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Closing the Grammarly® Gaps: A Study of Claims and Feedback from an Online Grammar Program

Abstract

From 2012 to 2015, the online grammar program Grammarly® was claimed to complement writing center services by 1. increasing student access to writing support; and 2. addressing sentence-level issues, such as grammar. To test if Grammarly® could close these two gaps in writing center services, this article revisits the results of a Spring 2014 study that compared Grammarly®'s comment cards to the written feedback of 10 asynchronous online consultants. The results showed that both Grammarly® and some consultants strayed from effective practices regarding limiting feedback, avoiding technical language, and providing accurate information about grammatical structure. However, the consultants' weaknesses could be addressed with enhanced or focused training, and their strengths allowed for important learning opportunities that enable student access to information across mediums and help students establish connections between their sentences and the larger whole. This article concludes that each writing center should consider their own way of closing these gaps and offers suggestions for multiple consultation genres, new services, and strategies for sentence-level concerns.

Introduction

I entered my master's program in 2012 with a strong understanding of grammar, punctuation, and style; experience as a grammar consultant at my previous writing center; and a career desire to work as an editor (though that would later change). On my first day as a graduate assistant at my new writing center, I learned that an online grammar program called Grammarly® had offered my university a free trial, in hopes of securing a yearly license. My initial test of Grammarly® was simple—submit my own papers through the program, evaluate its accuracy, read its comment cards, and see what it had to offer. I found in 2012 that Grammarly®'s weaknesses outweighed its benefits, as it was often inaccurate and used complex terminology unfamiliar to most student writers. As such, our writing center recommended *not* purchasing Grammarly®, and our university declined the license.

As I continued exploring Grammarly®'s websites and web resources, my graduate thesis research was born. I came upon a secondary website called *Grammarly@edu*, which advertised the program's ability to work in classrooms, libraries, and writing centers specifically. A particular paragraph (which remained unchanged from 2012 to 2015) emphasized two benefits for writing centers: student access and sentence-level support.

Grammarly@edu is designed to effectively *complement the services* your writing center offers today. Sentenceworks operates just like a human tutor in that it guides students through the revision process and delivers rich instructional feedback – all through highly engaging online interface. Grammarly@edu allows your writing center to *expand its scope* both in terms of reach – being instantly available to every student in your institution – and in the range of services – by helping students with advanced grammar, sentence structure and other sentence-level aspects of writing. (Grammarly, Inc., 2015b)

Grammarly, Inc.'s first, and most persuasive, selling point is that Grammarly® can reach a larger number of students and increase accessibility to writing services. The second is that Grammarly® can expand a writing center's "range of services" by addressing sentence-level issues (Grammarly, Inc., 2015b) and enabling us to focus on global issues instead. These reflect two common concerns that would tempt university and writing center administrators to offer Grammarly®—and two gaps in traditional writing center services that require attention. But how well can Grammarly® close these gaps for us, if at all?

To explore this claim, my Spring 2014 thesis study compared Grammarly®’s comment cards to the written feedback of online writing center consultants, allowing for a fairer comparison in an asynchronous environment. This article will present key results from this study and use them to critically examine Grammarly®’s ability to work “just like a human tutor” (Grammarly, Inc., 2015b) in extending student access and addressing sentence-level concerns. The results of this study can help writing centers to evaluate the possibilities of a program intriguing, and concerning, many scholars over the past few years and to consider ways that we can close these two gaps on our own.

Grammarly®

When I wrote my thesis in 2014, Grammarly, Inc. (2014b) advertised its program to “help perfect your writing” with “unmatched accuracy.” In the February 2014 version, users uploaded or copied and pasted their paper into Grammarly® through an internet browser and submitted their paper as one of six document types: General, Business, Academic, Technical, Creative, or Casual (Grammarly, Inc., 2014a). After a few seconds, Grammarly® generated a web report with the total number of issues found, the categories of error, and a score of the paper in its current condition. For most issues, Grammarly®’s comments (called “cards”) offered both “short” and “long” explanations, with the latter being the default. Long explanations looked similar to that in Figure 1.

Figure 1. Example Grammarly® Comment Card with Long Explanation

not just going into your stand and sit there and wait for something to happen. In my opinion, hunting is a very time consuming activity and the skills that you have to have to go hunting are endless. Being patient is the number one rule which because you never know if you're online to sit there for an hour

Short explanations Long explanations

Review this sentence for run-on sentences.

Punctuation mistakes inside the sentence, either wrong punctuation or missing punctuation. This may be a run-on sentence. Consider adding a comma before the coordinating conjunction "and".

When two independent clauses are joined by a coordinating conjunction (e.g. "and," "but", "or", "so"), there must be a comma before the conjunction, or it will be a run-on sentence. Clearly identify the conjunction in the sentence with two independent clauses and insert a comma before the conjunction.

Incorrect: Matthew went to the library and I headed back to the science lab.
The two clauses, "Matthew went to the library" and "I headed back to the science lab", are independent; a comma should be inserted before "and".

Incorrect: The wind was brisk but the sun was strong.
The two clauses, "the wind was brisk" and "the sun was strong", are independent; there should be a comma before "but".

Correct: The man's business was falling, so he was searching for alternative income.
The two clauses, "the man's business was falling" and "he was searching for alternative income", are independent. The co-ordinating conjunction, "so" requires a comma before it.

Suggested correction:
and → , and

Save time and ensure accuracy!
Have our professional proofreaders correct all mistakes for you. (Learn more →)

48 issues found. Score: 30 of 100

Comparing two or more things 1
Faulty parallelism 1
Confusing modifiers 3

Punctuation within a sentence
11

Punctuation mistakes inside the sentence, either wrong punctuation or missing punctuation

Wordiness 11
Passive voice use 1
Writing style 16

≡ Synonyms 1

Source: (Grammarly, Inc., 2014a)

Grammarly® displayed its cards in categorical groups, such as faulty parallelism, punctuation within a sentence, or wordiness (Grammarly, Inc., 2014a). Users could also download a Grammarly® PDF report and see these issues listed in the order they occurred within the paper. Lastly, Grammarly® numerically scored each paper submitted through its system on a 100–point scale, based on the number of generated cards per word count (excluding its suggestions for vocabulary enhancement). The resulting score placed each paper in one of four categories: “poor, revision necessary”; “weak, needs revision”; “adequate, can benefit from revision”; or “good” (Grammarly, Inc., 2014a).

