

# Discomfort and Other Factors That Influence the Effectiveness of Graduate Student Peer Consultations

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## Abstract

The following study reports the findings of two surveys given to graduate teacher consultants ( $n = 30$ ) and graduate student teachers ( $n = 59$ ) who completed video-teacher consultations at a public, R1 university. The surveys assessed the overall effectiveness of peer consultation for both sides and identified the factors that influenced those assessments. We found that the level of comfort expressed by consultants and graduate teachers during their first consultations had the greatest impact on their perceived level of effectiveness. The time between consultants' training and their first consultation also affected their assessments. Other factors that did and did not influence the consultation are also discussed, along with recommendations and best practices learned from our surveys.

**Keywords:** video-teacher consultations, graduate student professional development, teaching consultations, comfort, effectiveness

In the introduction to the second edition of *Practically Speaking: A Sourcebook for Instructional Consultants in Higher Education*, Kathleen T. Brinko writes that "there is no correct way to provide instructional consultation," as it is "a complex process practiced in a myriad of ways by individuals with a range of training and styles"

(2012b, p. vii). Nevertheless, a considerable body of scholarship has laid the foundations for instructional consultations at the university level, offering best practices and conceptual models for colleagues in the field (Bell, 2001; Border, 2011; Brinko, 2012a; Nyquist et al., 1991). The Graduate Teacher Program (GTP) at the University of Colorado Boulder trains and organizes graduate students to carry out video-teacher consultations (VTCs), which deploy a peer-consultation model that takes place between graduate student consultants and graduate student teachers (see example in Appendix A). Graduate teacher consultants, referred to here as “consultants,” are “advanced graduate student instructors hired and trained to offer peer mentoring, consultation, workshops, and leadership in various professional development activities designed to support novice teachers” (Thomas & Border, 2011, p. 37). Graduate student teachers serve a variety of instructor roles on campus, from supporting faculty as teaching assistants to serving as full instructors of record.

In 2017 to 2018, our program assessed its VTC protocols with two exploratory surveys (one for consultants and one for graduate teachers) that sought to understand the factors that most influenced an effective peer consultation. Specifically, we asked:

1. To what extent were the VTC protocols perceived to be helpful or insightful, respectively, for consultants and graduate student teachers?
2. Which factors impacted the perception of the VTC’s overall effectiveness for the consultants and graduate student teachers?

Our findings largely support literature on best practices in leading instructional consultations for graduate students and faculty, but they also highlight aspects of the process that are often overlooked in everyday use and in scholarship. We conclude with lessons we learned from the surveys, and we share thoughts from our annual discipline of receiving input from graduate students and revising our VTC formats.

## Best Practices and Scholarship in Peer Video Recorded Consultations

Brinko's (1993) synthesis of research conducted from the 1960s to 1980s provides a useful starting point for best practices in observation and consultation formats. Brinko writes that feedback is most effective when it comes from more than one source, when it is confidential, when several types of data are considered, when it focuses on behavior rather than on a person, when it is descriptive rather than evaluative, when it is given immediately after an observation or taping, and when the process is considered a routine part of a teacher's professional expectations (1993, pp. 577–580).

Brinko's recommendations support collaborative, coaching-based models that have dominated peer consultation. Little and Palmer (2011), for example, encourage consultants to focus on the process of teaching, rather than the content being delivered, and emphasize the need for "deep listening" at the beginning, "asking powerful questions" during the consultation, and "prompting action" at the end (p. 103). Self-reflection subsequently arises as a "core value" of this process, one that promotes the introspection of the teacher over the feedback presented to the observed (Boye & Meixner, 2011, pp. 18–20).

In synthesis, VTCs and other collaborative formats depict a consultation process in which the traditional authority of the consultant becomes secondary to externally verifiable data that is collected, analyzed, and discussed during the meeting. The role of the consultant therefore changes from that of an expert to that of an analyst, which invites the consultant and instructor to work together to understand one's teaching from multiple angles, reflect upon the strengths and limitations of their classes, and problem-solve common issues that arise in the classroom. Our VTCs were designed to follow these best practices, and so our two research questions examine whether the approaches found in the literature—and our implementation of them—were perceived by consultants and graduate teachers to be successful and which factors most influenced those assessments.

In doing so, our study is similar to Bell (2001), which examines possible factors that led to the success of an observation and consultation program for faculty. That study found collegiality, confidence, and support to be key factors toward positive outcomes reported by participants in their program (Bell, 2001, pp. 35–36). Our target population is different, but we identify similar factors linked to the comfort of those taking part in the observation process, and we also present a heretofore-unexplored look into the differences between the ways consultants and consultees understand the success of a consultation.

Scholars have also included best practices for using video during an instructional consultation, as it has shown to improve beginning teachers' abilities to self-assess and become engaged in critical self-reflection (Baecher et al., 2013; Kleinknecht & Schneider, 2013; Seidel et al., 2011). However, effective video consultations require preparation and structure. Studies show that a video is most helpful when teachers receive clear instructions on what to look for when watching themselves or others teach, and self-reflection assignments should be implemented afterward in order to synthesize observations and retain knowledge (Brophy, 2004; Hannafin et al., 2015; van Es et al., 2015). Such research also recognizes that discomfort is a normal part of video and non-video consultations; for example, one study found that more than half of its faculty respondents reported feelings of at least mild apprehension at the idea of being observed (Bell, 2001). For this reason, Kristensen (2012) writes that a "comfortable den" must be created so that instructors can feel relaxed during the consultation (p. 66).

Curiously, commentators have not studied the impact that comfort plays on the effectiveness of peer consultations among graduate students, a population that is often new to conducting consultations and being observed. We understand comfort here as a state of emotional ease that allows graduate student teachers to engage in a process of self-reflection and improvement regarding their craft. Several factors we identify below may upset this state of ease and cause

discomfort, which is shown here to impact the perceived success of a consultation.

