This study builds on long-standing discussions in writing center pedagogy about distinctions between higher- and lower-order concerns (HOCs and LOCs), which continue to be important for prioritizing issues students bring to writing sessions and as a means of defending the integrity of writing center work. Ellen Schendel and William Macaulley note that outsiders assume that tutoring emphasizes lower-order concerns—a misconception popular at least since 1984, when Stephen North observed writing centers dismissed as a kind of remedial "skills center" (22). In 2001 Donald McAndrew and Thomas Reigstad differentiated between the HOCs—rhetorical concerns not bound by rules—and LOCs—the more rules-based conceptions (42, 56). The HOC/LOC distinction retains the kind of taxonomic thinking about cognitive learning developed by Bloom in the 1950s and revised by Anderson and Krathwohl. This framework places rote grammatical correctness knowledge on the opposite end of a process culminating in metacognitive activity (19-20). Such metacognitive activity marks student movement from the performance of effective writing to the awareness of how and why that performance succeeds (Tinberg 75), thereby enhancing the likelihood that students transfer knowledge and skills beyond tutorial sessions and coursework. Here, the HOC/LOC distinctions made in writing center tutorials reflect the different kinds of learning that happen across students' educational experience, affirming the writing center's role as a conduit for transfer across the curriculum and across disciplines.

In 2000, Paula Gillespie and Neal Lerner redefined LOCs as "later-order concerns" to acknowledge the necessity of sentence-level proofreading, and the importance of addressing HOCs first (29). This revision illustrates an ongoing tension in writing center studies around the HOC/LOC divide; for example, Laurel Raymond and Zarah Quinn's study of mismatch and overlap between stu-
dent and tutor concerns demonstrates the extent to which the HOC/LOC distinction may be asserted in ways that overlook the legitimate needs of students themselves. A focus on content over grammar, for example, may "risk forcing writers to forfeit their authority over their own papers" (75-76), an observation reinforced by Cynthia Linville's discussion of conflicts between tutors' long-term and students' short-term goals (84), particularly for L2 learners whose goals have been shaped by professors' varying degrees of grammatical emphasis (Leki 9). Jessica Williams and Carol Severino, too, caution against focusing on HOCs for L2 learners, observing the different learning styles of international students (often sight-based learners) and Generation 1.5 students (often ear-based learners) (168).

As writing center scholars have refined these concepts and examined their implications in instruction, they struggled to move beyond anecdotal evidence, and a dichotomy arose between those who experienced “quantitative reluctance” and those who insisted on “more sophisticated methods of inquiry (formal, transferable)” (Schendel and Macauley 3). Embracing Cindy Johanek’s call for a contextualist research paradigm, we decided to engage in research that “exist[s] in the qualitative/quantitative dichotomy,” recognizing that “narratives and numbers often coexist in some fashion in most research contexts” (114). We also wanted to narrow our project’s focus so that we could maintain control, produce reliable and replicable data, and present findings in aggregated form toward future research projects. Our study design resembles a portion of one conducted at Grand Valley State University in which researchers examined students’ plans for revision at the conclusion of a writing center session. They studied students’ revision plans and compared students’ expressions of global and/or local concerns, the definitions of which are virtually identical to ours of HOC and LOC (Schendel and Macauley 118-21). Results from Schendel’s study revealed that students’ revision plans were equally distributed between global and local concerns. We wondered what plans for revision our students were expressing. Because our mission is to promote critical thinking, we sought to determine whether our tutorials carried out that mission. To investigate this outcome, we analyzed students’ revision plans that they wrote immediately after a writing center session, which we collected via electronic surveys. Revision plan comments, de-identified from individual students or sessions, provide evidence in aggregate about students’ perceptions of their learning outcomes, which, in turn, provides a snapshot of the concerns addressed during a consultation. For example, while
one student might articulate a desire “to form a clearer direction before quoting and analyzing,” another might want to “correct my grammar errors” (study sample). To discover the types of learning represented in our tutorials, our research question asked: In revision plan comments written immediately after a consultation, what is the ratio of students’ expressions of desire to work on HOCs to their expressions of desire to work on LOCs?