Reviews. Several web articles and blogs have tested and reviewed Grammarly® by submitting student work (Carbone, 2012; R.L.G., 2012), emails (Wright, 2012), writing from non-native English speakers (Pace, 2010), published works (Grammarist, 2012; Pace, 2010; R.L.G., 2012), soon-to-be published manuscripts (Shofner, 2014; Yagoda, 2012), purposely correct and incorrect sentences (Grammarist, 2012), and proofreading tests (Evans, 2012; Holdridge, 2012). Their findings appear in Table 1.

Table1. Positive and Negative Findings from 2010–2014 Grammarly® Reviews

Positive Findings	Reviewer(s)
• Simple/easy design	(Shofner, 2014; vsellis, 2013)
• Quick turn-around time	(Pace, 2010)
• Ability to handle large texts	(Pace, 2010)
• Comprehensive comments	(Holdridge, 2012)
• Clear explanations	(Holdridge, 2012; Pace, 2010)
• Encouragement of active voice	(Holdridge, 2012)
• Increase in user grammar knowledge	(Holdridge, 2012)
• Categories for errors	(Orges, 2013)
• List of user’s common errors	(vsellis, 2013)
• Custom grammar handbook	(vsellis, 2013)
Negative Findings	Reviewer(s)
• False positives ¹	(Carbone, 2012; Grammarist, 2012; Holdridge, 2012; Orges, 2013; Pace, 2010; R.L.G., 2012; Yagoda, 2012; vsellis, 2013)
• False negatives ²	(Evans, 2012; Grammarist, 2012; Holdridge, 2012; Orges, 2013; Pace, 2010; R.L.G., 2012; Wright, 2012)
• Inconsistent findings	(Carbone, 2012; Grammarist, 2012; vsellis, 2013)
• Emphasis on formal rules	(Grammarist, 2012)
• Unclear explanations	(Carbone, 2012; R.L.G., 2012)
• Technical explanations	(Shofner, 2014)
• User knowledge/confidence required for applying feedback	(Holdridge, 2012; Pace, 2010)
• No rhetorical/contextual awareness	(Evans, 2012; Grammarist, 2012; R.L.G., 2012; Wright, 2012)

[1] Detected errors that are not actual errors. [2] Missed errors.

The reviewers' positive findings were mostly related to Grammarly®'s web interface, features, and usability. Reviewers disagreed over the clarity and accessibility of Grammarly®'s comment cards, and negative findings focused on the program's lack of accuracy, consistency, and contextual suggestions. Although Grammarly, Inc. (2014b) advertised Grammarly® as "the world's best grammar checker," the program's noted limitations were similar to that of other grammar software from the past 15 years (see Galletta, Durkicova, Everard, & Jones, 2005; Kies, 2012; LaRocque, 2008; Major, 2010; McAlexander, 2000; Vernon, 2000).

So far, articles and blogs on Grammarly® have been limited to professional reviews for everyday users, accuracy tests, and comparisons to professional editors. However, the program has not yet been studied in terms of writing centers or its two selling points for complementing writing center work.

Method

To gather writing feedback for comparison, this study¹ used three course-placement essays from a freshman writing course. The essays were first submitted through Grammarly® under its "Academic" document category. No other information about the essays could be provided to the program.

The essays were then provided to 10 asynchronous online writing center consultants (5 undergraduates and 5 graduates). To represent a typical online appointment, the consultants received the same submission form and information required from every student submitting to the online writing center, including the course number, their stage in the writing process, and a list of their main concerns. Each essay was randomly assigned a writing stage and related areas of concern, as shown in Table 2. The form also provided the full essay prompt, which students commonly paste for their consultants.

1 IRB approved on November 23, 2013. Reference number 488934-2.

Table 2. Assigned Writing Stages and Areas of Concern for Essays 1, 2, and 3

	Essay 1	Essay 2	Essay 3
Writing Stage	early draft	revised draft	nearly done/ready to edit
Areas Needing Assistance	thesis statement topic sentences conclusion	organization clarity	grammar commas pronoun agreement

The online consultants provided feedback by inserting comment bubbles into Microsoft Word. The consultants reviewed each paper twice with a different focus. During Review 1 (R1), the consultants approached the session as they usually would by introducing and ending the session, focusing their feedback on the student’s concerns, and applying their preferred practices and resources. During Review 2 (R2), the consultants commented only on issues they deemed to be surface-level and noticed naturally while reading (without re-reading or close-editing for additional issues). Consultants were told to still approach surface issues with their usual practices.

Gap 1: Student Access

Grammarly, Inc. (2015b) stated that Grammarly® “allows your writing center to *expand its scope*... in terms of reach – being instantly available to every student in your institution.” By emphasizing “every student” and “instant” feedback, Grammarly, Inc. (2015b) positioned its program as more accessible than a human-based writing center—a truly tempting idea for reaching hundreds or thousands of students. Writing centers (and institutions) know that they can’t work with every student across a semester or at any time they may need help. Technology generally performs better than humans in these areas, and we often rely on technology for such reasons. For instance, some past literature praised computerized grammar instruction for working with more students and freeing time for instructors or writing centers to focus on global issues instead (Douglas, 1993; Harris & Cheek, 1984).

More students could obviously receive feedback from Grammarly® than from a writing center alone, but I have two concerns. First, which students would be directed to Grammarly® or encouraged to use it? The students who have the hardest time utilizing a writing center are usually those who cannot attend or benefit from the traditional face-to-

face consultation and need their writing support to take place online. This includes not only students with disabilities but also those handling depression, anxiety, and/or stress; taking online courses; or living in separate time zones. Additional factors include time restrictions (e.g., student athletics, full-time jobs, family obligations) and learning/writing processes (e.g., needing longer amounts of time to write or process feedback). Would these students be directed to Grammarly® because it's already conveniently online? Or, would Grammarly® be intended for the students who request help only with grammar, even though they may lack the vocabulary to express other concerns?

This leads to my second concern: what kind of feedback would these students receive if they submitted their papers through Grammarly®? Extending the reach of a writing center requires extending access to similar forms of writing support. Thus, students needing online writing feedback should have similar opportunities for learning as students attending face-to-face appointments. In addition, students who feel they are weak with grammar should have the same opportunities to improve as students who seek help in other areas.