Moreover, our work contributes to larger calls in educational development for data-driven studies and conceptual frameworks that test the efficacy and accountability of instructional consultation programs for graduate students and faculty at the institutional level (Brinkley-Etzkorn et al., 2016; Hicks, 1999; Huntzinger et al., 2011). One approach has been to look at the developmental outcomes for faculty and graduate student instructors, such as studies on teachers' ability to identify appropriate teaching methods or the impact of consultations on student evaluations (cf. Brinko, 1993; Penny & Coe, 2004; Vescio et al., 2008). Another approach has been to apply survey results and conceptual frameworks to study the developmental stages of graduate student and faculty consultants (Tiberius et al., 2012; Wright et al., 2015).

Our results reveal how comfort, training, technical difficulties, and interpersonal communication can provide lessons for educational developers on what works and what can go wrong in consultation design, training, and practice. Finally, our focus is on graduate students, a population that rarely receives professional development opportunities for teaching and is not often the focus of study for instructional consultation research. We hope that our article supports further attention to this traditionally overworked and underpaid staple of the higher education workforce.

## **Methodology**

### ***Background on VTCs and Our Program***

The Graduate Teacher Program hires consultants, trains them, and helps organize more than 100 VTCs annually. The VTC protocols guide graduate students through a process consisting of the following: a brief pre-consultation between the consultant and the graduate

teacher; a classroom visit at which the consultant video records the teacher's class; and a 60- to 90-minute consultation at which the consultant watches the video with the teacher, asks questions, takes notes on the teacher's reflections, and helps plan future actions. The consultants, called "GTP leads," are paid an annual stipend from the graduate school and come from some 50 departments across the arts, humanities, and STEM fields, and they perform at least three VTCs annually. Along with their work as consultants, GTP leads coordinate workshops, disseminate resources to graduate teachers, and participate in GTP-organized professional development activities. Leads are trained in consultation and the VTC protocols the summer before their work begins, and additional training is provided upon request.

A typical VTC in this study took place between consultants and graduate teachers from the same department, but a minority of VTCs were inter-departmental. This occurred when a VTC was requested in a program without a GTP lead or when consultants could not fulfill their three-VTC workload from within their own department. Graduate teachers must complete at least two VTCs, along with other work, to be eligible for the GTP's Certificate in College Teaching. Students are motivated to complete both VTCs in order to receive certification, which has become a valuable addition to graduate students' curricula vitae. Additionally, certain departments require their graduate students to complete VTCs, and others do them to overcome challenges they're facing in the classroom. Most graduate students complete their second VTC one semester after their first (which we recommend), but not all graduate students teach each semester, and so we cannot make this time frame a requirement.

Most observations were in a traditional classroom environment, and 1 to 2 days commonly passed between each stage of the process (the pre-observation meeting, the observation, and the post-observation reflection meeting). Most post-observation discussions lasted 1 to 2 hours. Popular topics of discussion included student engagement, body language, and classroom environment. Less frequently,

**Table 1. VTC Protocols**

Protocol category	Objective	Data-gathering method
Goals and objectives*	Theoretical framework for reflection on goals and objectives for a lesson	Video recording
Teacher's interactions with students	Track and reflect on student participation	Video recording and tally sheet
Active learning with generalized observation and reflection protocol	Tabulate, organize, and analyze types of behaviors and activities the instructor executes during a lesson	Video recording and web-based activity tracking software
Threshold concepts	Theoretical framework for breaking down the instruction of complex topics	Video recording

\* Goals and objectives was the most applied protocol. See Appendix A for a sample script.

discussions reached topics of time management, diversity and inclusion, self-confidence, classroom or department conflicts, and the challenges of teaching outside of one's native language (this was common for international graduate students).

The GTP crafted four consultation protocol guides for the VTC process. Table 1 describes the focus and data-gathering strategy for each protocol.

### **Participants**

The target populations for the two surveys were the 45 GTP-trained consultants and the 171 graduate teachers who participated in VTCs during the 2017–2018 academic year. Each survey was sent to the populations via email at the end of the academic year. Eighty-nine respondents opted to participate. Our two samples consist of 30 responses from consultants and 59 from graduate teachers. Sufficient steps were taken to ensure that respondents would not be influenced by their position relative to the GTP office. Consultants completed all obligations to the office, and all VTCs were completed and approved by the office by the time the surveys were issued.

## **Survey Design**

We designed the two surveys to explore the effectiveness of the VTC protocols and the factors influencing those evaluations. While the surveys shared common themes and questions, each was tailored to the target group of consultants or graduate teachers, respectively. We administered the surveys electronically through Qualtrics. We anticipated findings that could be shared with other educational developers, so human subjects' approval was received to conduct and disseminate this research.

The exploratory nature of our research motivated us to build flexibility into the way we asked questions. We asked respondents to consider their experiences in aggregate. That is, if a respondent had participated in multiple VTCs, they were asked to consider how they perceived the experience overall. The surveys were designed to focus on the VTC protocols and respondents' perceptions of the process. The demographic information of the participants was not collected (see Limitations section).

Table 2 describes the three modes of questions and provides examples. The full array of questions attributed to each scheme is provided in Appendix B.

## **Limitations**

The surveys were exploratory by design in order to identify potential patterns that might be later studied in greater detail. The findings are not generalizable to all graduate students because we cannot verify the samples as representative, nor do the data satisfy assumptions of normality. Nevertheless, the number of respondents justifies reporting descriptive statistics, and it speaks to the valuable insights we draw from the data.

Further limitations are present because the surveys solicited data on the experience in aggregate and not on specific VTCs. First, collecting demographic information was not feasible in our study



**Table 2. Survey Question Formats**

Format	Data	Utility	Example
Sliding scale	Numerical	For questions based on the perception of an aspect of the VTC	Rate your level of comfort conducting your first VTC. Select personal level of comfort, from 0 (very uncomfortable) to 100 (very comfortable).
Multiple choice	Categorical	For questions with categorical responses or tabulating quantities	What is the type/format of your class? <ul style="list-style-type: none"> <li>• Traditional classroom</li> <li>• Lab session</li> <li>• Studio workshop</li> <li>• Other (write in)</li> </ul>
Select all	Categorical	For questions documenting what took place with respect to the process of the VTC	Which of the following topics were discussed while watching the video? (Select all that apply.) <ul style="list-style-type: none"> <li>• Body language</li> <li>• Self-talk</li> <li>• Self-confidence</li> <li>• Student engagement</li> <li>• Issues of diversity and inequity</li> <li>• Discipline</li> <li>• Time management</li> <li>• Interpersonal conflict with students</li> <li>• Classroom environment</li> <li>• Anxiety</li> <li>• Issues with department</li> <li>• Politics</li> <li>• ESL challenges</li> <li>• Other (write in)</li> </ul>

because the number of underrepresented groups in the graduate school was not large enough to ensure the confidentiality and anonymity of the participants. Second, we measured which semester the respondent engaged in a VTC, but further granularity into the amount of time between a VTC and participation in the survey was not recorded. Finally, we do not assume that the consultants and graduate teachers who interacted are both included in the samples. Preexisting relationships may affect the level of comfort for consultants and graduate students, but we did not inquire into these relationships in the survey. Instead, we assessed how VTCs conducted within a department differed from those conducted among graduate students in different programs (see Discussion section). The nature of

the relationship between consultants and graduate students offers a line of future inquiry.

