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Defeating the Developer's Dilemma

An Online Tool for Individual Consultations

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A very special thank-you to Judith Brooks, who masterfully designed the online tool.

This chapter introduces an online consultation tool that helps resolve the tension that developers often experience in consultations between offering quick fixes and providing in-depth but time-consuming conceptual understanding. The tool that the Eberly Center for Teaching Excellence has developed provides instructors with concrete teaching strategies to address common teaching problems, while also educating them about the pedagogical principles informing those strategies. The tool can be used to enhance traditional face-to-face consultations or, by itself, to reach a wider faculty audience, including adjunct and off-site faculty.

As faculty developers, we want to deliver concrete practical solutions to the teaching problems faculty experience, to use our time effectively, and to assist as many instructors as possible. Yet we also want to provide faculty with a deep understanding of the principles that underlie meaningful learning and guide effective teaching. These goals present developers with an apparent dilemma: Should we provide quick tips or seek to develop deep understanding of learning and pedagogy? The latter approach requires time and

resources that many developers, not to mention instructors, simply do not have. Yet dispensing tips can backfire if instructors lack sufficient understanding of the problem and thus misapply techniques and strategies. How do we balance these two priorities when providing excellent teaching advice to reach the broadest possible audience?

Although this tension is not new to our profession (Cash & Minter, 1979), increased pressures on faculty time and limited financial resources have made it more acute. Sorcinelli, Austin, Eddy, and Beach (2006) address this issue when they point out that faculty developers will increasingly have to “connect, communicate, and collaborate to meet the challenge of how to do more with less while simultaneously maintaining excellence” (p. 158).

Our center has taken up this challenge. Capitalizing on the potential of the Internet to facilitate greater connection and communication, we have developed an online tool, based on the collaborative framework we employ in our face-to-face consultations with faculty. Our primary goal in developing this tool was to reach as many instructors as possible while preserving as much of the richness of the traditional consultation process as possible. Our secondary goal was to provide a useful resource for faculty developers. The tool combines 1) key elements of the collaborative consultation model, 2) a set of common teaching problems we frequently encounter in our consultations with faculty, 3) a three-step process for addressing these problems and identifying a range of appropriate, contextualized solutions, and 4) a set of learning and teaching principles, based on theory and research, that informs the solutions we suggest to instructors.

Our online tool allows users (whether instructors or faculty developers) to apply the three-step process to particular teaching problems, offering concrete and appropriate strategies, as well as their basic theoretical underpinnings. This chapter explains the online tool and offers it as a public resource for developers and instructors everywhere. The chapter is divided into four sections. The first section presents our consultation philosophy, situating it in relation to other consultation models. The second section illustrates our three-step consultation framework and applies it to one teaching problem commonly encountered by faculty with whom we consult. The third section introduces the online tool and its features. Finally, in the fourth section, we conclude with

a discussion of the lessons learned from this process and their implications for faculty development.

Our Consultation Philosophy

Successful consultations demand a well-articulated and internally consistent consultation philosophy. Although we recognize that a number of different approaches can be effective, depending on the institutional context, we present ours because it forms the foundation for the online tool we developed. Our philosophy extends Brinko's (1991) work by characterizing one of her consultation models. Brinko identifies five models of consultation that pertain to faculty development:

1. *Provider of product.* This model views the faculty developer as the provider of a discrete product (for example, a checklist, template, or rubric) or a concrete tip that will solve problems in the classroom. Faculty developers who interact with instructors subscribing to this perspective are certainly familiar with these requests (for example, "Tell me the top three things I need to do to increase classroom participation").
2. *Prescriptive.* This model mimics the traditional medical model in which the doctor is seen as the all-knowing expert, capable of immediately and infallibly identifying the problem, diagnosing the underlying illness, and prescribing the appropriate remedies. Instructors with this outlook will often defer to the developer in all things pedagogical, waiting to be told what to do and how to do it.
3. *Collaborative.* In this model, both the instructor and the faculty developer are seen as experts—one in content and specific classroom context, the other in process and general pedagogy. The consultation is conceptualized as a genuinely joint effort, with the instructor having final authority on changes that affect her course.
4. *Affiliative.* This model originates from the psychotherapeutic literature and acknowledges that sometimes personal or professional issues affect an instructor's performance in the classroom. The faculty developer must therefore address those concerns with the pedagogical ones in a holistic vision of faculty development.

