

## “It’s Not Scientific Enough”: Analyzing the Development of Academic Criticism in a Graduate Student Writer

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### INTRODUCTION

Academic criticism is a fundamental feature of scholarly discourse. It plays a key role in scientific theory building, whereby ideas are iteratively challenged and redrafted (Kuhn, 1962, 1970). It is also how individual scholars create a research space (see the CARS model, Swales, 1990) and establish themselves as members of the research community. Thus, for graduate student writers, the ability to engage in this practice is important for academic success and socialization into the discourse community. However, by definition, students are novices, so they may struggle to assume the role of disciplinary authority required to evaluate others’ works (Dobson & Feak, 2001; Hyland, 2002). Several scholars have explored the linguistic and rhetorical features of academic criticism (Hyland, 2000, 2002; Thompson & Yiyun, 1991) and how it varies across disciplines (Hyland, 2000; Salager-Meyer & Ariza, 2003), often with educational goals in mind (Belcher, 1995; Swales & Feak, 2004). And while some researchers have analyzed criticism in student texts (Cheng, 2006), we know little about how this practice develops over time. Additionally, given that existing studies focus on written criticism, we have yet to explore the nature of spoken criticism and how it is shaped in and through interaction. Thus, this paper adopts a conversation analytic framework to examine how a graduate student writer formulates spoken academic critique during writing consultations and how these formulations change over time.

### DATA AND METHOD

Data were collected from virtual writing consultations between a consultant (Kate) and second-year graduate student writer (Wendy) across seven months. Ten sessions were audio and video recorded, resulting in a total of 7.5 hours of interactions. For all sessions, the participants discussed a literature review that the writer was working on. A literature review is a type of discourse synthesis paper that requires writers to synthesize and evaluate studies on a particular topic. To identify cases of academic criticism, I adopt Salager-Meyer and Ariza’s (2003) definition: “a statement which reflects a discrepancy between the stance of the writer, on the one hand, and that of another scientist or that of the scientific community as a whole, on the other” (p. 99). Researchers have identified common characteristics of academic criticism, such as the extensive use of hedging strategies and avoidance of overly harsh assessments (e.g., Belcher, 1995; Hyland, 2000). Criticism is often marked linguistically by evaluative adjectives (e.g., *flawed, limited, anecdotal*) or syntax, such as unreal conditionals (*This article would have been more persuasive if...*) and past modals (e.g., *should have, would have, could have*) (Swales &

Feak, 2004). Writers can critique various aspects of others works, such as the usefulness of theoretical models, appropriacy of data collection instruments, sufficiency of evidence, or validity of conclusions (Swales & Feak, 2004). Given the lack of research on spoken academic criticism, I applied existing understandings of written criticism to spoken interactions to identify 22 instances of writer-initiated critiques in the present dataset. For the sake of comparison, I will analyze three cases where the writer takes issue with how a psychological construct (ambiguity tolerance) has been measured in existing studies. The cases come from the second, third, and eighth sessions, spanning 4 months. Through an analysis of these cases, I address two questions: (1) What is the nature of the writer’s critique, and (2) how does her critique change over time?

## ANALYSIS

The following extracts are presented chronologically. The first case comes from the consultant and writer’s second session together. Before this extract, the writer (Wendy) expressed uncertainty about the topic she had chosen for her literature review assignment. As the extract begins, she frames her turn as a reason for why she may change her topic (*because* in line 01). She makes two critiques in this extract—one related to the obviousness of a claim (lines 02–06), and another related to how the construct of ambiguity tolerance is measured in the studies she is reading. This analysis will focus only on her critique of construct measurement. The onset of the focal critique is marked with an arrow.