### **Data Analysis**

The surveys each considered a variety of factors, and we provide analysis for those that could be identified in responses. In our discussion, we address variables that were identified as possible factors, but they ultimately had weak or mixed effects. We computed summary statistics for the samples and then made comparisons between mutually exclusive subgroups. The data were diagnosed for inconsistencies; for example, any incomplete responses (if applicable) were eliminated prior to analysis.

For subjective questions, such as the perception of the process's efficacy or one's comfort level, we decided that 60 would be an acceptable lower threshold to demarcate positive and negative responses on the scale from 0 to 100, as we deemed a response of 50 to 59 not to be a positive experience. Interestingly, when we analyzed the overall comfort of graduate teachers, we saw that 60 was the threshold dividing two distinct clusters within the data. The overall responses regarding the comfort of the consultants did not have such a feature, but we chose to stay consistent throughout the data analysis with the threshold of 60.

To identify the factors that positively influenced the perception of effectiveness, we isolated the factors within the data and observed the tendency of respondents to answer above 60. When mixed results appeared, further investigation along other variables was performed to assess the lack of influence or potential noise in the data.

Respondents could voluntarily leave comments throughout the survey, and they were used in two ways. First, they helped us validate responses. A comment would likely help us identify if a respondent did not understand a question or felt it was not applicable to them. Second, when we considered the data set overall, we identified comments that were associated with comfort. We categorized these

comments into positive, negative, or neutral categories and identified common themes among them.

## Results

### *Overall Perceptions of Efficacy*

Consultants and graduate teachers widely considered our VTCs to be effective. Consultants were able to judge the overall effectiveness of the protocol for the teachers because they were trained in best practices for executing peer consultations. To circumvent the inexperience of graduate teachers in assessing the effectiveness of peer consultations, we asked this group to assess the overall “insightfulness” of the process. We therefore deemed “insightfulness” to be an appropriate way of judging effectiveness for the graduate teachers.

The majority of consultants ( $n = 30$ ) considered VTCs to be effective for the graduate teachers; 73% responded above 60 (out of 100), and 26% selected above 90 (out of 100). Most graduate teachers ( $n = 59$ ) indicated that the process was insightful; 76% responded above 60 (out of 100), and a staggering 56% selected above 90 (out of 100). The average perception of insightfulness among the graduate teachers (77 out of 100) was marginally higher than for consultants who assessed how effective the process was for graduate teachers (72 out of 100). Finally, the majority of consultants (73%) and graduate teachers (83%) agreed that the VTC gave them new ideas to apply in their own classrooms. The above statistics are summarized below in Tables 3 and 4.

### *The Influence of Comfort on Consultant Perceptions of Efficacy*

Among consultants ( $n = 30$ ), 70% reported feeling comfortable during their first VTC. Within this group, 81% ( $n = 21$ ) judged the process to be effective for teachers. In contrast, within the remaining 30% of consultants ( $n = 9$ ) who reported discomfort during their initial VTC, only

**Table 3. Summary of Consultants' Results (n = 30)**

Variable	Mean	Median	Min.–max.	Standard deviation
Comfort conducting VTC (first)	71	77	13–100	23
Comfort conducting VTC (most recent)	89	95	17–100	18
VTC process intuitive	58	59	15–95	21
Effectiveness for the graduate teacher(s)	72	75	23–100	20
VTC changed your relationship with graduate teacher(s)	55	57	0–100	34
VTC helped one's own teaching	73	77	0–100	28

**Table 4. Summary of Graduate Teachers' Results (n = 59)**

Variable	Mean	Median	Min.–max.	Standard deviation
Comfort during VTC (first)	75	86	0–100	28
Comfort during VTC (most recent, if not first) (n = 26)	87	95	25–100	19
Comfort level while watching video recording	70	75	5–95	23
Usefulness of watching video recording	80	90	0–100	25
VTC process intuitive	78	91	0–100	28
VTC process effective	77	90	0–100	30
VTC changed your relationship with consultant(s)	50	50	0–100	37

  

Variable	Yes	No
VTC provided new ideas for teaching	83%	17%

56% answered positively with respect to effectiveness. On average, consultants who felt comfortable during their first VTC scored the process at 76 (out of 100) on the effectiveness scale in contrast to 61 (out of 100) among those who were initially uncomfortable (see Table 5).

### **Consultants' Comments on Comfort**

Twelve consultants responded with comments about their level of comfort while conducting their first VTC, and nine of the 12 followed up about their level of comfort while completing their last VTC. The consultants more commonly discussed the factors that made them

**Table 5. Consultants' Conditional Perception of Efficacy for Graduate Teacher(s) (n = 30)**

	Condition	Mean	Responses above 60	Responses below 60
Comfort level with first VTC	Comfortable (n = 21)	76	81%	19%
	Uncomfortable (n = 9)	61	55%	45%
Number of VTCs completed	Experience low (1–2 VTCs) (n = 5)	75	80%	20%
	Experience average (3–4 VTCs) (n = 15)	68	67%	33%
	Experience high (5+ VTCs) (n = 10)	76	80%	20%

comfortable or uncomfortable rather than providing an overall positive or negative assessment of the process. When discussing discomfort, half of the 12 expressed discomfort with being new to VTCs and uncertainty about whether they knew how the consultation would go. Feeling like they had not prepared adequately before their first consultation, concerns about the graduate teacher's friendliness or enthusiasm, worries about problems with the video cameras, and uncertainty about responding to the teacher's questions or addressing their needs were concerns that also arose.

