

Getting Inside the Instructional Process

A Collaborative Diagnostic Process for Improving College Teaching

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Abstract. CAP, a Collaborative Analysis and Action Planning Process, is a consultation strategy developed to facilitate the improvement of teaching in higher education. The design is based on research from school ethnographies and instructional systems. CAP permits the complexities of the teaching process to be addressed and uses naturalistic inquiry methods in a consultation setting. Through the development of a collaborative relation with the instructor and students, their conscious and tacit knowledge can be combined with the consultant's expertise to reach accurate data-based statements about the strengths, limitations, and achievable goals of the instructional process.

Improving the quality of college instruction is a necessary but complex task. The task is difficult because the instructional process is dynamic, interactive and individualistic. Gaining access to the internal workings of the process to uncover how the parts of the system are integrated and function is a challenge. It is equally challenging for a consultant to facilitate relevant and enduring change that will improve the quality of instruction. Now there is a process which allows us to gain access to uncover and understand classroom teaching in a relatively uncomplicated way. This analysis and problem solving process relies heavily on collaboration with the instructor and students. The main purpose of this paper is to describe how the Collaborative Analysis and Action Planning Process (CAP)* works.

Overview of CAP Process

The CAP process entails nine interactive steps. Briefly, the steps are:

1. *Initial Interview*—collect information on the course content and structure; discuss concerns or problems.
2. *Class Observation*—talk with students, record class activities in behavioral terms, develop questions and hunches about the instructional process.
3. *Class Questionnaire*—collect information from students on what instructor does to help or hinder learning and motivation.
4. *Videotape Class* and recruit student volunteers to review videotape.
5. *Review Videotape with instructor*—ask the instructor to talk about what they do that facilitates or hinders student learning and motivation, record what is said and when (use counter on playback unit), solicit questions to ask students.
6. *Review videotape with students*—ask parallel questions to step 5 and record comments.
7. *Action Planning*—review parts of videotape that were identified by the instructor and/or students as significant, summarize student comments, discuss events, collaboratively brainstorm instructional strategies (building on the instructor's strengths when possible), ask the instructor to summarize the outcome and her action plan.
8. *Follow-Up Letter*—send a letter to the instructor summarizing her strengths and concerns, document with student comments, list steps in action plan.
9. *Follow-Up Contacts*—phone calls, class visits.

As you can see, this diagnostic process relies on the multiple methods of gathering and cross-checking in-

formation about the instruction system. For example, when, how, and why the instructor elicits student participation can be explored through observations, a questionnaire, and the instructor's and the students' responses during the videotape review sessions. This diagnostic process is also collaborative. That is, the instructor, students, and consultant exchange information in order to better understand how the parts of the instructional system interact and function and what could be done to improve student learning.

Research Perspective

Classroom teaching is indeed complex and interactive. To get inside the instructional process, inquiry methods are needed which allow the consultant and instructor to examine parts while not losing sight of the whole; to explore the event from within while standing outside and looking in; to fix an event in time while remembering that in its context it is ongoing; to attend to various views of the same event; and to remain flexible and open to ideas. The fieldwork techniques of school ethnographies provide means to examine, analyze, and understand the interaction dynamics and the structure of classroom teaching (Wolcott, 1973; Erickson, 1976, 1977; Mehan, 1978; McDermott, Gospodinoff, and Aron, 1977; Moore, 1977; Florio, 1978; and Cooper, 1979, 1981).

Two principles of ethnographic inquiry guide the CAP process:

1. The dynamics of a complex social event can best be understood by

*CAP is a title given to this diagnostic consultation process by Dr. Deborah Orban, Asst. professor at the University of Texas. Dr. Orban further analyzed and described the CAP process for her doctoral dissertation at Michigan State University, 1981.

integrating the conscious and tacit perspectives of the participants and the consultant.

2. The use of multiple methods provides the means to gather and integrate information from the perspectives of the participants and the consultant.

Ethnographic methods also facilitate the consultation process:

1. The instructor and student interactions are recorded as they naturally evolve in the classroom. The consultant can review a videotape of a class with the instructor and students to help them reflect on what is or is not effective. This information suggests what might be done to refine the instructional process.
2. A collaborative relationship is important (Smith-Bowen, 1964; Powdermaker, 1966; Florio and Walsh, in press). A trusting collaborative relationship sets the stage for open reflection on behaviors and the development of an action plan for relevant and lasting change.