Grammarly® would indeed need to work “just like a human tutor” (Grammarly, Inc., 2015b) to reach and support these students. To determine how “instant” feedback compares to that written by online consultants in 50-minute appointments, this section looks at number of comments and the types of issues addressed. The consultants' data in this section comes from Review 1, which represents their usual approaches to asynchronous appointments.

Number of comments. First, let's look quantitatively at the number of comment cards instantly generated by Grammarly® and the number of comments written and inserted by the consultants, in three essays that are each under 1000 words. The data in Table 3 shows how much students would have to individually read, apply, or delete after receiving feedback.

Table 3. The Number of Comments Provided for Each Essay

	Grammarly®	Online Consultants (R1)		
	Comments	Comments		
	Total	Average	Highest	Lowest
Essay 1 660 words	51	16	32	7
Essay 2 892 words	43	17	35	11
Essay 3 780 words	24	18	32	9
Totals	118	51	92¹	27¹

[1] The highest/lowest total individual number of comments, not a sum of numbers provided in this table.

Grammarly® generated the largest cumulative number of comments (118) across all three essays, at over twice that of the consultant cumulative average (51). Grammarly® averaged 39 comments per essay; however, these larger numbers resulted mainly from repetition and an attempt to locate and comment on every instance of every issue it could find (see next section).

The consultants generally provided fewer comments per essay, at an individual average of 17. This was impacted not only by limits of time but also by conscious attempts to limit feedback and avoid repetitive comments. Three consultants in Review 1 specifically informed the student they would stop commenting on a particular repeated issue. Five consultants encouraged students to look for additional occurrences on their own and apply suggestions throughout the paper. Two consultants even utilized the highlighter in Microsoft Word to help students find these additional instances.

The number of comments varied by consultant, but they were consistent in their own approaches. One veteran graduate consultant provided the least number of comments in each essay, ranging from 7 to 11. One undergraduate consultant increased their number of comments as the essays progressed in the writing process, with 9 comments for the early draft, 14 for the revised draft, and 32 for the nearly final draft. In each essay, only one consultant provided over 30 comments: they were one of two veteran consultants with 12 and 8 semesters of experience in the writing center field. Ironically, both of these consultants even

provided more comments than Grammarly® for Essay 3 (the only essay listed as ready for editing).

However, number of comments can be misleading about the amount of feedback provided. For starters, the consultants' feedback was not solely focused on addressing issues and providing suggestions for improvement (unlike Grammarly®). The consultants dedicated whole comments to introducing the session (Figure 2), ending the session (Figure 3), providing praise (Figure 4), and interacting with the student (Figure 5).

Figure 2. Example Introductory Comment

Hi Student One,
My name is Alice and I will be your consultant today. I see that this is your first time submitting to the Online Writing Center, so welcome! I also see that you have marked this as an early draft and that you have requested that we focus on your thesis, topic sentences, and the conclusion. I will keep those in mind as I read through your paper, so let's get started. (Alice R1)

Figure 3. Example Ending Comment

Student One, I have finished reading the essay. Overall, I thought there were some interesting ideas present throughout! As far as revisions, here are my suggestions:

1. I would look at those topic sentences. Again, these should be roadmaps for the reader for what's to come. Think about the paragraph as a whole, even re-read it, to get a sense of what it is about.
2. I would also look at those run-on sentences I pointed out. There were a few comments I made that showed how to address these issues, but if further resources are helpful, I would suggest the Purdue OWL: <https://owl.english.purdue.edu/owl/resource/598/02/>
3. Lastly, I would suggest adding some more concrete examples that really puts the reader in some of those experiences.

I enjoyed reading the paper—and learned quite a bit about hunting! I hope my comments are helpful, and that you have a nice rest of your day. Thanks for submitting, Dorothy ☺
(Dorothy R1)

Figure 4. Examples of Praise

These are some very specific examples, which help to paint a picture for the reader and back up the points being made.☺ (Phoebe R1)	I'm interested in a lot of the details provided in the second part of the paragraph and find myself wanting to know more. (Fiona R1)
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Figure 5. Examples of Interaction with the Student

That is so cool! (Claire R1)	Wow ...good idea to develop the skill ☺ (Stella R1)
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I also found that consultants often addressed more than one type of issue within one comment. For instance, a consultant could talk about content development at the same time as helping students not to repeat previous ideas. To get a better sense of the feedback provided, let's consider the content of these comments.

Content of feedback. I first coded for specific types of issues addressed across all three essays and found the 15 types described in Appendix A. In my thesis, I attempted to categorize these issues as “global” (affecting the paper as a whole) or “surface” (affecting individual sentences), based on language from our field and from claims about Grammarly®’s potential role for writing centers. Grammarly, Inc. (2015b) stated that Grammarly® could also expand writing centers “in the range of services – by helping students with advanced grammar, sentence structure and other *sentence-level* aspects of writing” (emphasis added). Addressing these issues separately would necessitate that we distinguish surface issues from global issues; however, my attempts at coding revealed that this is not so cut and dry.

In this study, issues did not always fall cleanly into the global or surface category; rather, some seemed to belong in both. Randall S. Shattuck (1994) offers a possible explanation: “It is impossible to consider HOCs [higher-order concerns] without focusing on sentences” (p. 13). In his view, global and surface elements work together within any piece of writing and should both be addressed within each consultation. For example, a student working on transitions (a “global” issue) may benefit from feedback on rewording her transitions (a “surface” issue), to better help readers move from one paragraph to another (another “global” issue). This reveals the difficulty not only for me in presenting data from this study but also for consultants in focusing their time on student concerns, which can often be broad and vague.

As such, struggling with these categories has led me to present data in terms of individual issues covered per essay. We will begin with the issues addressed by Grammarly®, which are listed in Table 4 in the order of their frequency within Grammarly®’s comments.