Ten of the 12 consultants mentioned familiarity with the process as being key. Guiding multiple VTCs as a consultant and completing one previously as a teacher were both ways that consultants indicated that they became more comfortable in their roles. Nevertheless, these comments are hard to generalize across the larger data set.

We have evidence that comfort increased with the number of VTCs completed, but it did not affect the overall success of the consultation for the consultants. The largest factor in characterizing the process as effective was their initial comfort. Analysis of the quantitative responses associated with this subgroup (the 12 consultants who commented on comfort) of consultants reveals that their perception of effectiveness is tied neither to their comfort level over time nor with the number of VTCs they performed. Their assessments of effectiveness were 78 (out of 100) if they were comfortable during their first VTC, as opposed to 67 (out of 100) if they were initially uncomfortable

(recall that those figures over the entire sample of consultants were 76 and 61, respectively). However, if we analyze the change in comfort reported from the first VTC to the most recent one, then we do not see a meaningful connection with perceived effectiveness. For all consultants, the average levels of reported effectiveness across experience were 75 for one to two VTCs, 68 for three to four VTCs, and 76 for five or more VTCs. Meanwhile, for the subset of consultants whose comments demonstrated gains in comfort with experience, the average levels of effectiveness across experience were not materially different at 80 for one to two VTCs, 65 for three to four VTCs, and 76 for five or more VTCs.

### ***The Influence of Comfort on Graduate Teachers' Perception of Effectiveness***

Among graduate teachers ( $n = 59$ ), 78% indicated they were comfortable during their first VTC. Those who felt comfortable scored the overall insightfulness (on average) as 86 (out of 100), in contrast to an insightfulness score of 77 across the entire population. Furthermore, the graduate teachers who had reported feeling below the comfort threshold during their first VTC (22%) on average scored the process at 47 with regard to how insightful it was for their teaching. In all, 64% ( $n = 38$ ) reported feeling comfortable watching the video, and the average effectiveness score for this group was 87, with 90% of them above the positive threshold. However, 36% ( $n = 21$ ) found watching the video to be less comfortable, and the average score among them was 59. Eighty-one percent ( $n = 48$ ) of graduate teachers deemed the video to be a useful tool, and on average they scored the process at 86 on the insightfulness scale, with 88% respondents selecting scores above the positive threshold of 60 out of 100. The remaining 19% ( $n = 11$ ) of teachers did not consider watching the video as useful, and on average they scored 37 on insightfulness. Only 27% of those graduate teachers responded in the positive range. The figures are summarized in Table 6.

**Table 6. Graduate Teachers' Conditional Perception of Efficacy (n = 59)**

	Condition	Mean	Responses above 60	Responses below 60
Comfort level with first VTC	Comfortable (n = 46)	86	81%	19%
	Uncomfortable (n = 13)	47	55%	45%
Comfort level while watching video	Comfortable (n = 38)	87	90%	10%
	Uncomfortable (n = 21)	59	52%	48%
Utility of watching video	Useful (n = 48)	86	88%	12%
	Not useful (n = 11)	38	27%	73%

### **Graduate Teacher Comments on Comfort**

Twenty-six teachers responded with comments about their level of comfort while watching themselves on video, and their comments explain what made them comfortable or uncomfortable. Twelve commented on the process of being observed and video recorded, eight discussed the VTC process overall, and nine made comments about their consultant (three respondents made comments that fell into two categories). Of the 12 comments about the observation and video recording, seven were positive, two were negative, and three were neutral. Positive reactions expressed little to no discomfort or a discomfort that was eventually mitigated by the consultant or by having finished the process. Negative reactions expressed a general discomfort or frustration with being observed and video recorded that never went away or got worse. Neutral comments issued concerns about not knowing how to explain to students why they were being recorded in class and concern that the recording affected student participation. Finally, those who discussed the process overall focused on the scripts, questions, structure of the VTCs, technical issues that arose, and other concerns about the process being too rigid, feeling like they were being evaluated, or worries about not understanding the process ahead of time. Comments by graduate teachers about consultants commonly focused on their consultants' ability to put them at ease, although two cases were completely negative. In these situations, personal and professional differences with

the consultant detracted from the teacher's experience and ability to self-reflect.

### ***Additional Factors for Consideration***

The semester in which a consultant conducted their first VTC had a notable impact on their perception of efficacy. On average, the consultants who conducted their first VTC in the fall semester considered the VTC to be 76 on the scale of effectiveness. In contrast, on average, the consultants who conducted their first VTC in the spring answered 63 with respect to effectiveness (see Table 7). In our discussion, we address how this result supports the through line that initial comfort impacts consultants.

Factors that notably did not impact the perception of the VTC for respondents were the number of VTCs completed and the specific VTC protocol that was chosen (out of the four). The view of effectiveness between consultants who conducted one to two, three to four, and five or more VTCs did not differ greatly between the groups (see Table 7). Similarly, for teachers engaging in their first VTC in contrast to a subsequent one, the perception of insightfulness on average was 74 versus 82 (see Table 8). We also analyzed the data for potential differences in the perceived effectiveness with different VTC protocols. Those differences were not apparent; the aggregate perceptions of effectiveness by each protocol are summarized in Table 9.

A confounding factor we identified in the responses was interdisciplinary interaction. On average, the consultants who conducted VTCs outside of their departments scored the process at 76 with respect to effectiveness for the teacher. Meanwhile, consultants who had not left their departments for VTCs reported, on average, an effectiveness score of 65 for teachers (see Table 7). In contrast, there was no evidence that graduate teacher perception surrounding insightfulness was impacted by the discipline of their consultant. In our discussion, we describe why we found that this variable with respect to consultants was not measuring what we intended, and so we categorized it as a confounding factor.