METHOD
To investigate this, we conducted an alpha test involving in vivo word coding⁴ (Saldaña 46-48) from responses to the single question, “What do you plan to do next in developing or revising your writing project?” Words or phrases that suggested students focused on mechanics of grammar, punctuation, and spelling were coded as LOC. Examples include but are not limited to “proofread,” “fix mistakes,” and “correct errors.” Wording that suggested students focused on larger issues was coded as HOC. Examples include but are not limited to “thesis,” “analysis,” and “rethink organization.” Some comments did not provide enough information to clearly indicate either category, such as “follow the writing specialist’s suggestions,” “revise paper,” and “edit essay,” in which case we categorized them as NEUTRAL. Comments indicating HOC and LOC, were categorized as BOTH. Throughout the alpha test process, we developed a set of definitions and examples for each category, a task that was sometimes simple due to obvious distinctions and sometimes quite complex, leading to nuanced debate. For example, “word choice” would clearly indicate LOC when a student used an obviously wrong word and did not catch the error. However, “word choice” would indicate HOC for an L2 Learner who —after using a translation device, thesaurus, and/or dictionary—needed to talk about differences among connotations of a word. During our coding process, we resolved such issues by using contextual clues.⁵

ANALYSIS
Data Selection and Coding Scheme
To capture representative student data for the academic year, we analyzed three terms’ worth of student comments (n=657) from the pool of students who worked with writing specialists. A small convenience sample of comments (n=20) was taken from those 657 to test the inter-rater reliability (IRR) of the working definitions before calculating sums for the full data set. We tested IRR with three readers coding the sample in Excel. Adjacent to the comments, we created four columns for the four categories. Using our definitions and examples as guidelines, each reader
placed either a 1 or a 0 in each column, indicating either presence or absence of a concern. The columns were added, and the percentages for the three readers were averaged to determine IRR. Although the first pilot yielded a higher IRR than our predetermined minimum of 85%\(^6\), we refined our definitions, added more examples, and conducted a second round with new comments; this round of coding yielded an IRR of 91%, well above the threshold for the degree of agreement needed to confirm the stability of our definitions. Table 1 below shows the coding dimensions that provided the parameters for our choices.

**TABLE 1: HOC-LOC CODING DIMENSIONS**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Definition: Word, phrase, or clause indicating writers think of their project beyond sentence-level mechanics.</th>
<th>Potential Positives: <strong>Nouns</strong> such as “thesis,” “analysis,” “organization,” “development.” <strong>Verbals</strong> such as “plan on developing,” “will rethink,” “strengthen,” “better integrate”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HOCs</strong></td>
<td>Word, phrase, or clause indicating writers think of their project beyond sentence-level mechanics.</td>
<td></td>
</tr>
<tr>
<td><strong>LOCs</strong></td>
<td>Word, phrase, or clause indicating writers think of their project in terms of sentence-level mechanics.</td>
<td></td>
</tr>
<tr>
<td><strong>NEUTRAL</strong></td>
<td>Word, phrase, or clause not able to be definitively placed in HOC or LOC category.</td>
<td><strong>Nouns</strong> such as “revision,” “another draft,” “second edit.” <strong>Verbals</strong> such as “following tutor’s advice,” “working more on my paper.”</td>
</tr>
</tbody>
</table>

After establishing IRR, we coded our full sample of 657 comments. To calculate percentages for each dimension, we divided the total number in each column (coding dimension) by the total number of comments for all three terms (see Table 2). An independent reader confirmed the calculations.

**FINDINGS**

The results clearly indicated that student comments reflected HOCs more often than LOCs.

HOC comments represented 60.7% and LOCs represented 29.7% of the total number of comments (657). These results indicated a ratio of approximately 2 to 1. Because the BOTH category does not contain information about how much time was spent on each type of concern, we further analyzed the data to scrutinize comments that identified only as HOC or LOC. (For example, in Fall 2014, 119 - 34 = 85 unique HOC coded responses). In this subset of data, HOCs represented 45% and LOCs 14%, of the total number of comments (657), an approximate ratio of 3 to 1.
TABLE 2: NUMBER AND PERCENTAGES OF HOCS AND LOCS

<table>
<thead>
<tr>
<th>Term</th>
<th>HOC</th>
<th>NEUTRAL</th>
<th>LOC</th>
<th>BOTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2014</td>
<td>119</td>
<td>57</td>
<td>72</td>
<td>34</td>
</tr>
<tr>
<td>Winter 2015</td>
<td>155</td>
<td>66</td>
<td>68</td>
<td>39</td>
</tr>
<tr>
<td>Spring 2015</td>
<td>125</td>
<td>43</td>
<td>55</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>399 (60.7%)</strong></td>
<td><strong>166 (25.2%)</strong></td>
<td><strong>195 (29.7%)</strong></td>
<td><strong>103 (15.7%)</strong></td>
</tr>
</tbody>
</table>

Note: Reviewers could code comments in more than one category. If a comment contained a HOC and LOC, a single comment would receive 3 codes (HOC, LOC, and BOTH). Percentages are calculated on the total number of coded comments for all three terms (657).