Table 4. Issues Addressed by Grammarly® in Each Essay

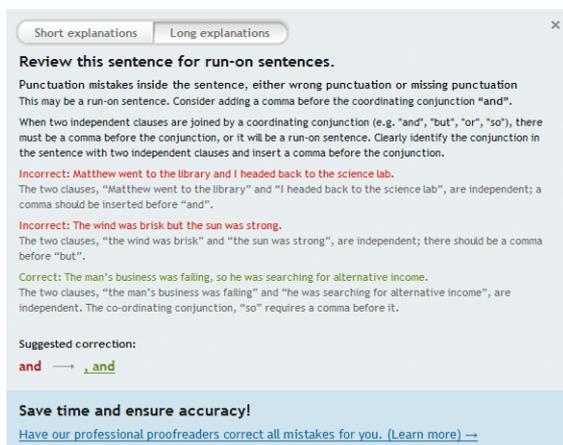
Rank	Essay 1		Essay 2		Essay 3	
	<i>Issue</i>	<i>Comments</i>	<i>Issue</i>	<i>Comments</i>	<i>Issue</i>	<i>Comments</i>
1	Rewording	15	Stylistic rules	22	Stylistic rules	8
2	Sentence combination	10	Rewording	7	Tone	4
3	Tone	9	Tone	5	Punctuation	4
4	Stylistic rules	8	Word Choice	5	Word choice	4
5	Word choice	7	Punctuation	2	Sentence combination	3
6	Punctuation	2	Sentence combination	2	Rewording	1

Grammarly® commented on a maximum of six types of issues per essay, but these were the same six issues for each student, regardless of their specific writing concerns or their stages in the writing process. As mentioned in the previous section, Grammarly®’s large number of comments resulted from repetition. Out of 118 cumulative comments, 47% were devoted to applying stylistic rules (such as not splitting an infinitive) and to avoiding all use of first- and second-person, even in an informal personal essay. Its repetition even extended to how individual comment cards were structured. Grammarly®’s cards with a “long explanation” used the following predictable formula, as seen in Figure 6.

1. Heading telling the student what to review.
2. One to two sentences introducing the general issue and potential solution.
3. Two to four sentences explaining the issue, similar issues, and/or any exceptions.

4. Correct and/or incorrect general examples, with explanations.
5. Suggested correction (when applicable), with a link to automatically insert the change.
6. Advertisement for professional proofreading services.

Figure 6. Grammarly®’s Comment Card on Run-ons



Source: (Grammarly, Inc., 2014a)

With template comments, Grammarly® approached the same type of issue in the same way each time, regardless of the role that sentence played within the paper. Thus, its feedback on individual sentences could not be connected to other areas of the paper or even to Grammarly®’s other comments. The 15 comments on rewording in Essay 1, for instance, could not be connected directly to improving a thesis statement, a topic sentence, or the conclusion. Comments on rewording in Essay 2 could also not be connected to clarity, because Grammarly® is not an active reader capable of such comprehension. Instead, Grammarly®’s comments often provided more information than necessary, attempting to cover all potential grounds that might be relevant.

While the consultants inserted fewer comments, their feedback covered a wider range of issues. The types of issues addressed by the consultants are shown in Table 5 and ranked by number of consultants who discussed them.

Table 5. Issues Addressed by the Consultants (R1) in Each Essay

Rank	Essay 1		Essay 2		Essay 3	
	Issue	# of Consultants	Issue	# of Consultants	Issue	# of Consultants
1	Thesis	9	Development	9	Sentence combination	8
2	Conclusion	9	Organization	7	Rewording	8
3	Organization	9	Rewording	7	Punctuation	8
4	Topic sentences	8	Word choice	7	Capitalization	8
5	Development	7	Tone	6	Tone	7
6	Introduction	6	Topic sentences	4	Word choice	7
7	Tone	6	Transitions	4	Organization	5
8	Sentence combination	6	Thesis	3	Development	5
9	Rewording	6	Conclusion	3	Introduction	4
10	Idea repetition	3	Idea repetition	3	Stylistic rules	4
11	Punctuation	3	Punctuation	3	Conclusion	3
12	Word choice	3	Sentence combination	3	Transitions	3
13	Stylistic rules	2	Introduction	2	Thesis	2
14	Transitions	1	Stylistic rules	2	Topic sentences	2
15	Paragraph boundaries	1			Idea repetition	2

The consultants averaged eight issues per essay—higher than Grammarly®’s total. But as Table 5 indicates, they commented on many issues that were not obviously connected to the student’s concerns. Across all 10 consultants, 14 to 15 issues were addressed per essay.

The most common issues addressed changed with each essay: the students’ concerns fell within the top 4 issues commented on by the consultants. For Essay 1, the majority of the consultants commented on the thesis, topic sentences, and conclusion specifically (along with

organization), followed closely by development and the introduction. For Essay 2, most consultants addressed organization, development, rewording, and word choice—the latter two of which could be tied to enhancing clarity, a listed concern for the student. Lastly, for Essay 3, the consultants most commonly addressed sentence combination and punctuation, which both relate to the student’s concerns with commas in different contexts. They also addressed issues with rewording, which accounted for structure and phrasing, while comments on word choice (ranked six) referred to accuracy in the case of grammar and pronoun agreement.

While the top issues addressed were appropriate for each essay, many consultants commented on a host of additional issues. As with their number of comments, there is variation among consultants. The veteran graduate consultant with the lowest number of comments in the previous section also addressed the lowest number of issues, at an average of three per essay. One of the veteran undergraduates with the highest number of comments also discussed the highest number of issues, at an average of 12 per essay.

It is worth noting that my categorizations of issues may make these numbers larger than they seem and my understanding of these issues (after analyzing comments by 10 consultants) may be different than the consultants’ understanding at the time. The consultants may see issues as related in an essay—a context in which we do not have the space in this article to consider. As discussed earlier, rewording could play a role in the organization of a piece or the effectiveness of the thesis. Consider the following example comment in Figure 7 from a consultant who goes off topic from the student’s concern:

Figure 7. Consultant Comment That Acknowledges Going Off Focus

Due to the length of this sentence, I might suggest breaking this up a bit. Super long sentences tend to be confusing to the reader and may end up sound[ing] rushed. As such, I might suggest ending the sentence after *paper.

As I know that grammar was not one of the areas you wanted to focus on, I will refrain from making too many more comments on this topic. However, please note that if you choose to, you can resubmit this paper later in the editing process for us to look for more of these surfacey issues. :)
(Sara R1)

In this comment, an undergraduate consultant suggested ending a sentence (located in the body of the paper) that she felt was too long. I would code this as “sentence combination,” because she addressed where to split one sentence into two. Though the consultant uses clarity as reasoning (a “global” issue), she later labels this issue as one of “grammar” that she felt was not related to the student’s concerns, but still important. She acknowledged that she went off topic, perhaps to inform the student of additional issues in the paper that could be addressed in an additional session, should the student wish to resubmit. The issue for consultants, then, may be not only how many issues to address in a session but which issues are related and which are off topic altogether.