**Table 7. Additional Factors on Consultants' Responses (n = 30)**

Condition		Mean	Responses above 60	Responses below 60
Semester of first VTC	Fall (n = 19)	76	79%	21%
	Spring (n = 11)	63	64%	36%
Number of VTCs completed	Experience low (1–2 VTCs) (n = 5)	75	80%	20%
	Experience average (3–4 VTCs) (n = 15)	68	67%	33%
	Experience high (5+ VTCs) (n = 10)	76	80%	20%
Number of VTCs completed outside of department	None (n = 12)	76	50%	50%
	At least one (n = 18)	65	89%	11%

**Table 8. Additional Factors on Graduate Teachers' Responses (n = 59)**

Condition		Mean	Responses above 60	Responses below 60
First experience with VTC	First (n = 33)	74	76%	24%
	Subsequent (n = 26)	82	92%	8%

**Table 9. All Participants Conditioned Over VTC Protocol (non-disjoint categories)**

Condition		Mean	Responses above 60	Responses below 60
VTC protocol	Goals and objectives (n = 34)	78	82%	18%
	Generalized observations and reflection (n = 32)	75	75%	25%
	Teacher's interactions with students (n = 27)	79	78%	22%
	Threshold concepts (n = 15)	71	73%	27%

## Discussion

Our results illustrate that VTC protocols are a defensible framework for leading peer consultations, as the process is widely interpreted

as effective for consultants and graduate students alike. Responses skewed positive overall, suggesting that the upside of conducting a VTC outweighs potential negatives. The positive reception, low potential for harm, and cost-effectiveness of the peer consultation model supports foundational views of instructional consultations (Bell, 2001; Border, 2011; Brinko, 2012a; Nyquist et al., 1991). Nevertheless, educational developers must be aware of the factors that promote positive and negative experiences within their programs in order to maximize the benefits of peer consultation and minimize the potential for harm.

Our study reveals that attention toward the comfort levels of consultants and graduate teachers is crucial. Consultants gained comfort with experience, but their initial level of comfort had a lasting impact on their perception of overall effectiveness. In other words, if a consultant was uncomfortable during the first VTC they conducted, then they were less likely to perceive the process as effective when reflecting on the VTCs they performed. Curiously, this was even the case when a consultant had commented that they had grown comfortable after conducting subsequent VTCs.

Comments from consultants revealed that discomfort was most often due to an initial lack of familiarity with the process, its logistics (following a script, using the video camera and playing the video, taking notes), and uncertainties about their ability to respond to the needs of the graduate teachers. We also believe that the consultants' early preoccupation with the mechanics of the process may hamper their ability to note the gains made by teachers, which explains why consultants, on average, scored the process lower than the graduate teachers. Moreover, the discomfort of consultants was linked to the period of time between their training and when they conducted their first VTC. Consultants who completed their first VTC in the fall semester scored the process much higher than consultants who completed their first consultations in the spring. This is likely because the consultants who completed a VTC in the fall had our training fresher in their minds. Additionally, one might surmise that consultants who waited

until the end of their position to complete their VTCs may not have been as engaged in the program as those who completed them in the fall. These findings largely support those of Wright et al. (2015), who found that the confidence and perceived self-efficacy of a consultant increases rapidly in their first year as they achieve greater knowledge of the process (“Limitations, Implications, and Next Steps”). We add that the consultants’ level of comfort is also an influential factor as well as their level of buy-in with their duties. If consultants are uncomfortable or disengaged, then they may perceive their labor as consultants—which is often one responsibility among many others—to be less effective and possibly less worthy of attention.

Graduate teachers’ overall assessments of the process also depended on the level of comfort during their first VTC, especially with regard to watching themselves teach. That said, we don’t have enough data to say definitively that comfort increases for graduate teachers in the same way that it increases for consultants over time because the graduate teachers do not complete more than two VTCs. Almost all graduate teachers who reported feeling comfortable while watching the video found the process to be insightful and gave high marks for effectiveness, while those who reported feeling less comfortable gave more mixed results.

Teachers’ concerns about the rigidness of the VTC protocols also merit discussion. Some graduate teachers indicated that they did not want to follow the structures that we provided and preferred to have a more informal session with their consultant to discuss their teaching and course content. This concern arises frequently, but we’ve kept our protocols for several reasons. First, we wish to focus on the process, not the content, as recommended by Little and Palmer (2011). Second, research indicates that an unstructured video session is less productive for new teachers (Brophy, 2004; Hannafin et al., 2015; van Es et al., 2015). Finally, as a university program, we need to maintain consistency for questions of assessment and liability—especially because many of our consultants have limited experience in providing consultations. The process puts consultants and teachers in a vulnerable

situation, and it would increase the possibility of a negative outcome if both parties entered into a discussion without a clear plan. That said, we encourage our more experienced consultants to develop their own consultation styles and invent their own version of the process as they become more comfortable and familiar with guiding consultations. Thomas and Border (2011) offer further suggestions for allowing consultants to develop their consultation style.

## **Conclusions and Recommendations**

Our study concludes that VTCs offer an effective, low-risk professional development opportunity for consultants and graduate teachers at our institution. This is especially true for graduate students who may not otherwise have the opportunity to engage in teaching-specific professional development. Our findings also identified key factors that impacted the effectiveness of our peer consultation protocols. The comfort level of consultants and the time that lapsed between their training and their first consultation were the strongest factors that influenced the effectiveness of the process. For graduate teachers, the level of comfort in being observed and watching the video of themselves teaching had the greatest influence on a positive or negative assessment. Finally, the different types of protocols were mostly scored the same, and VTCs conducted outside of a consultant's department also had only a minor influence on the overall effectiveness of the process. These findings support current best practices in the field, but they also call for more attention to the ways that discomfort can impact instructional consultations for graduate students and how these factors can affect how this population experiences and scores educational development programming.

To maximize the benefits learned from this study, we offer a few suggestions for programs currently designing or updating their peer-observation protocols. First, attention should be given to the lapse between consultants' training and their first VTC. Scheduling is often

difficult at the beginning of the semester, but training in the early fall, followed up with smaller, refresher courses throughout the year, would be highly advantageous. Such training should walk consultants through the differences between peer consultation and departmental review, offer a list of best practices, allow consultants to observe a VTC being conducted live, allow them to practice with fellow consultants, and (if possible) require all consultants to have completed a VTC as a graduate teacher in the semester before they begin their work as a consultant.