5. *Confrontational*. This model acknowledges that consultations sometimes become “stuck” because of faculty resistance or skepticism. The faculty developer’s role in these cases is to openly challenge the instructor, by taking a devil’s advocate position or by being blunt, in order to make progress.

Of these, we favor the collaborative model because it acknowledges the expertise and contribution of both the instructor and the faculty developer. Moreover, it often encompasses aspects of other models. In a bona fide collaborative effort, it is sometimes appropriate to offer products or, on occasion, be prescriptive. Certainly, some aspects of the affiliative and confrontational models belong in a true collaboration.

But if a collaborative consultation can, at times, resemble other kinds of consultations, what exactly characterizes this model at its core? We found this question worth exploring. The collaborative approach, as we employ it in our work, is as follows:

1. *Learner-centered*. We regard student learning as the center of the teaching process. Therefore, we aim to help instructors develop course objectives, assessments, and instructional activities that together support and promote student learning and performance.
2. *Educational*. We aim to help our colleagues gain a deeper understanding of the principles that underlie effective learning and teaching so they can make appropriate teaching decisions for their own courses (Knapper & Piccinin, 1999). We do not simply dispense teaching tips.
3. *Constructive*. We focus on providing constructive and practical feedback to help our colleagues succeed as educators. Our role is to support teaching, not to judge performance. We always highlight their strengths first and then identify areas for growth and concrete suggestions they can implement in the classroom.
4. *Data-driven*. We gather and analyze extensive data through classroom observations, student focus groups, and the examination of teaching materials. We then help instructors use these data to diagnose strengths and identify areas for improvement (Nyquist & Wulff, 2001).

5. *Research-based.* We apply state-of-the-art research from a range of disciplines (for example, cognitive psychology, organizational behavior, educational psychology, cross-cultural studies) to help instructors design and teach courses more effectively.

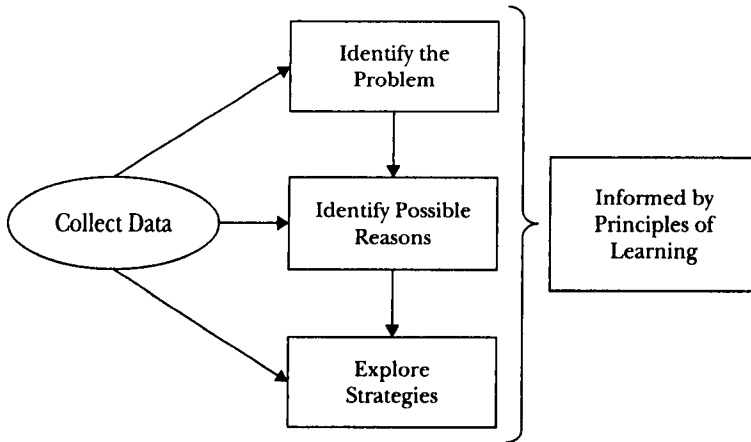
Our Three-Step Consultation Process

The features articulated earlier are at the center of our consultation process. We want to provide and share constructive and practical strategies, but we want those strategies to be informed by data, theory, and research, which we also want to share. The three basic steps we engage in when we employ this process are synthesized in Figure 10.1. The first step is to “Identify the Problem.” Instructors sometimes come to the center with a vague sense that one of their courses is not working well or that students are unhappy, without being able to articulate the exact nature of the problem. Our twenty-seven years of experience at the center have illuminated a set of common, recurring problems that we refer to when helping faculty pinpoint the specific problem they are encountering. A sample of such problems includes the following (more problems are available at www.cmu.edu/teaching/solveproblem/index.html):

- Students don't participate in discussions.
- Students don't come to lecture.
- Students don't apply what they've learned.
- Students don't keep up with the readings.
- Students' background knowledge and skills vary widely.
- Students lack writing skills.
- Students may be cheating or plagiarizing.
- Students performed poorly on the first exam.
- Group projects aren't working.