Overview and analysis. Grammarly® generally provided more comments, more quickly, but its “instant” feedback created repetitive comments that were limited to the same issues regardless of student, context, or even genre. The consultants provided fewer comment bubbles but used them to cover a wider range of issues that changed with each student and essay. The consultants’ comments took longer to individually type, but their hour-long appointment times also allowed for overthinking in some cases and more feedback than would be helpful in one session.

Admittedly, both approaches were ineffective. Large amounts of feedback can overwhelm and de-motivate students, which in turn hinders learning (Hewett, 2015; Sommers, 2013). Students may not even have the time to apply it all before their deadline (Rafoth, 2009). Less feedback, then, is actually more and is accomplished through focus and consistency (Rafoth, 2009; Sommers 2013). Nancy Sommers (2013) explains: “An individual writer can learn only a finite set of lessons when revising a single paper” (p. 44). As such, Sommers (2013) and Beth L. Hewett (2015) suggest aiming for one lesson and connecting it to the students’ writing stage, questions/concerns, or patterns in their work. Hewett (2015) further recommends providing the student with three to four main tasks for revising. According to Beth Rapp Young (2005), a small number of patterns is more assuring than a large number of individual errors.

Writing center consultants at least start with a wide range of knowledge; from here, consultants can learn to *limit* their feedback, which benefits them as well as the student. Scaling back saves consultant time with fewer comments to type and less issues to focus on simultaneously. Grammarly®, however, cannot *expand* its range of knowledge, lower its comment count, or otherwise change its approach. Thus, Grammarly® cannot possibly extend the work, missions, and effective

practices of our centers. In terms of access, Grammarly® cannot provide any student with similar learning opportunities to face-to-face or online appointments. Most notably, students needing online support cannot receive feedback for certain types of concerns, receive human interaction, or learn from what they did *effectively*. Students who ask for grammar help because they lack other writing language or experiences (Hawthorne, 1999) cannot learn this language or the revision process. Even students needing only grammar assistance are given a disservice, as Grammarly® treats each word and each sentence as self-standing parts without contribution to a whole. Thus, students can't learn how "surface" issues inform "global" issues or vice versa.

While Grammarly® can "reach" more students in terms of numbers, it cannot extend the same types of support as a writing center, leaving students with less to learn. Thus, based on my perceptions of student access, Grammarly, Inc.'s claims for student reach are a little too far-fetched.

Gap 2: Sentence-Level Support

We have already discussed how Grammarly® can't provide similar learning opportunities, but how well does it fare just with grammar—its area of expertise? The second part of Grammarly, Inc.'s claim was to help writing centers with "advanced grammar, sentence structure and other sentence-level aspects of writing" (Grammarly, Inc., 2015b). However, reviewers consistently criticized Grammarly® for its inaccuracies and its technical explanations that required previous grammar knowledge. These areas both negatively impact learning and are an extension of access: students must be able to understand information in order to learn it, and they need correct information to avoid or address misunderstandings.

This section will look at these two areas more deeply, beginning with technical language. In Grammarly®'s feedback, all comments were analyzed, except for those regarding tone (use of first- and second-person). These data sets also reflect the consultants' feedback from Review 2, where they commented only on the "surface-level" issues that they noticed. This section analyzes their feedback that was originally categorized as "surface" (see Appendix A).

Technical language. While grammatical terms provide language for grammatical rules, they can complicate explanations and alienate students without prior knowledge. In this study, terms were deemed to be defined if Grammarly® or a consultant attempted to explain its

meaning or give examples within the same comment, regardless if the explanation given was inaccurate or unclear. Inaccuracies are represented in the next section.

Between Grammarly® and the consultants, 67 different terms were used in feedback across all three essays. Table 6 shows which terms were defined and undefined in Grammarly®'s pre-written comment cards (three terms were defined in one card and not another and so appear in both categories). The data also shows which terms were defined or undefined by at least one consultant (six terms appear in both categories). Terms exclude the names of punctuation.

Table 6. Grammatical Terminology Used in Feedback Across All Three Essays

<i>Grammarly</i> [®]	<i>Online Consultants (R2)</i>
Total Terms Defined	Terms Defined by At Least One
Active voice	Adverb
Adjective	Comma splice
Adverb	Conjunction
Complex sentence	Interjectory phrase
Conditional verb	Nonessential element
Conjunction	Parallel(ism)
Conjunctive adverb	Parenthetical phrase
Coordinating conjunction	Pronoun (antecedent) agreement
Definite article	Run-on
Dependent clause	Verb
Impersonal pronoun	
Indefinite article	
Independent clause	
Infinitive	
Interrupter	
Introductory phrase	
Objective pronoun	
Passive voice	
Personal pronoun	
Preposition	
Redundant category	
Run-on	
Squinting modifier	
Subjective pronoun	

<i>Grammarly®</i>	<i>Online Consultants (R2)</i>
Total Terms Undefined	Terms Undefined by At Least One
Categorical term	Abbreviation
Clause	Adjective
Comma splice	Clause
Compound object	Conjugation
Compound predicate	Conjunction
Compound sentence	Contraction
Compound subject	Coordinating conjunction
Conjunction	Elaborative phrase
Consonant	Fragment
Contraction	Independent clause
Determiner	Independent phrase
Direct object	Introductory clause
Faulty parallelism	Introductory phrase
Fragment	Noun
Helping verb	Object
Independent clause	Parallel(ism)
Main clause	Parenthetical phrase
Main verb	Past perfect tense
Modifier	Phrase
Noun	Present tense
Object	Pronoun
Passive voice	Pronoun (antecedent) agreement
Past perfect tense	Proper name/noun
Phrase	Referent
Predicate	Run-on
Prepositional Phrase	Simple past tense
Subject	Subject
Synonym	Verb
Verb	
Verb phrase	
Vowel	

Both Grammarly® and the consultants left the majority of their terms undefined. They used 17 terms in common, with 8 left undefined by both: “clause,” “contraction,” “fragment,” “noun,” “object,” “past perfect tense,” “phrase,” and “subject.”

Grammarly® used 52 total terms across all three essays, which was 20 more terms than all 10 consultants combined. It did not define 28 (54%) of these terms in any of its comment cards, including advanced

concepts like determiners, direct objects, and compound predicates. Grammarly® stuck true to its claim for handling advanced grammar: even its defined terms were generally more advanced, such as conjunctive adverbs, subjective and objective pronouns, and squinting modifiers.