Through ethnographic studies, research methods are evolving and we are learning more and *how* instructional systems function both academically and socially. We are learning how the teacher and students monitor talk and actions to keep track of the academic or task information, and how they determine what is appropriate to do next. We are also learning more about how the instructor and students monitor the social information, that is, the interactive work they do to establish who they are in relationship to one another. We are finding people keep track of voice tone, inflection, and pacing, as well as gestures, body positions, location in the room and facial expressions. We are beginning to better understand how certain salient behavior patterns are produced, interpreted and responded to in situationally appropriate ways.

In fact, there are "different ways of being a teacher" (Cooper, 1981). Teachers are at times subject matter experts, facilitators of learning, models of the learning process, managers of the course and people or fellow human beings. As the task and social dimensions in the class interact and change, so do teacher roles. What, when, and how a message is conveyed

proves to be very telling.

While there are some commonalities across classrooms, each classroom is unique and some patterns of behaviors come to have special meanings. By using naturalistic or descriptive methods, we are better able to locate behavioral patterns which participants respond to by their actions and/or by their comments as being functional or dysfunctional.

Collaborative Analysis and Action Planning Process

In order to further explain the steps in this diagnostic-problem solving process, a hypothetical example will be described within step two, Class Observation. Some representative examples of meaningful patterns of behavior will be examined.

1. Initial Interview

The initial interview can be initiated either by the faculty member or the consultant. Suppose in this case an instructor calls us as faculty development consultants. She is not satisfied with her classroom instruction. While she has some hunches about what she is doing that is effective or ineffective, she is not certain. During the initial phone contact we will first explain the CAP process; second, obtain information about the course; and third, arrange for class observation and a videotaping session.

What is emphasized? What is talked about first? How are the different parts interrelated? What is the instructor's philosophy or attitudes about this course? About teaching? About students? About learning? (See Figure 1, *Instructional Interview Schedule: Course Design*)

Based on this information, we would have some ideas about the course structure, how it functions, and the instructor's perception of her role and the student's role in the classroom. We can also request and read the course syllabus, objective, requirements, and evaluation.

Typically, we would arrange to observe and videotape the class on or after the third week of instruction. By the third week the class has developed its own "mini-culture" and behaviors have come to have special meanings. Prior to the visit, the teacher would explain to the students that the purpose of our visit is to help the instructor become a more effective teacher and that evaluation is *not* the intent of the study. Since students are often reluctant to participate in an evaluation of a teacher, the purpose of CAP should be made clear.

2. Class Observations

Next, we would visit a class session in order to record the flow of instructor and student behaviors. We can also interact informally with some

"Faculty development consultants face a difficult task of gaining access to the internal dynamics of instructional systems."

When obtaining information about the content, structure, and process of the course, we will focus on *what* is planned, *how* the course actually works, and *why* the course was designed as it is. We want to begin to gain insights into the instructor's attitudes and beliefs about teaching, learning, teachers and students. By being sensitive to the approach the instructor takes in describing the course and the decisions that were made, we would begin to have some hunches about what she considers to be important.

For example, we could try to determine if the instructor seems to have a conceptual model which guides instructional decisions. What is it like?

students. During the visit, insights would be gained, questions would be raised, and hunches would be explored. Our task is to record talk and actions as they occur. Since any behavior in the class may be significant, we would try to record as much information as possible.

It is impossible to record everything that is said or done, but it is possible to record at least the first part of sentences or phrases which indicate the structure of the lesson or when changes are taking place. An excerpt from observational notes is given as an example:

(Puts on a new transparency). This is a real sleeper. . . This one will sneak up on you and get you, so

Instructor Interview Schedule Course Design

Purpose:

Attain information on the content, structure and process of the course; define the students' and instructor's responsibilities and roles in the course.

Procedure:

- (1) Attain and review available course documents (syllabus, outline, description, etc.).
- (2) Use the interview schedule as a guide to determine what is planned, how the course actually works and why the course is designed as it is.
- (3) Guide the interview but also follow the instructor's lead to maximize the flow of information.
- (4) Use the Course Design/Summary Chart for easy reference (Figure 1A).

Steps:

1. *How the course operates or is organized in general.*

Opening question: To get started, why don't you give me an overview of the course and how it is organized in general.