### *Extract 1: It’s not scientific enough*

01 Wen: hhh because like ↑here:, u::m well based on the  
 02 paper: it says as brown nine- nineteen ninety one  
 03 states, moderate ambiguity tolerance is a key  
 04 to success in foreign languag- language  
 05 learning. period. And I feel like (.) this sentence is is  
 06 li:ke (.) is du:h. Everyone knows that.  
 07 Kate: [mhm,]  
 08 Wen: → [a:nd ] what do you mean by moderate. How can we  
 09 mea[sure it.]  
 10 Kate: [nods ]  
 11 Wen: a:nd to be honest, (.) just- I just \*(0.2) flip through  
 \*gazes at papers--->  
 12 these pape:rs,\* the- the:y the way the:y measure  
 --->\* gazes to camera---->  
 13 one’s ambiguity toler↑ance (.) is no:t (0.2) °m:: how  
 14 to say that,° is no:t scientific? It's not [scientific] enough?  
 15 Kate: [a:h. ]  
 16 oka[:y, ]  
 17 Wen: [no-] know what I’m saying?  
 18 (0.5)  
 19 Kate: so you- okay,=how are they measuring it.=like are  
 20 they t- doing te:sts? [or, ]

- 21 Wen: [they-] they're just- [they're just like-]  
22 Kate: [like (syl syl) ]  
23 Wen: it's li::ke u:m (0.5) a personal survey so for example u::m  
24 ho:w do you- do you- like ho:w nervous are you when you:  
25 rea:d the article. and then there's a sca:le, one two three  
26 four fi:ve, and the:n if you are super nervous and you circle  
27 the number five.  
28 Kate: [a:h. ]  
29 Wen: [↑that's] ↑it.=  
30 Kate: =okay,

In this first case, Wendy demonstrates a developing ability to engage in academic criticism. She begins her critique by asking *what do you mean by moderate*, where *you* seems to refer to the author of the paper under discussion (line 08). The structure *what do you mean by* (line 08) solicits specification, but since the question is not directed to anyone present, we can consider this the start of her critique. In her next question (*how can we measure it*, lines 08-09), she specifies the target of her critique: construct measurement. Her use of *we* is notable in that it seems to situate her within a community of researchers. After a minimal continuer from Kate (line 10), Wendy continues with *to be honest* (line 11) and seems to expand her critique from one to multiple studies. She then arrives at her main point: that *the way they measure one's ambiguity tolerance* is not *scientific enough* (lines 12-14). The pauses, explicit word search, and rising intonation suggest uncertainty and troubles with formulation. After Kate's minimal responses (lines 15 and 16), Wendy invites a confirmation of understanding (line 17). At this point, Wendy appears to treat her critique as enough for Kate to understand. After Kate's minimal responses (lines 15 and 16), Wendy invites a confirmation of understanding (line 17), appearing to treat her own talk or Kate's uptake as inadequate. Calling a measurement tool *unscientific* is vague and potentially too harsh. Critique also requires supporting one's claims with evidence, and Wendy has failed to do this. Thus, Kate's delayed response (lines 19-20) prompts Wendy to elaborate and describe the measurement tool (the *personal survey*) (line 23).

Wendy goes on to give an example of how a participant would rate their nervousness by circling a number on a scale of one to five (lines 23-27). So far, Wendy demonstrates a developing ability to perform academic criticism. The focus of her critique is target-like (i.e., critiquing a data collection tool), and she shows an effort to engage in critical inquiry through rhetorical questions (e.g., *how can we measure it*) and evaluation. She is also able to describe the target of her critique (the *personal survey*) with an example upon the consultant's request. However, her critique lacks appropriacy, sophistication, and elaboration.

The next case comes eight days later in the subsequent session. Before this extract begins, Wendy has explained that she wants to write about ambiguity tolerance tests in her paper, and Kate has suggested that she discuss it in her background section. Wendy accepts Kate's suggestion in line 01.

*Extract 2: It's not reasonable*

- 01 Wen: ↑yeah. yeah. yeah I will. so: this ambiguity test is a  
02 likert sca:le, >one two three four so< one means um (.)  
03 strongly disagree:d, disagree agree strongly agree:;