These results posed a follow-up question: Were consultants subconsciously driving results by focusing on our mission to promote critical thinking? To discover this answer, we reviewed students’ pre-consultation intake forms during the 2014-2015 academic year. From a drop-down menu, students chose “grammar” more often than any other single issue (n=1,401), but the second and third most frequent choices, “organizing ideas” and “developing ideas” (n=2,023), exceeds the focus on grammar. Furthermore, aggregate results reveal students’ emphasis on HOC choices on the intake form appear to align with their continued desire for HOC revision, as expressed in the end-of-session evaluation. Thus, we appear to be fulfilling our mission as students are seeking HOC development and consultants are employing HOC strategies during sessions. Nevertheless, because our data is disassociated from individual responses, we cannot know whether or how individual student focus changed; future studies might devise ways to more accurately track student responses from intake to post-session evaluation and determine causality.

DISCUSSION

Our project’s results differ from those of Schendel, who found students in her study at Grand Valley State “were focused on local concerns (grammar/mechanics/tweaking documentation) about half of the time; the other half of the time, students said they intended to focus on higher-order concerns such as developing content . . . or reorganizing the writing . . .” (92-93). A multitude of reasons might explain this difference, but two emerge as strong candidates. First, while we have a robust peer tutoring program, this study focused only on comments written after a consultation with a professional writing specialist, whereas Schendel’s study involved mostly peer consultants. Second, our writing specialist consultations lasted as long as an hour; Grand Valley State ses-
sessions lasted 30 minutes. At Irvine, we try to teach peer tutors the same values and practices that we professional writing specialists live by, and peer tutors are well aware of HOC/LOC issues. We would be surprised to find a tutor trainer in another writing center who does not take the same approach. Therefore, while the peer/professional difference could be a strong contributing factor, it is probably not the primary cause. We believe the most influential factor is the extra time afforded in the longer consultations, which could allow students to absorb the issues discussed more thoroughly, which may bring HOCs to the forefront of their thoughts as a session draws to a close. If this analysis is correct, it suggests an argument for longer tutorials, which means more time spent testing and establishing the parameters of knowledge as a shared social artifact—what Kenneth Bruffee understands as the foundation of the tutoring experience (331-32). Longer consultations may also provide space to connect a writer's intrinsic and extrinsic motivations toward deeper engagement with a given project (DeCheck 34-35), and the "motivational scaffolding" that Mackiewicz and Thompson see as critical to enhancing student comfort (45-47). In other words, the longer consultation could provide the type of environment Andrea Lunsford describes as a "Burkean Parlor" (8), in which student and consultant can engage in deep conversation, thereby producing socially constructed knowledge that students can both articulate and retain because they participated in its construction.

Such a conclusion cannot be validated from our limited study alone. Future studies comparing consultations of different lengths by both professional writing specialists and peer tutors across institutions could build a body of knowledge sufficient to warrant informed decisions about ideal consultation lengths. Future studies could also refine or even redefine the HOC/LOC divide contextualized within the ELL population, focusing more acutely on issues such as “word choice” coding decisions mentioned above. However, for now, our study indicates that our center’s work with students addresses both HOC and LOC concerns, with HOCs predominating what students want and what students get. It further indicates we are fulfilling our mission, as we believe that the students’ focus on higher order concerns, while also being mindful of later order concerns, helps them develop flexible strategies for writing and revision.

NOTES
1. The authors thank Jonathan Alexander, Daniel Gross, Percival Guevarra, and David Lacy for their assistance with this article.
2. Other writing center-oriented case studies use the HOC/LOC framework; see Geiger, et al.; Bruce and Rafoth’s work with ESL writers; and Murphy and Sherwood’s anthology.

3. Patrick Sullivan uses Anderson and Krathwohl’s revised taxonomy to promote creativity alongside other literacy practices in composition classrooms; he notes similarities between Anderson and Krathwohl’s framing of metacognitive learning and key learning outcomes in statements by NCTE, NWP, and the CWPA (Sullivan 19-20).

4. Developed by ethnographers to register definitions communities create for themselves.

5. Our IRB consent mandated that we view student comments in aggregate form with no identifying information, so we could not separate L1 and L2 responses.

6. We based our minimum agreement standard on Cheryl Geisler’s simple agreement standard of 85% or better (90-91); we did not account for chance agreement using Cohen’s Kappa.

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