A. *Probes for "what"* —What else should I know about your course to understand it? For example:

- (1) What is the general purpose or general goal for the course?
- (2) What is the actual content?
- (3) What are the methods you use to present the information to the students? (i.e., lecture, discussions, readings, labs)
- (4) What materials do you use (texts, videotapes, handouts, lecture outlines)?
- (5) What are the evaluation methods?
- (6) What are your methods for giving students feedback during the course?

ing the course?
B. *Probes for "why"* —Can you expand somewhat on these ideas to help me understand how you made these decisions? For example:

- (1) You stated your purpose or goals were _____. Why did you select these as your goals? (Response may be: It's essential for the course, for the field.)
- (2) Why did you decide upon this content? (Response may be: It was decided for me by the department; I know that the content is important for them in the field.)
- (3) Why did you select the methods of _____ to present the material? (Response may be: class size, motivation, learning)
- (4) Why have you selected the materials you use? (Response may be: The text I use is the best I've found because...; the films I use are appropriate because....)
- (5) Why did you decide to evaluate in the manner you've chosen? (Response may be: It's a large class—objective tests are the only reasonable method; I use essay because...; I ask them to write papers because....)
- (6) Why have you decided to use the method of feedback you use? (Response may be: I know that immediate feedback is best....)
- (7) Why do you use these methods to motivate? (Response may be: I've found students to be more motivated when I relate the content to their personal lives....)

C. *Probes for "how"* —What do you actually do?

- (1) How do you use the materials? (Response may be: In the lecture, I present...; home-

work is used to...; papers must reflect...)

- (2) How do you evaluate? (Response may be: I assign papers...; I give 3 exams after each unit...; In order to determine prerequisite behaviors, I...; I revise my course on the basis of....)
- (3) How do you give feedback? (Response may be: After each exam, I....)
- (4) How do you motivate the students? (Response may be: I relate the content to their lives by....)

D. *Probes for "when?"*

- (1) *When do you teach (fill in content).*
- (2) *When do you use (fill in methods).*
- (3) *When do you use (fill in materials).*
- (4) *When do you use (fill in evaluation procedures).*
- (5) *When do you use (feedback).*
- (6) *When do you use (types of motivation).*

II. *How a specific aspect of the course operates.*

Select a method of instruction (lecture, discussion, lab...) and ask:

What happens in the course of events in a typical _____ (lecture, discussion, lab....) What typically happens from moment to moment?

Probe for what happens, when it happens, why it was designed that way, what are the results....

III. *What are the effects of the course on the students and instructor?*

Probe: What are the effects, what are some examples of the effects....

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Figure 1. Instructor Interview Schedule: Course Design.

watch out for it. . . (Asks a question, students respond.) That's good. . . (explains the concept in systems terms while standing by screen and looking around room at students.)

Some of you will get confused on

this point. . . (Points to equation on screen) Let's think it through (Moves to pole, looks at screen and students. Seems to move logically through problem step by step. Modulates voice from soft to loud, slow to fast.)

While we would attempt to remain open to everything that is taking place, there are particular aspects of the class and patterns of behaviors which tend to provide significant information. Some patterns of behavior in college classes have been

Probe for	What	How (actual process)	Why (design)	When
Goals: (purpose)	What are goals? i.e., when finished this process, what have students learned		Why these goals?	
Course Content:	What does process look like?			
Instructional Methods (lecture, labs, discussion individualized self-instruction projects, home- work)	What instructional methods are used?	How do it?	Why decide on these methods?	When use each method?
Materials (text, video- tape)	What materials are used?	How do it?	Why decide on these materials?	When use these materials?
Evaluation (prerequisite formative summative)	What methods of evaluation?	How do it?	Why decide on these methods?	When use each?
Feedback	What methods of feedback?	How do it?	Why decide?	When use?
Motivation	What methods?	How do it?	Why decide?	When use?

Figure 1A. Instructor Interview Schedule—Course Design Summary Chart.

found to inform participants of (a) *what time it is*—preclass, warm-up, instruction after class, or a transition between parts; (b) *what task they are involved in*—course management, instruction, elicitation of a student response, or a transition; (c) *who they are in relationship to one another*—the instructor-as-a-manager, expert, teacher, model, or person; and student as fulfillers of responsibilities, novices, learners, or persons. (Cooper, 1979, 1981).

Some of these parts, transitions, and behaviors which tend to be revealing will be discussed to provide a guide for analysis of observations and videotapes of the class sessions. The parts discussed are generalized examples from studies of effective instructors at Michigan State University and may or may not apply to other classrooms.

A. *Patterns of behaviors which can inform participants of "what time it is"*

Preclass. The time between when the students enter the room and the instructor enters the room can be viewed as "preclass". What takes place at this time can subtly influence what takes place when the instructor enters and when instruction begins. We would observe the physical environment—chair arrangement, temperature, equipment, materials—and observe student behaviors—talk, actions, interactions, seating arrangements.

Warm-up. The time between when the instructor enters the room and instruction begins has been referred to as "warm-up" by a number of effective instructors at Michigan State. They refer to this time as having two functions: to conduct course management activities and to psychologically ready themselves and the students for the instructional process. The instructor and student interactions at this time seem to set the tone for the class session. When the instructor enters the room, we would look for any changes in the physical environment and in student

and instructor behaviors. We would note what is said or done as well as how the act is performed.