The consultants used 32 terms cumulatively. On average, each consultant referred to 10 terms across their feedback for all three essays, with 3 being defined and 7 being undefined. The least number of terms used by one consultant was 2 and the most was 15. However, 9 out of 10 consultants attempted to *describe* concepts in accessible language, instead of using grammatical terminology, as shown in Table 7.

Table 7. Descriptions Used by the Consultants (R2) in Place of Grammatical Terms

Description		Grammatical Term
complete sentence	in place of	independent clause
complete idea		
main sentence		
independent thought		
introductory statement	in place of	introductory phrase
introductory pause		introductory clause
introductory element		
combining word	in place of	conjunction
connecting word		
joining word		
transitional word	in place of	conjunctive adverb
transition pause		
extra information	in place of	nonrestrictive clause
clarifying information		nonessential clause
consistency	in place of	parallelism

In addition to describing grammatical concepts, all 10 consultants occasionally used the students’ own words or phrases to frame and explain their suggestions. The grammatical terms that were used, though, resulted in only one of several groups of inaccuracies.

Accuracy. In attempting to explain sentence-level issues for students, both Grammarly® and the consultants provided inaccurate feedback. Feedback was deemed inaccurate based on an incorrect use of terms, incorrect explanations, false positives, or insertion of errors, as described in Table 8.

Table 8. Inaccurate Sentence-Level Feedback Provided Across All Three Essays

	<i>Grammarly®</i>	<i>Online Consultants (R2)</i>
	Total Inaccuracies	Cumulative Inaccuracies
<p>Incorrect Use of Term (Term used referred to a different issue, concept, or part of speech)</p>	<p>Complex sentence Fragment Run-on</p>	<p>Clause Fragment Phrase Run-on Subject</p>
<p>Incorrect Explanation (Error exists, but reasoning for error/correction is inaccurate)</p>	<p>Comma splice Conjunction beginning sentence</p>	<p>Coordinating conjunctions Conjunctions in lists Comma with “which” clauses Conjunction beginning sentences Comma and conjunction between two independent clauses Incomplete sentences</p>
<p>False Positives (Error or situation did not exist)</p>	<p>Adverb placement Article use Comma use Infinitive use Parallelism Passive voice Squinting modifiers Unnecessary words Verb use Vocabulary replacement</p>	<p>Comma use Sentence combination Singular vs plural nouns Run-ons Verb use</p>
<p>Error Insertion (Suggested correction would create an error)</p>	<p>Article insertion Article omission Comma insertion Comma omission Infinitive omission Vocabulary replacement</p>	<p>Comma insertion Comma omission Verb insertion</p>

Of Grammarly®'s 100 comments that addressed sentence-level issues (according to the original “surface” category in Appendix A), 41 contained some form of inaccuracy, leading to a 41% margin of error. Grammarly® had 21 types of inaccuracies, the majority of which derived from flagging errors that didn't exist (20 times) and using incorrect terms (17 times). Grammarly®'s errors came less from the pre-written content in its comment cards and more from flaws in its algorithms.

The consultants had inaccurate information in an average of 4 out of 41 comments on sentence-level issues from Review 2. While two consultants provided no incorrect feedback, the eight consultants who did led to a 10% average of error. The number of individual incorrect comments ranged from 1 to 14 across all three essays. The lowest individual percentage of error (other than 0%) was 2% while the highest was equal to Grammarly® at 41%. The consultants' had 19 cumulative types of inaccuracies that also derived mostly from using incorrect terms (30 cumulative times). Similar to Grammarly®, five consultants misunderstood run-ons to be either long sentences, comma splices, or combined sentences missing a comma before the coordinating conjunction. Both the consultants and Grammarly® also had difficulty correctly identifying and explaining errors involving comma usage. The consultants seemed to struggle the most with the content of their comments and with recognizing the appropriate term, explanation, or situation.

Overview and analysis. Grammarly®'s intentions to address advanced grammar resulted in heavily technical language and undefined terminology. Grammarly® also had a high percentage of inaccuracy, with most errors resulting from its algorithms. Some consultants also used undefined grammar terminology and had inaccurate content when using these terms, locating errors, and explaining them. However, the consultants were able to describe grammatical issues and use the students' own words, which is a start for reducing their technical language.

Scholars have advocated for avoiding advanced terminology whenever possible and defining terms when they are needed (David, Graham, & Richards, 1988; Day Babcock, 2008; Hewett, 2015). Hewett (2015) stresses the importance of providing feedback “at the student's level,” to increase comprehension (p. 98). Bonnie Devet (2008) explains: “After all, the consultants' ability to define and describe grammar problems in student language makes tutors invaluable to their labs. They use peer talk to talk to peers about grammar” (p. 12). Accuracy is also vital to increasing understanding. Young (2005) specifically warns about the inaccuracy of grammar checkers and further explains that student errors

often result from learning incorrect rules. Thus, inaccurate feedback can actually contribute to further error, rather than prevent it.

With appropriate training, the consultants' accuracy can be improved, and those using terms can be trained to avoid them when they are unnecessary and define them when they are. A consultant's understanding of content can be addressed while algorithms that plague all grammar and spelling checkers cannot. Grammarly®'s comment cards could be rewritten by its developers to remove terminology, but the cards cannot focus in on the student's specific issues or apply such individualistic approaches. Grammarly®'s cards and algorithms are outside the hands of writing center administrators.

Furthermore, students who have difficulty understanding or applying grammatical rules may struggle to weed out Grammarly®'s incorrect suggestions and do not have opportunities for follow-up or clarification. Thus, Grammarly® limits access of information to students with prior knowledge of grammar or linguistics—students who would not likely need an online grammar program. Students struggling to learn from Grammarly® (instead of just using its automatic corrections) could turn to the writing center for help. However, if use of Grammarly® necessitates follow-up writing center sessions, the program's intended reach and convenience become null, and writing center sessions are spent deciphering Grammarly®'s comment cards rather than improving student writing ability.

Ultimately, Grammarly® did not extend sentence-level support either. The consultants showed that they can find and address sentence-level issues when needed, and some with no incorrect information. By making similar and additional mistakes, Grammarly® did not enhance the consultants' accuracy or knowledge; rather it widened the gap for error and misunderstanding.