Gaining experience will eventually help consultants develop confidence and allow them to grow their consultative style. Moreover, training should be given on mitigating discomfort. We instruct consultants to reassure graduate teachers before their pre-consultation that the process is formative and confidential and that they are not being judged. We have found this to be an effective way of getting graduate teachers to complete a VTC and to share their positive experiences with other graduate students in their departments. Finally, we suggest that consultants acknowledge the discomfort of watching oneself teach with comments such as “I know how weird it is to be video recorded, but I always find it useful by the end” and by suppressing the desire to provide unsolicited criticism or feedback to teachers while they watch themselves on video.

Finally, we conclude that a successful consultation protocol must be a sturdy but flexible structure that can be updated annually according to feedback from consultants, graduate teachers, and new innovations in the field of educational development. It is impossible to account for all the preferences and personalities who will use the protocols each year, but our work has shown that the success of a consultation does not hinge on a perfect set of questions or a perfect match between the process and any particular course content or classroom environment. Instead, we believe the key is to maintain a dedicated, collaborative process in which two individuals can comfortably and confidentially learn from each other by reflecting on the craft of teaching and the challenges that it always presents.

## Biographies

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## Appendix A. Video-Teacher Consultation Protocol

### Goals and Objectives (Learning Outcomes and Assessment)

- *All text in italics will be read aloud to the teacher*
- **All text in bold is a note to the lead consultant**

*Before we begin with the VTC, I want to clarify that this is a formative and confidential consultation. It is formative because it aims to improve your teaching, not evaluate it. It is confidential because our discussion will remain between us. If you would like a copy of the video, I can provide it. Otherwise, I will erase it after the consultation. When we are finished, I will send a copy of the notes to you and <email> for our records. (If it is the first VTC you are conducting, you can tell the teacher that it will also go to the lead coordinator, who will be reading it to ensure the process is performed correctly.)*

*This is the Learning Outcomes and Assessment VTC. It is focused on the creation of clear and realistic learning outcomes for students, which poses the most effective way of organizing daily lesson plans and accomplishing larger course objectives. This pre-consultation will outline learning outcomes and assessment techniques for your class; it will facilitate a discussion of the methods you will use; and it will introduce you to leading concepts in the field of college teaching.*

*Central to this VTC are a few terms: learning outcomes, content, skills, and assessment. Learning outcomes are the goals for students a teacher hopes to accomplish by the end of a course term. Daily lesson plans make these objectives the focus of class time. Learning objectives are commonly found in course syllabi, but daily goals usually are not. Assessment reveals how much students have learned and can be summative or formative. Summative assessment techniques are calculated for a grade, while formative techniques are not.*

*James R. Davis and Bridget D. Arend (2013) recommend using specified "ways of learning" to accomplish desired outcomes. Two*

*common methods are information acquisition (content) and behavioral learning (skills), and they will be the focus of this consultation. Content involves facts, ideas, terminology, theories, and other information essential to your field. Examples might be soil types, solar phenomena, verb conjugations, or the basic elements of plot. Skills represent procedural acts acquired through practice and instruction. Skills might be data collection, textual analysis, formal writing, or intercultural literacy and communication. By reflecting on the content and skills emphasized during your lesson, we can help you meet your objectives, brainstorm new ideas, and achieve new insights into your teaching.*

### **Pre-Consultation Questions: (Record the teacher's answers)**

Now, let's write your objectives for the upcoming class. For Objectives A and B, use verbs such as "to understand," "to apply," "to hone," "to evaluate," and "to analyze." For Objective C, explain what you want students to remember from your class 10 years from now. **(See Resources for Consultant for more information on learning objectives.)**

Objective A:

Objective B:

Objective C:

1. What **content** (knowledge or information) will be emphasized during your class, and how does it fit into the larger design of the course?
2. What **skills** will be practiced during your class, and what larger skills are gained or honed throughout the course? How might those skills be applied outside your field?
3. What **activities** will you use to meet those goals during your class and throughout the semester? (lecture, flipped classroom, discussion, worksheets, etc.)

4. How do these objectives fit within the larger goals of the course?
5. How will you assess your learning outcomes? Will you use a formative (non-graded) or summative (graded) method?

### **Pre-Consultation Questions:**

**(Read to the teacher)** *Thanks for letting me observe your class. During this consultation, which usually takes an hour, you will watch the video and then reflect upon your learning objectives and your internal monologue in the classroom. But first, a few questions to help me understand your class.*

### **Before watching the video, record the answers to the following questions:**

1. How has the class been going and how do you feel this class went?
2. What challenges does this class offer in terms of content or students?
3. Did you change your methods or your goals as the class progressed?
4. Are there any other questions or observations you have about the filming?

**(Read to the teacher)** *We will now watch the video and focus on two things. First, your internal monologue, that is, the things that you are thinking while you are teaching. These thoughts are invisible to me, but they are real and can positively or negatively affect your work in the classroom. Second, we will look at how your teaching and assessment aligned with your learning objectives.*

*While we watch the video:*

- a) *Comment intermittently about your internal monologue: What are you thinking at this point in the class?*

- b) *Observe how your teaching and assessment are aligning with your goals.*
- c) *If you want to stop the video and discuss something, please let me know.*
- d) *My job is to listen, take notes, and help analyze your methods and goals. It is not to criticize, judge, or evaluate you.*
- e) *You don't need to take notes. I will write down everything you say and will return the notes to you after the consultation. These notes are confidential and serve as a resource to remember your consultation.*

**If the teacher is quiet, consider asking these questions:**

- a) **What is going on in your head right now that the video doesn't show?**
- b) **Do you feel you are meeting your goals at this point?**
- c) **What is another way you might teach this same concept?**
- d) **What are the students learning at this moment, content or skills?**

**Write down the teacher's comments below. Try to capture as many as possible. Pay attention to any issues that repeat themselves.**

**TEACHER'S COMMENTS: (Record any comments they make on a separate piece of paper.)**

**After the Video:**

**(Read to the teacher)** *Now that we've watched the video, you will reflect upon your internal monologue and then discuss how you assessed your learning objectives. First, I will read back your notes from the video. Pay attention to what you said and try to identify any challenges or issues that repeat themselves.*

**Read the instructor's notes aloud. Try to help them find a pattern or an issue that came up once or more. You may be able to identify the**

issue easier than the teacher. If you or the teacher identifies something they want to work on, then discuss it using the questions below. If nothing becomes apparent, then ask the teacher if there is anything else about the class they would like to discuss. If absolutely nothing surfaces, then move on to the next section. You can always come back if an issue comes up later.