In the second step, we employ a data-driven process to “Identify Possible Reasons” for the problem. This can involve collecting data to determine the cause or causes. In the third step, based on the identified reason and relevant data, the faculty developer and instructor work collaboratively to “Explore Strategies.” The strategies we suggest are informed by principles of learning, as are the other steps.

Figure 10.1. Our Consultation Framework That Informed the Development of the Online Tool



As an example, let's consider a common situation. A faculty colleague comes in with a vague sense of dissatisfaction about how his course is going. After some discussion, the instructor and faculty developer identify the key problem: students do not participate in discussions. To determine the cause of the problem, the developer collects data via classroom observations and focus groups with students. Some of the possible reasons might include the following:

1. Students did not complete the reading assignment.
2. Students did not focus on the relevant aspects of the reading assignment.
3. Students' individual styles or personalities may inhibit their participation.
4. Students' cultural values and norms may inhibit their participation.
5. Students may not have experience participating in discussions.
6. Students may not have the general background knowledge to participate.
7. Students come to class late and miss the framing of the discussion.
8. The instructor did not clearly articulate the goals of the discussion, define the structure, or effectively manage the process within the defined structure.

9. The intellectual environment is not conducive to participation.
10. The physical environment is not conducive to discussion.

Identifying possible reasons for the problem is a critical step in the consultation process. Because faculty members have rarely thought about all of the possible factors that could create or contribute to a problem, considering a broad range of possible explanations helps educate them about issues they may never have considered.

It is important to accurately identify the reason for the problem in order to choose appropriate interventions. If the reason students do not participate in discussions is that they do not keep up with the readings, the strategies might focus on integrating the readings more into the course and holding the students accountable for completing them. If the reason students do not participate is that they do not feel comfortable speaking up, volunteering unpopular opinions, or disagreeing with each other, the strategies must focus on creating a comfortable and productive classroom climate. If the reason students do not participate is because of a problem with the physical environment, the solution might be as simple as rearranging the chairs in the classroom. Sample reasons and strategies for this problem are listed in Table 10.1.

**Table 10.1. Condensed List of Reasons and Strategies
from the Sample Problem, "My students don't
participate in discussions."**

Sample strategies to address the problem "My students don't participate in discussions" based on possible reasons:

Students don't keep up with the reading.

"Scaffold" reading assignments.

Point out the relevance of the readings.

Hold students immediately responsible for readings.

Students did not focus on the relevant aspects of reading.

Provide strategies for reading.

Direct students' reading.

Model your reading strategy.

Students' individual styles or personalities may inhibit their participation.

Help students to prepare in advance.

Use groups.

Reward student participation.

(Continued)

Table 10.1. Condensed List of Reasons and Strategies from the Sample Problem, “My students don’t participate in discussions.” (Continued)

Students’ cultural values and norms may inhibit their participation.

Define your expectations.

Articulate ground rules.

Students may not have experience participating in discussions.

Outline your goals.

Model appropriate behavior.

Allow students time to think.

Students may not have the general background knowledge to participate.

Assess prior knowledge.

Address lack of prior knowledge.

The instructor did not clearly articulate the goals of the discussion, define the structure, or effectively manage the process within the defined structure.

Prepare your questions in advance.

Identify why your questions are not effective.

Summarize the discussion.

The intellectual environment is not conducive to participation.

Tactfully correct inaccurate information.

Validate meaningful contributions.

Invite contradictory views.

Note. Descriptions for these and other reasons and strategies are available at www.cmu.edu/teaching/solveproblem/index.html.

Our Online Tool for Consultations

In their analysis of the history of faculty development, Sorcinelli and colleagues (2006) call the present period the Age of the Network, alluding to the ubiquitous presence of the Internet and its potential as a resource for faculty developers. We sought to exploit this potential by developing an online tool that walks users through the three-step consultation process described earlier.

