciplines. By that measure, they show that patterned discourse can help expose challenges and expectations that students face in crafting judicious claims: discourse can be part of students’ analysis of genres and disciplines and can be an important part of recognizing writing that is inhospitable to nuance and multiple perspectives. The practiced ability to recognize such distinctions can help fuel awareness of the power of discourse and its socio-rhetorical effects. These choices include identifying when it may be fair to generalize and emphasize, and when it is most fair to be circumspect about the claims we make.

The lexical lists used in the analysis and the findings from the corpus analysis are available on our Fulcrum platform at https://doi.org/10.3998.mpub.10079890

NOTES

1. See, for instance, online writing guidance for incoming US college students, which regularly warns students against the “fallacy of hasty generalizations”; we see this, for example, from the University of North Carolina, University of Richmond, Purdue University, and Utah State University. Also see Clauss and Pinto (2011). See https://www.bowdoin.edu/writing-guides/three%20parts.htm; http://writingcenter.unc.edu/handouts/introductions/. Interestingly, the Bowdoin materials also suggest that students should “Make sure you convey that the topic is of vital concern,” just after the recommendation that they should avoid general statements. It is worth considering whether students might perceive these two recommendations as being at odds.

2. The WPA Outcomes Statement identifies “appropriately qualified” generalizations as “foundational” for first-year college writers. For the WPA Outcomes Statement, see http://wpacouncil.org/positions/outcomes.html

3. Aull showed significant differences in claims made in the three task-based categories of student Directed Self-Placement (DSP) essays; corpus 3 included features closest to expert academic writing and corpus 2 included features the least like those of expert academic writing. An example of an open-ended prompt is “why do students cheat?” versus a source-text-based prompt such as “argue for or against Gladwell’s proposal.”

Corpus 1: Task invites personal evidence + source-text evidence; source-text-based writing prompt

Corpus 2: Task invites personal + source-text evidence; open-ended writing prompt

Corpus 3: Task invites source-text evidence only; source-text-based writing prompt

4. Comparisons between native and nonnative English-speaking students are outside of the scope of this study, but research also shows that relative to their native peers, English language learners intensify and use more generalized references (Hinkle; Hyland “Undergraduate Understandings”; Hyland and Milton).

5. Research on stance in academic writing tends to refer to two kinds of stance, “epistemic stance,” which modulates truth value, and “attitudinal stance,” which modulates affect. Epistemic stance markers, conventionally boosters and hedges that show more or less certainty, show writers’ “assessments
of possibilities and probabilities” (Vande Kopple 97). Attitude markers show affective rather than epistemic stance, displaying the “degree of desirability” toward propositional information (Vande Kopple 100), such as by showing surprise, frustration, or importance (Hyland Metadiscourse 180). Recent work has argued that epistemic stance is communicated not only through adjusting certainty but by modulating generality (Aull, Bandarage, and Miller), as discussed more below. For concision, I refer throughout this chapter to the “stance markers” in the study, though they are more specifically epistemic stance markers.

6. It is likewise worth noting that corpus tools do not generate word and phrase frequencies alone; they generate word patterns, in lines of text and common word clusters, which are all linked to each full individual text in the corpus. See Römer and Wulff.

7. These criteria also precluded discipline-specific texts written by minor students outside of their major (e.g., a paper written by a chemistry major student for an upper-level anthropology class), because it was neither general writing nor writing in the discipline in which the student was receiving major-level training.

8. The UM DSP corpus is a rather specialized reference corpus, in that compared to the minor DSP, it is representative of a wider range of writing on the same particular task, level, and context. Reference corpus is defined generally as a corpus that is representative of a certain language (Cheng; Kübler and Zinsmeister), or as “usually a larger corpus of a more general type” (Römer and Wulff 105), and so in this case (relative to the minor DSP writing), the DSP corpus provides an appropriate reference. However, while the MICUSP and DSP corpora are useful in this case, studies such as this highlight the need for more reference corpora for student writing.

9. MICUSP is available at http://micusp.elicorpora.info/ and is comprised of writing by nonnative and native English-speaking students in their final year of undergraduate through their third year of graduate school. Because some texts appeared unusable when converted to .txt form for concordance analysis, the study includes 743 texts.

10. To attend to uses in individual texts as well as various corpus comparisons, each marker of generality, certainty, and attitude was analyzed in the selected minor student writing as well as in WordSmith Tools 6 concordance and collocation patterns across the corpora (Scott). All figures are normalized by 1,000 to provide comparative frequencies, and statistical significance was based on log likelihood (LL) values (e.g., see Gries).

11. As measured by log likelihood values; see table B at https://doi.org/10.3998/mpub.10079890. cmp.6 for values.

12. In this collection, Lizzie Hutton and Gail Gibson also suggest that genre distinctions are influenced by cultural patterns.

13. Though it does not concern minor writing, it is also interesting that MICUSP shows more hedges than COCAA ($p < .05$) and also significantly more boosters ($p < .001$). This suggests that these highly discipline-specific texts written by advanced student writers show more qualification than published academic essays and articles, which may be based on genre, in that general academic essays are a less formal academic genre and therefore contain less qualification.

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