04 (0.2)  
 05 → U::m (0.2) so: and then the researchers just based on this  
 06 kind of self (0.8) uh se:lf (.) surve:y,  
 07 (1.0)  
 08 And the:n,  
 09 \*(1.0) \*  
 \*gestures open palm\*  
 10 The:y have the ↑outcome.  
 11 Kate: mhm,  
 12 Wen: But (.) I feel like- I don't kno:w I- u:m ↑this is (0.5) this  
 13 is- how is it. this is no:t (0.5) >it's not- it's not like- it's  
 14 not- it's< how is it. i mean its- it's really difficult to  
 15 measure one's ambiguity tolerance.=I mean (0.2) I think it's  
 16 not reasonable to do that.  
 17 Kate: [yeah, I mean that's something-]  
 18 Wen: [\$but I don't know how to ] do that.\$  
 19 Kate: yeah. and that's something you talk about.=like so in >your  
 20 background, you could say< this is how this construct  
 21 has been (.) measured in the pa:st, with the likert scale, but  
 22 then you can ta:lk about the fact that it's not necessarily (.)  
 23 >you know< maybe there needs to be a better way  
 24 to measure it.  
 25 Wen: >yeah like-< like- um, how can you: how can we:  
 26 \*(0.5) \* um differentiate strongly agree  
 \*gestures open palm\*  
 27 and agree.  
 28 Kate: mhm:,

In this extract, Wendy's spoken critique demonstrates more specificity, elaboration, and use of technical language. Before moving into the critique, Wendy describes the target of the critique (the *ambiguity test*) in lines 01 through 03. Whereas in the previous extract, she provided an example of a question included in the test, she now describes the measurement tool with more technical language, calling it a *likert scale* (line 02). After this description, Wendy initiates the critique in line 05 by claiming that researchers base their *outcome* solely on this type of survey. Lines 05 through 10 are marked with several pauses as she appears to have trouble articulating the relationship between measurement and outcome. With her stress on *just* (line 05) and high pitch on *outcome* (line 10), Wendy seems to suggest that the measurement tool is insufficient for the types of interpretations being made. In line 12, Wendy shifts into a more direct critique with *but* followed by expressions that mark her perspective (*I feel like* and *I don't know*). Following multiple false starts and pauses (lines 12-14), she presents the crux of her criticism: that it is *really difficult to measure one's ambiguity tolerance*, and that doing so is *not reasonable* (lines 15-16). Compared to the previous extract, where she described researchers attempts to measure the construct as *not scientific* and elaborates only after consultant prompting, Wendy's claim in this extract is more specific, and she does not need to be prompted by the consultant to support her claim.

As Kate begins to respond (line 17), Wendy concludes her turn by saying, *but I don't know how to do that*, with smiley voice (line 18). Kate then reformulates Wendy's critique while suggesting that Wendy discuss this in her background section (lines 19-24). In lines 25 through 27, Wendy responds with a question that Kate treats as rhetorical. She problematizes the items on the likert scale (*strongly agree* and *agree*) by asking how we can *differentiate between them*. As in the previous extract, Wendy uses rhetorical questions as part of her critique and uses the inclusive pronoun *we* as if situating herself in the group of researchers concerned with this topic.

Across the first and second cases, Wendy continues to demonstrate trouble formulating her critique, as evidenced by her multiple false starts, cut offs, and word searches (lines 12-14). However, in contrast to the first case of critique, the second case demonstrates use of more field-specific terminology (e.g., *likert scale*), as well as mitigation and specification that are, arguably, more target-like. The writer mitigates her claim more explicitly with the epistemic hedge *I think* (line 15) and avoids inappropriately harsh descriptors that lack specificity (c.f. *not scientific* in Extract 1). Her critique is framed more objectively. It concerns the difficulty of construct measurement and is supported by a specific example that demonstrates a clear understanding of the survey items.

The final case comes two and a half months later during the eighth session. Before this extract, Wendy has explained that after reading five studies, there are many topics she can write about. The upcoming critique appears to be an example of something she may want to discuss.