1. What is a pattern we're seeing here?
2. To what extent is it within your control?
3. What are some things you could do (or have done) to address it?
4. What would a positive outcome look like?
5. Who else could help you with this issue inside or outside your department?

**(Read to the teacher)** *Now let's talk about your learning objectives and how you assessed them. During your pre-consultation you indicated your learning objectives were:*

**Read the learning objectives from page 2. You can copy and paste them here.**

Objective A:

Objective B:

Objective C:

1. Overall, do you feel you met these goals? Why do you think so?
2. Is there a way you could prove to someone observing your class that you met your learning goals?
3. Let's brainstorm 2–3 more ways that you could assess your students using quick, formative (non-graded) activities at the end of class. **Here are a few ideas, in case the teacher needs help: Kahoot! QuickQuiz, Google Forum, TodaysMeet, Think-Pair-Share, one-minute paper, exit slip, five-question quiz, peer review, immediate instructor feedback, short presentations, etc.**

4. What practical ideas can you take with you from this session? Think about our discussion of your internal monologue, your teaching, and/or the ways you define and assess learning outcomes.
  - a.
  - b.
  - c.

**(Read to the teacher)** *If you do not have any additional questions or comments about the consultation, then we will end here. Thanks for inviting me to your class. I will type up my notes, return them to you, and provide you with any additional materials if you are interested in any of the topics we covered today. I will also send a PDF of these notes to <email> for your file.*

## **RESOURCES FOR CONSULTANT**

**How to Write Traditional Learning Outcomes:** *One should clarify what the learner will know or be able to do at the end of the class. Infinitive verbs from the Bloom's Taxonomy of Learning Domains are commonly used. These include "to understand," "to apply," "to create," "to evaluate," and "to analyze."*

### **Examples:**

1. *Students will learn to differentiate between the present, preterit, and imperfect tenses in Spanish and be able to write a two-paragraph essay about their first day of school.*
2. *Students will be able to compare and contrast the theories of Adam Smith and Karl Marx on four key points: role of the market, degree of planning, long-term outcomes, and social equity.*
3. *Students will be able to identify and distinguish between multiple forms of migration.*

**Significant Learning: Other learning objectives focus on “deeper” or “long-term” goals, that is, things students will remember years after the class (see L. Dee Fink’s idea of “Significant Learning”). These types of goals are useful for teaching statements.**

**Examples:**

1. *When a student walks off a trail, they will know the impact they will have on the complexities of the plants, soil, and larger ecosystem.*
2. *Students will learn how to understand people from other cultures, find common ground, and interact with them in a language outside of English.*
3. *Students will understand how society influences our understanding of race, gender, and sexuality.*

## Appendix B. Survey Questions

### Consultant Survey

	Question	Scale 0–100	Multiple choice	Select all that apply
1	Rate your level of comfort conducting your first VTC.	X		
2	Rate your level of comfort conducting your last VTC.	X		
3	While conducting VTCs, did you ever forget to complete any of the following steps? <ul style="list-style-type: none"> <li>• Pre-consultation</li> <li>• Visit and videotape the class</li> <li>• Post-consultation</li> </ul>			X
4	How many VTCs did you complete last year? <ul style="list-style-type: none"> <li>• 0</li> <li>• 1–2</li> <li>• 3–4</li> <li>• 5+</li> </ul>		X	
5	Did the teacher seem to understand that the VTC process was formative (i.e., it is part of their own professional development and not part of a formal evaluation or assessment)?	X		
6	Did the teacher seem to understand that the VTC process was confidential (i.e., the notes will only be seen by you and the lead coordinator if it is the first VTC that you were conducting)?	X		
7	On average, how much time passed between the pre-consultation and the videotaping? <ul style="list-style-type: none"> <li>• An hour or less</li> <li>• Hours</li> <li>• 1–2 days during the week</li> <li>• Weekend</li> <li>• 2+ days</li> <li>• I don't remember</li> </ul>		X	
8	On average, how much time passed between the videotaping and the post-consultation? <ul style="list-style-type: none"> <li>• Hours</li> <li>• 1–2 days during the week</li> <li>• Weekend</li> <li>• 2+ days</li> <li>• I don't remember</li> </ul>		X	



	Question	Scale 0–100	Multiple choice	Select all that apply
9	On average, how long did your post-consultation last? <ul style="list-style-type: none"> <li>• &lt;1 hour</li> <li>• 1–2 hours</li> <li>• 2–3 hours</li> <li>• 3+ hours</li> </ul>		X	
10	When did you conduct more VTCs? <ul style="list-style-type: none"> <li>• Fall</li> <li>• Spring</li> <li>• Summer</li> <li>• Roughly equal over the semesters</li> </ul>		X	
11	How many VTCs did you conduct outside your department? <ul style="list-style-type: none"> <li>• 0</li> <li>• 1–2</li> <li>• 3–4</li> <li>• 5+</li> </ul>		X	
11b	Do you feel the VTCs outside your department provided a view of the instructor's teaching that wasn't possible with someone from their department? <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> <li>• Maybe</li> </ul>		X	
12	Which of the following topics were discussed while watching the video with the teacher? <ul style="list-style-type: none"> <li>• Body language</li> <li>• Specific VTC protocol</li> <li>• Self-talk</li> <li>• Self-confidence</li> <li>• Student engagement</li> <li>• Issues of diversity and/or inequity</li> <li>• Discipline</li> <li>• Time management</li> <li>• Interpersonal conflict with students</li> <li>• Classroom environment</li> <li>• Anxiety</li> <li>• Issues with professor/department</li> <li>• Politics</li> <li>• Challenges of teaching in English or a second language</li> <li>• Other</li> </ul>			X
12b	You indicated _____ as topics that came up while watching the video with the teacher; please rate your level of comfort in discussing each issue, from 0 (very uncomfortable) to 100 (very comfortable).	X		