We started brainstorming the list of common teaching problems our faculty has expressed to us over the years. We prioritized them according to frequency and developed the most commonly reported. In generating possible reasons and strategies, we drew

on our collective expertise, both in faculty development and in our respective fields of specialization (the center staff includes cognitive, social, and developmental psychologists, a historian, a cultural anthropologist, and a statistician). After we developed the first version of the online tool, we conducted user tests to get feedback on it. We called on faculty members from various disciplines to go through the Web site with a specific teaching problem in mind and asked them to give us feedback on content, navigation, readability, and so on. The feedback was very positive, but it also highlighted some areas for improvement. We then revised the tool to incorporate the feedback and have since made it available to the campus community, presented it at conferences, and used it in our own consulting practice.

Our hope is that this tool can help to resolve the tension inherent in consultations by fostering a problem-solving process in which the teaching strategies offered are directly linked to the reasons underlying specific teaching problems and are firmly grounded in research and theory.

This tool is hosted by the Enhancing Education Web page—the joint Web site of our center and of the Office of Technology for Education—and is publicly available at www.cmu.edu/teaching/solveproblem/index.html.

As shown in Figure 10.2, the front page of the tool previews the three steps (problem, reason, strategies) and contains a link to the first step. Two sidebars on the right-hand side list the learning and teaching principles that underlie the inquiry process. This set of learning and teaching principles is included in Table 10.2.

Once the user clicks on the link, she is taken to a page asking her to choose from a menu of common classroom problems, grouped by categories, as shown in Figure 10.3. The principles are still presented in the sidebars. Once the user clicks on the relevant problem, she is taken to the next page, shown in Figure 10.4, which explores possible reasons the problem might be happening, still reinforcing the learning and teaching principles on the right. Once the user clicks on one of the possible reasons for the problem, she is then taken to the next page, shown in Figure 10.5. This page briefly elaborates on the reason, explaining in one paragraph the not-so-obvious reasons and providing some references when appropriate. Below this paragraph, one or more

Figure 10.2. The Front Page of Our Online Tool

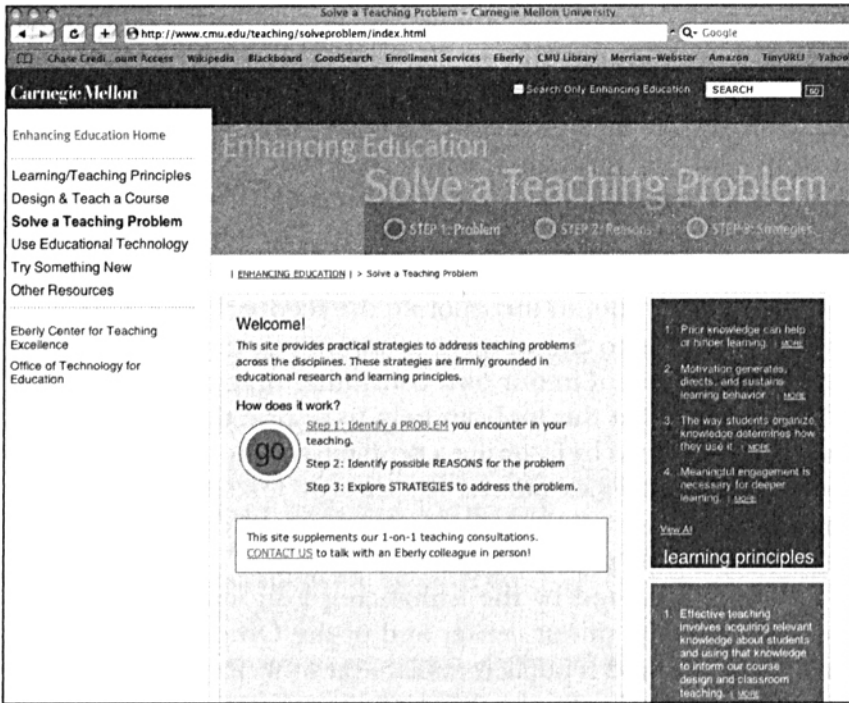


Table 10.2. Theory- and Research-Based Principles of Learning and Teaching

Theory- and Research-Based Principles of Learning

1. Prior knowledge can help or hinder learning.
2. Motivation generates, directs, and sustains learning behavior.
3. The way students organize knowledge determines how they use it.
4. Active engagement can promote deeper learning.
5. Mastery involves developing component skills and knowledge, synthesizing, and applying them appropriately.
6. Goal-directed practice and targeted feedback are critical to learning.
7. Learning requires that students monitor, evaluate, and adjust their learning strategies.
8. Students develop holistically.