*Extract 3: There's no perfect way*

- 01 Kate: mhm,  
02 (0.5)  
03 Wen: → u:m (0.2) and I think some of- some of the  
04 au:thors, researchers, made their- >↑I think that< doesn't  
05 makes sens- I don't remember which one it is.=cuz  
06 (0.2) but (0.5) they're trying to q- ↑I think I- I've talked  
07 about this before.=they're trying to quantify (0.5) ther- um  
08 the partici

09 Kate: mhm:,  
10 Wen: but (0.5) it's (1.0) there is no perfect way. there's (.) no-  
11 there's no perfect test to assess su- such a thing.  
12 Kate: [nods ]  
13 Wen: [be:cause] (.) this is (0.2) somethi:ng >I don't know how  
14 to< explain this but this is cognitive, this is unconscious,  
15 a:nd even if we do a self re↑port, <we cannot guarantee that  
16 the result of the self report a hundred percent reflects (.)  
17 a pe:rson's> ambiguity tolerance levels.  
18 Kate: nods  
19 Wen: but somehow I do not have the evidence for that. but that is  
20 the point I want to (0.2) attack.  
21 Kate: okay so you're saying this is a: important limitation of the  
22 studies that you want to discuss?

In this final case, Wendy continues to show development in the appropriacy, sophistication, and specificity of her critique. Wendy begins her critique with *I think* (line 03), followed by multiple false starts, pauses, and insertions. She finally arrives at part of her main critique by claiming that the researchers are *trying to quantify their participants' ambiguity tolerance levels* (lines 07-08). The first notable difference from the prior extracts is Wendy's more sophisticated use of hedging. Compared with *they* in Extract 1 and *the researchers* in Extract 2, Wendy qualifies her critique by limiting the subjects to *some of the authors, researchers* (lines 03-04). Another notable change is the verb she uses to describe these researchers' actions: from *measure* (Extracts 1 and 2) to *quantify* (Extract 3, line 07). To quantify something is to perform a type of measurement; it has a more domain-specific meaning. As Wendy continues, she claims that *there's no perfect way to assess such a thing* (lines 10-11). With this, she characterizes the researchers' actions with another verb: *assess*. Whereas she repeated the verb *measure* in the prior extracts, she demonstrates more lexical variety here and uses language that more appropriately characterizes researchers' actions. Wendy then supports her critique with an explanation (lines 13-17). Like the second case, her elaboration is unprompted. However, in contrast with the second case, where the writer merely claimed that measuring this construct is difficult, she now supports this argument with a reason: that it aims to measure something *cognitive* or *unconscious*. This could explain why it is difficult to differentiate between scale descriptors (e.g., *strongly agree* and *agree*), which is a claim that she made but did not elaborate on in the second extract. Thus, this explanation demonstrates increased sophistication and specificity in formulation.

As in the prior cases, the writer continues to display trouble formulating her ideas (lines 13-14). However, despite her early trouble, the writer is able to clearly produce her main point: that self-reports may not fully reflect a person's ambiguity tolerance (lines 15-17). Compared to calling the measurement tool *not scientific* in the first instance, Wendy has arrived at a more sophisticated criticism about the tool's construct validity. She does, however, continue to show an occasional lack of precise or appropriate discourse-specific language as exemplified in lines 19 and 20, when she calls the problem *a point I want to attack*. Kate appears to address this concern when she reformulates to a *limitation* that the writer may want to *discuss* (lines 22-23).

## DISCUSSION AND CONCLUSION

This paper has traced changes in a graduate student writer's ability to engage in academic criticism. Through her repeated critical evaluations of how a psychological construct (ambiguity tolerance) has been measured, the writer demonstrated both target-like and non-target-like features of academic criticism, and these changed across interactions with the writing consultant. Over time, the writer demonstrated more lexical variation, more domain-specific language, unprompted elaboration, and an overall, more specific and sophisticated argument. At the same time, the writer continued to have trouble formulating her argument and employed some inappropriate vocabulary. In sum, while we cannot make absolute claims about the writer's development based on the above three cases, this analysis provides evidence that the writer is in the process of developing a critical skill for academic discourse: the ability to engage in appropriate academic critique. Given space limitations, this paper did not focus closely on the consultant's responses to the writer's attempts at critique; however, these undoubtedly played an important role in how the writer's critiques were shaped and reshaped over time. For example,

the consultant's use of questions, delayed uptake, elaboration requests, and reformulations appeared to do important socialization work. Future analyses should more closely explore the interplay between writer attempts at criticism and consultant responses with an interest in how writers are socialized into the language of academic criticism through interaction with more knowledgeable others.

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