Grammarly® 2015-16 Updates

By September 2015, Grammarly, Inc. had updated Grammarly®'s interface and comment cards. Users could choose to focus Grammarly®'s comments on contextual spelling, grammar, punctuation, sentence structure, and/or style. The generated cards now appeared in the order they occurred in the paper, instead of being grouped by category, and were condensed to the suggested corrections in the margins. When applicable, these corrections acted as links that would change the paper for the writer (see Figure 8).

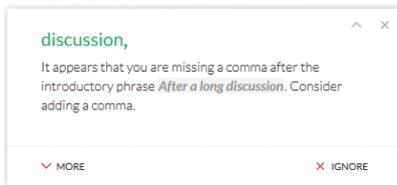
Figure 8. A Grammarly®'s 2016 Correction in the Margins



Source: (Grammarly, Inc., 2016)

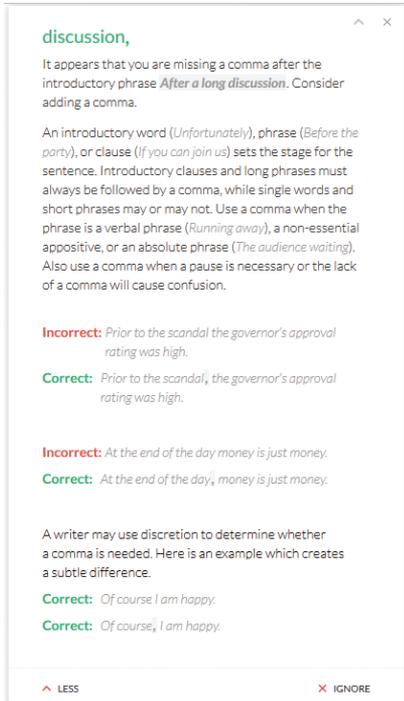
To learn why a change was needed, users could click a downward arrow to reveal an initial explanation of one to two sentences that mentioned the general issue, flagged words from the paper, and stated the suggested change (see Figure 9). If users clicked “more,” they could receive a longer explanation with incorrect and correct examples, such as that in Figure 10.

Figure 9. Grammarly®'s 2016 Short Comment on Commas after Introductory Phrases



Source: (Grammarly, Inc., 2016)

Figure 10. Grammarly®’s 2016 Full Comment on Commas after Introductory Phrases



Source: (Grammarly, Inc., 2016)

However, these comments continued to provide general examples, explain unrelated concepts, use advanced terminology, and provide inaccurate information. The full comment card in Figure 10 referred to verbal phrases, appositives, and absolute phrases (Grammarly, Inc., 2016), none of which were relevant to commas after introductory prepositional phrases. Positive and negative reviews from 2015 still found that Grammarly® provided incorrect feedback, lacked rhetorical and contextual awareness, and required users to already have grammar knowledge (Hall, 2015; Weingarten, 2015). In 2016, Les Perelman (2016) tested the reliability of eight grammar checkers, including Grammarly®, and found that none could identify all 12 major errors from a second-language learner. He concludes that “grammar checkers are so unreliable that I can assert that they do not work” (p. 12).

Lastly, Grammarly® has updated its website to remove claims about creating perfect writing. In 2015, it instead advertised “better

writers” and “confidence for mistake-free writing” (Grammarly, Inc., 2015a). In 2016, they changed their slogan to “your writing, at its best” and encouraged users to “become a better writer” (Grammarly, Inc., 2016). Its claims about complementing classrooms, libraries, and writing centers were removed in 2016 with a remodel of their *Grammarly@edu* website.

Closing Our Own Gaps

In this study, Grammarly® did not close the gaps it suggested for student access and sentence-level support. While Grammarly® could be available to endless students at any time of day (a non-human accomplishment), it did not provide the same type of support possible in a writing center consultation, such as agency, praise, individualized feedback, and assistance on issues beyond individual sentences. Furthermore, its comments on grammar were too technical and inaccurate to promote learning in students from a wide range of backgrounds. Even though technology can be more available, humans provide a wider range of support and can alter ineffective approaches through training and self-improvement. Thus, “reaching” students (regardless of the reasons or their writing concerns) is still a human activity.

Although Grammarly® could not close these gaps, a lack of student access and grammar support still exists and needs to be addressed to the extent possible by each individual writing center. The following sections discuss ways to expand student options for writing help and provide sentence-level support.

Additional consulting genres and services for extended access. Writing centers at brick-and-mortar institutions are usually known first for their on-campus presence. While face-to-face consultations have many advantages, they are the most inaccessible and can easily exclude students studying off-campus or online by requiring them to be available at a specific time *and* a specific location. Joyce Kinkead (1988) recognized this over 25 years ago when she introduced the idea of appointments via email. There still remains a need for reaching students in other ways and mediums. As student populations become more diverse, so must their options for writing support.

Meeting this need begins by offering all three genres of consulting: face-to-face, synchronous, and asynchronous. The CCCC Committee on Best Practices for Online Writing Instruction (OWI) (2013) states in Principle 13 that online writing support should be provided in the same modalities as an institution’s online writing courses. When possible,

both asynchronous and synchronous options should be available, on the basis of accessibility. Furthermore, Hewett (2015) argues to “enable students to make choices based on their learning preferences rather than on untested and potentially biased choices by the OWL administrator or staff” (p. 43).

While asynchronous still makes some writing center scholars uncomfortable, anything requiring *all* students to be available at a specific place or time is exclusionary. To allow for more dialogue or conversation, asynchronous appointments can incorporate student reflective letters or writer’s notes that encourage more detailed information about the areas where they feel confident and unconfident, as well as invite follow-up questions and comments after they have reviewed their feedback. In addition, asynchronous sessions can extend beyond email to include Google Docs, audio-based commentary, and video response. While some consultants in this study shared similar weaknesses to Grammarly®, this does *not* reflect a problem with the asynchronous genre. Written feedback allows for analysis in ways that verbal feedback often does not. In other words, consultants who cover too many issues, give inaccurate feedback, or use undefined grammar terminology in written feedback probably do the same in verbal feedback as well. Rather, the asynchronous feedback in this study informs us how to better train for all genres of consulting and avoid similar pitfalls to online grammar programs.

Offering all three consulting genres does require training for all three consulting genres, but this training need not take place at completely separate times. All three genres serve the same missions/goals (just in a different way) and can inform each other, which improves consultations across the board. Face-to-face consulting provides strategies for agency and conversation, synchronous informs the use of technology for collaboration, and asynchronous encourages clear and positive language choices. Thus, training for all three could occur within the same training course or series of training workshops. If a training course isn’t offered, consultation hours can be set aside for additional training conducted by veteran consultants or graduate assistants. Centers can also plan training when usage is predictably or historically slow or utilize unused hours from no-shows and cancellations for training exercises, observations, and mock consultations.