Theory- and Research-Based Principles of Teaching

1. Effective teaching involves acquiring relevant knowledge about students and using that knowledge to inform our course design and classroom teaching.

Table 10.2. Theory- and Research-Based Principles of Learning and Teaching (Continued)

2. Effective teaching involves aligning the three major components of instruction: learning objectives, assessments, and instructional activities.
3. Effective teaching involves articulating explicit expectations regarding learning objectives and policies.
4. Effective teaching involves prioritizing the knowledge and skills we choose to focus on.
5. Effective teaching involves recognizing and overcoming our expert blind spots.
6. Effective teaching involves adopting appropriate teaching roles to support our learning goals.
7. Effective teaching involves progressively refining our courses, based on reflection and feedback.

Note. Explanations of the principles and the theory and research supporting them is available at www.cmu.edu/teaching/principles/learning.html and www.cmu.edu/teaching/principles/teaching.html.

Figure 10.3. Screenshot of Teaching Problems and Learning Principles (page scrolls down)



teaching strategies addressing that reason are offered. Some of the strategies link to relevant pages on the center's Web site (for example, designing and using rubrics, classroom assessment techniques). On this page's sidebars, the principles most pertinent to the reason are highlighted. The principles are also clickable,

Figure 10.4. Screenshot of One Problem and Possible Reasons (page scrolls down)



in case the user wants to learn more about learning theory in relation to her specific problem. Every subpage contains a text box at the bottom, inviting the user to contact the center if she wishes to know more or to tailor the consultation to her specific context. An important feature of the site is that the steps are sequential. Thanks to the link structure of the Web pages, one cannot jump to the strategy pages without exploring possible reasons first.

Discussion and Implications for Faculty Development

We have found the online tool to be useful and versatile, both for our faculty colleagues and for ourselves as faculty developers. In addition to providing contextualized solutions to common teaching problems, it has helped us bring the following points to the attention of instructors:

1. *A teaching problem can manifest itself for very different reasons.* As we mentioned before by way of example, students might not

Figure 10.5. Screenshot of Possible Strategies with Explanations and Relevant Learning Principles (page scrolls down)

The screenshot shows a web browser window with the URL <http://www.cmu.edu/teaching/solveproblem/strat-dontparticipate/dontparticipate-02.html>. The page is titled "Explore Strategies" and is part of a series of steps: STEP 1: Problem, STEP 2: Reasons, and STEP 3: Strategies. The current step is "Explore potential strategies." The problem statement is: "My students don't participate in discussion. Students did not focus on the relevant aspects of reading." The explanation states: "Despite having done the reading, students are still unable to participate because they have not focused on the relevant aspects of the reading. Because every discipline has its own conventions (e.g., historians want students to be able to identify an author's argument and psychologists want students to understand the implication of study size), students may inappropriately focus, for example, at too abstract or too detailed a level." The strategies listed are: "Help students establish realistic expectations," "Provide strategies for reading," "Direct students' reading," "Operationalize performance criteria," "Create scaffolded reading assignments," and "Model your reading strategy." A sidebar on the right lists six learning principles, including "Prior knowledge can help or hinder learning," "Motivation generates direct and sustained learning behavior," and "Mastery involves developing component skills and knowledge, and synthesizing and applying them appropriately." The sidebar is titled "learning principles" at the bottom.

participate in a discussion because they have not done the relevant readings or because they find the classroom environment intimidating. Obviously, these are substantially different issues. Simply reading down the list of possible reasons for a problem alerts faculty to issues that might not have occurred to them.