	Question	Scale 0–100	Multiple choice	Select all that apply
12c	Still considering _____; please approximate the amount of time, by percentage (from 0 to 100), that each topic was discussed with the teacher.	X		
13	Rate the intuitive nature of the VTC templates.	X		
14	Rate your overall impression of the effectiveness of the VTC process for the teacher.	X		
15	Did the experience change your relationship with the teacher?	X		
16	Did the VTC experience help you in your own teaching?	X		
17	What helped you the most in your development as a consultant? <ul style="list-style-type: none"> <li>• May training</li> <li>• Refresher workshop with lead coordinator</li> <li>• Individual meeting with lead coordinator</li> <li>• Meeting with faculty mentor or graduate advisor</li> <li>• Individual research</li> <li>• Experience doing multiple VTCs</li> <li>• Learning and applying new ideas from other graduate teachers</li> <li>• Other</li> </ul>			X
18	Which VTC protocol(s) did you conduct? <ul style="list-style-type: none"> <li>• Goals and objectives</li> <li>• GORP (student-centered teaching)</li> <li>• Interactional analysis</li> <li>• Threshold concepts</li> </ul>			X
18b	Considering the _____ VTC protocol, please rate the following from 0 (very low) to 100 (very high). Scale (0–100) for each topic. <ul style="list-style-type: none"> <li>• How much you think the teacher learned from this VTC template.</li> <li>• How much you think you learned using this VTC template.</li> <li>• How intuitive the VTC template was.</li> <li>• How clear the VTC process was overall.</li> <li>• How useful the appendices provided in the VTC template were.</li> <li>• How productive the discussion of inner monologue was.</li> <li>• How productive the discussion of the video was.</li> </ul>	X		

**Teacher Survey**

	Question	Scale 0–100	Multiple choice	Select all that apply
1	What is the type/format of your class? • Traditional classroom • Lab session • Studio workshop • Other		X	
2	How many total VTCs have you completed? • 1 • 2 • 3+		X	
3	Rate your level of comfort completing your first VTC.	X		
3b	Rate your level of comfort completing your last VTC.	X		
4	When did you complete VTC(s)? • Fall • Spring • Summer			X
5	During your VTC(s), did you not complete any of the following components? • Pre-consultation • Have your class videotaped • Post-consultation • N/A			X
6	Did the consultant make it clear that the VTC was formative?	X		
7	Did the consultant make it clear that the VTC was confidential?	X		
8	On average, how much time passed between the pre-consultation and the videotaping? • An hour or less • Hours • 1–2 days during the week • Weekend • 2+ days • I don't remember		X	
9	On average, how much time passed between the videotaping and the post-consultation? • Hours • 1–2 days during the week • Weekend • 2+ days • I don't remember		X	

	Question	Scale 0–100	Multiple choice	Select all that apply
10	On average, how long did your post-consultation last? <ul style="list-style-type: none"> <li>• &lt;1 hour</li> <li>• 1–2 hours</li> <li>• 2–3 hours</li> <li>• 3+ hours</li> </ul>		X	
11	How prepared was your consultant for the videotaping?	X		
12	As you watched the recording during the post-consultation, was the process of watching yourself helpful?	X		
13	Did you become more comfortable or more uncomfortable as the video progressed?	X		
14	What percentage of time were you the focus of the video?	X		
15	What percentage of the time were your students the focus of the video?	X		
16	Could you hear what you were saying while you were speaking in the video? <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> <li>• Sometimes</li> </ul>		X	
	Which of the following topics were discussed while watching the video? <ul style="list-style-type: none"> <li>• Body language</li> <li>• Specific VTC protocol</li> <li>• Self-talk</li> <li>• Self-confidence</li> <li>• Student engagement</li> <li>• Issues of diversity and/or inequity</li> <li>• Discipline</li> <li>• Time management</li> <li>• Interpersonal conflict with students</li> <li>• Classroom environment</li> <li>• Anxiety</li> <li>• Issues with professor/department</li> <li>• Politics</li> <li>• Challenges of teaching in English or a second language</li> <li>• Other</li> </ul>			X
16b	You indicated _____ as topics that came up while watching the video with the teacher; please rate your level of comfort in discussing each issue, from 0 (very uncomfortable) to 100 (very comfortable).	X		
16c	Still considering _____; please approximate the amount of time, by percentage (from 0 to 100), that each topic was discussed with the teacher.	X		

	Question	Scale 0–100	Multiple choice	Select all that apply
17	Was the consultant from your department or academic discipline? • Yes • No		X	
17b	Do you feel your consultant provided a view of your teaching that wasn't possible with someone from your department or academic discipline? • Yes • No • Maybe		X	
18	Did the VTC process have a natural flow to it?	X		
19	Did the VTC process provide insight into your teaching?	X		
20	Did the experience change your relationship with the consultant?	X		
21	Did the VTC give you new ideas about your teaching? • Yes • No		X	
22	What aspect of the VTC did you find most useful? • The finalized consultation notes • Feedback from the consultant during the VTC • Watching the video • Other			X
23	How did you find out about the VTC process? • The GTP lead in your department • The GTP website • A friend or colleague • A professor or administrator • Other			X
24	Since the completion of your VTC, have you participated in other GTP events? • Certificate in College Teaching • Future Faculty Development Certificate • Workshop series • Future lead network • Fall Intensive • Spring conference • Best Should Teach • Other			X
25	Please rate your level of interest in one day becoming a lead.	X		

	Question	Scale 0–100	Multiple choice	Select all that apply
26	Which VTC protocol(s) did you conduct? <ul style="list-style-type: none"> <li>• Goals and objectives</li> <li>• GORP (student-centered teaching)</li> <li>• Interactional analysis</li> <li>• Threshold concepts</li> </ul>		X	
26b	Considering the _____ VTC protocol, please rate the following from 0 (very low) to 100 (very high). Scale (0–100) for each topic. <ul style="list-style-type: none"> <li>• How much you think you learned using this VTC template.</li> <li>• How intuitive the VTC template was.</li> <li>• How clear the VTC process was overall.</li> <li>• How useful the appendices provided in the VTC template were.</li> <li>• How productive the discussion of inner monologue was.</li> <li>• How productive the discussion of the video was.</li> </ul>	X		