Writing centers can also offer additional times and services. When institutions allow consultants to work from home, online writing centers can reach students over weekends, holiday breaks, and closings. We can take this idea a step further and find ways to accommodate students working on tight deadlines. I’ve worked at a writing center that offered

nightly walk-in hours, with 30-minute face-to-face sessions for students without an appointment. A similar idea could also be applied online, with weekly hours devoted to open online chat for quick questions and 30-minute “sign-in” online appointments. Each writing center knows what support is possible within their resources and what is most needed for their student population. One thing we all can do, though, is use our appointments to support the full writing process, including student concerns at the sentence level.

Strategies for supporting sentences. Editing and proofreading are parts of the writing process (Hawthorne, 1999; Young, 2005), so naturally, students would turn to a writing center when they struggle in these stages. As Young (2005) asks, “How can a writing center be complete, providing help from invention to revision, if it doesn’t pay full attention to that final step?” (p. 141). Furthermore, writing centers are not in a position to decide that students needing help with grammar are less deserving of their time or should be directed elsewhere. Refusing to help with these areas privileges those who are already familiar with most Standard English practices and excludes students from different backgrounds who might have nowhere else to turn (Day Babcock, 2008; Hawthorne, 1999). Students need to learn about self-editing and self-proofreading strategies just as they need to learn strategies for brainstorming, drafting, and revising.

The literature contains a wealth of strategies for addressing grammar in consultations. As discussed earlier, scholars have advocated for locating patterns and prioritizing what to cover in the session, through error analyses (David, Graham, & Richards, 1988; Shattuck, 1994; Young, 2005). From there, consultants can think out loud to explain their process, offer options for correction, model strategies for editing, and provide space for the student to practice (Day Babcock, 2008; Sommers, 2013; Young, 2005). Lastly, students can take this learning forward with individualized editing logs that record these patterns and empower their self-editing abilities (David, Graham, & Richards, 1988; Sommers, 2013). Such strategies also inform approaches to issues beyond grammar and punctuation, such as citations, format, style, and conciseness. Thus, they can be incorporated into existing training structures.

This study also revealed that consultants need additional training for accuracy with grammar and punctuation. Devet (2008) suggests using a grammar card box for asking anonymous questions, which can be answered in training or staff meetings. Another option is to hire consultants who have taken grammar or linguistics courses and are already knowledgeable in such areas. As a grammar consultant at my

undergraduate writing center, I helped students learn content for the university grammar course and also specialized in supporting students in the proofreading stage. Grammar consultants can also conduct workshops for fellow consultants or create instructional materials for students. With extra training or resources, writing centers with a particularly high demand for help with grammar and editing can offer workshops and open-ended work spaces for students to practice self-editing and ask questions.

Future Research

While Grammarly, Inc. no longer advertises directly to writing centers on its websites, its representatives continue to contact writing center administrators, as evidenced on the writing center listserv and in the case of my current center. Furthermore, Grammarly, Inc. still makes big claims about its program's abilities to improve writing. Thus, research regarding Grammarly® and similar programs should continue.

An area in need of research is the perceptions of the students. How do students view Grammarly®, as opposed to the writing center? While we feel confident in our methods of helping students to learn, research studies could test these assumptions with different types of students, majors, and writing genres. Any student-viewed benefits of Grammarly® can potentially become our own, if we revise our feedback accordingly. Second, we need student perspectives on how to close our gaps, especially in student access. How can we reach more students without preferencing certain groups or certain types of writing concerns? The results could enable writing centers to think outside the box and reconsider our services in order to remain relevant on our campuses.

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Appendix A: Descriptions of Issues Addressed by Grammarly and/or the Consultants

	Description of Issue	Original Category
Capitalization	<ul style="list-style-type: none"> General nouns Proper nouns 	Surface
Conclusion	<ul style="list-style-type: none"> Organization, development, and purpose of conclusions 	Global
Development (Body)	<ul style="list-style-type: none"> Additional body content Elaboration Removal of contradictions Clarity of body content Consideration of counterarguments 	Global
Idea Repetition	<ul style="list-style-type: none"> Repetition of ideas from earlier in the paper Implied information 	Global
Introduction	<ul style="list-style-type: none"> Organization, development, and purpose of introductions 	Global
Organization (Body)	<ul style="list-style-type: none"> Movement of body paragraphs Places to end, combine, or begin new paragraphs Deletion of sentences Movement of sentences within, to, or out of the body Topic shifts Focus shifts 	Surface
Punctuation	<p><i>Addition/deletion of</i></p> <ul style="list-style-type: none"> Commas Colons Hyphens Apostrophes Quotation marks 	Surface
Thesis	<ul style="list-style-type: none"> Development of thesis statement 	Global
Tone	<ul style="list-style-type: none"> First-person use Second-person use Reference to paper or reader Informality 	Global

	Description of Issue	Original Category
Topic Sentences	<ul style="list-style-type: none"> • Clarity, improvement, or addition of topic sentences at the beginning of paragraphs 	Global
Transitions	<ul style="list-style-type: none"> • Clarity and improvement of transitions between sentences/paragraphs • Addition and deletion of transitions 	Global
Rewording	<ul style="list-style-type: none"> • Wordiness • Awkwardness • “Flow” • Redundancy • Conciseness • Sentence structure, phrasing, and variation • Parallelism • Clichés <ul style="list-style-type: none"> • Word/phrase deletion and insertion • Common overused phrases • Squinting modifiers • Movement of words/phrases within a sentence 	Surface
Sentence Combination	<ul style="list-style-type: none"> • Connecting words and punctuation between complete sentences • Comma splices <ul style="list-style-type: none"> • Run-ons • Places to combine or separate sentences 	Surface
Stylistic Rules	<ul style="list-style-type: none"> • Conjunctions beginning sentences • Contraction use • Passive voice <ul style="list-style-type: none"> • Prepositions ending sentences • Split infinitives 	Surface
Word Choice	<ul style="list-style-type: none"> • Accuracy • Missing words/phrases • Misspellings <ul style="list-style-type: none"> • Specificity • Meaning • Vocabulary enhancement 	Surface

About the Author

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