2. *Effective strategies are intimately tied to the reasons that problems manifest themselves in the classroom.* For example, the strategies one would use to ensure that students do the assigned readings are not necessarily the same strategies one would use to create a more comfortable and inclusive classroom environment. If the reason for the problem is A and the instructor employs strategies meant to address B, it is likely that the original problem will not be resolved. This cautionary lesson is particularly important for those colleagues who are in search of quick fixes. We believe the

focus on *reasons* in our online tool engenders a more reflective approach to teaching problems.

3. *Reasons cluster into three general areas, all of which are critical for learning.* As faculty review lists of possible reasons for a problem, their attention is drawn to the cognitive-intellectual, social-emotional, and physical-environmental factors that impinge on learning. For example, students might not participate in discussions because of cognitive issues (for example, they lack critical background knowledge and skills, the questions are pitched at an overly abstract level), social-emotional issues (for example, students come from cultures in which classroom discussion is not employed or considered useful, students worry that their ideas will be dismissed), or physical-environmental issues (for example, students cannot hear or see one another). By highlighting all three dimensions of student learning, the online tool reinforces the point that effective teaching addresses the whole student.

4. *Some strategies can sometimes address several problems (or reasons) of a given type at once.* As faculty colleagues investigate specific teaching problems using the online tool, they find that some teaching strategies emerge in numerous contexts. For instance, a single strategy—aligning objectives, assessment, and instructional strategies—simultaneously increases learning, enhances student performance, increases student satisfaction, reduces cheating, and discourages grade grubbing. The simple fact that this strategy keeps reappearing reinforces its importance. At the same time, because the strategy's importance is contextualized within the discussion of a specific problem, rather than endorsed in the abstract (as, for example, in a list of best practices), we believe it is easier for faculty to understand, appreciate, and employ. Because the strategies originate from a small set of principles, instructors with a sufficiently large repertoire of strategies can solve many of their problems without having to always search for new strategies.

5. *The reasons and strategies are tied to learning and teaching principles.* Because the learning and teaching principles are always present in the sidebars to the right, highlighted selectively, depending on relevance to the specific situation, they convey the message that the process is not haphazard but systematic and grounded in theory and research on learning and teaching.

The tool itself can be used in the context of a consultation, but it is also publicly accessible online. Therefore, it is potentially useful in a variety of ways and to multiple audiences:

1. *It helps us reach underserved populations.* One such population is adjunct faculty, who may work in nonacademic jobs during the day and teach in the evening and thus are less able to avail themselves of on-site faculty development opportunities. Another underserved population includes professors teaching off-site in distance and satellite programs, which are proliferating across the globe. A third population includes those instructors on campus who are too embarrassed to ask for help but who could use the online tool safely and anonymously.
2. *It helps us use our time efficiently.* We often use the tool during our consultations because it puts a systematic analysis of a teaching problem, along with links to relevant materials (for example, sample rubrics and pretests, articles on pertinent issues) at our fingertips. We also sometimes use it before a consultation as a refresher on a particular subject. Consulting the online tool helps to ensure we consider all possible causes for a problem without jumping to conclusions, and it saves us from reinventing the wheel when we encounter different faculty experiencing the same problem. Finally, to make efficient use of face-to-face meeting time, it is sometimes helpful to direct a faculty colleague to a section of the online tool (for example, an explanation of clear, learner-centered objectives, advice on group work) in preparation for a consultation.
3. *It can be helpful to small teaching centers, where the staff experiences pressures on its own time and priorities.* At such centers, faculty developers are caught in a balancing act between programs that increase their visibility on campus and allow them to reach a broad audience (such as teaching workshops) and individual consultations that have a lasting and deep impact but are time-consuming. This tool helps us optimize our resources.

Conclusion

This online tool adapts our collaborative consultation philosophy and process to a medium that allows instructors—particularly faculty who cannot easily make use of traditional teaching center

resources—to find concrete, helpful, contextualized, and research-based solutions to teaching problems and that helps teaching centers use their resources more efficiently to reach a broader audience.

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