Transition from "warm-up" to "instruction". The shift from precursory management activities to instructional activities is generally marked by co-occurring talk and actions. There is often an accompanying shift in the relationships between the instructor and student. Transitions are of interest because they can be difficult to manage while orchestrating people as a unit. We would attempt to note the cues that might indicate that a transition is underway, such as: change in instructor position in the room, activities, direction of gaze, semantics (ok, now, first, alright), and paralinguistics (tone, volume, projection).

Instruction. Instruction, the major part of the class session, begins with a transition from "warm-up" and ends with a transition to the end of class. While much of instruction is planned prior to class, the delivery of the information is often situationally determined as the lesson progresses and interactions take place. The content presentation and interactive relations aspects of instruction are both important for us to observe. As consultants, we would attend to many different aspects of the instructional process, since any behavior might be important.

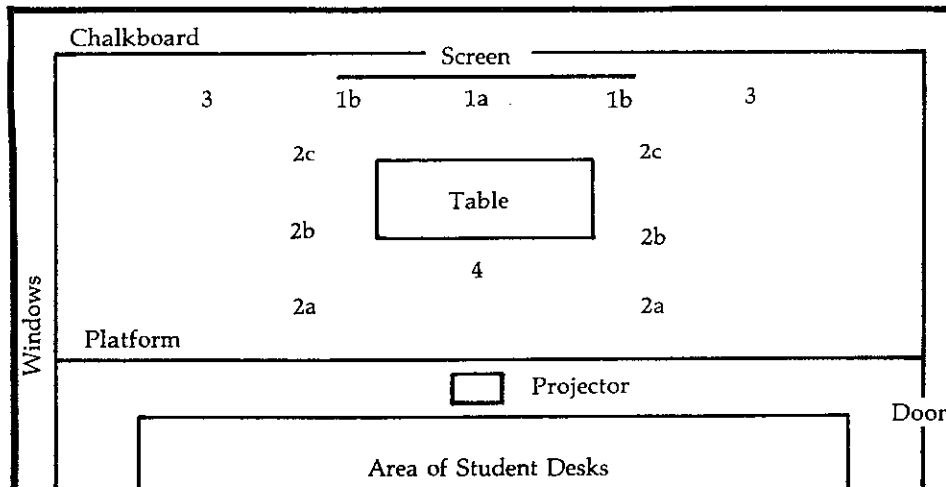
For example, we might observe co-occurring behaviors such as: use of space (where the instructor stands); gestures (hand or arm-movements); direction of gaze (what or who is looked at); voice (projection, pace, volume); instructional discourse (teachers can inform, direct, elicit, check, evaluate, provide feedback, comment, prompt, provide clues and give asides) (Sinclair and Coulthard, 1975).

End of class. The shift from instruction to the end of class is often composites of behaviors such as verbal cues (finally today, before we finish) and nonverbal cues (students packing up, instructor closing notes, turning off projector, etc.).

Prior to and following the lesson, we would engage in an informal conversation with students. The purpose of the observation would be explained, and students would be asked how things are going in the class, what is helpful, and what gets in the way of their learning. Most students are very cooperative. They provide examples and even indicate during the lesson when an example of a behavior is taking place.

B. *Patterns of behavior which can inform participants of "what task they are involved in"*

The instructor's use of space and his



Position in the Room	Behaviors
At the screen (1a)	Presents basic structural content of course, selectively reads and points to information on screen. Looks at screen, asks rhetorical questions.
Closer to students (2 a, b, c)	Reflects on the logic of information, provides examples, ask questions which require and allow for an answer, uses colloquial phrases, models an experienced learner. Looks at students, increases frequency and intensity of gestures, varies volume and rate of speech. (Participants are more likely to stop the videotape to comment on the instructional process.)
By the screen (1b)	A composite of "at the screen" and "closer to students" behaviors. Develops, explains, illustrates, asks questions about meaning of concepts on the screen. Looks half the time at students and half the time at the screen. Students are more likely to respond to questions than if he is "at the screen."
At the chalkboard (3)	Explains difficult concepts, responds to students' questions, elaborates. Looks at the students and at the board. Similar to the "by the screen" behaviors.
By materials (4)	Organizes, passes out, collects or selects materials.

Figure 2. One instructor's use of space as interpreted by students. During instruction his use of space varied with what he was doing as he monitored, interpreted, and responded to students' behaviors.

accompanying behaviors during a lesson can be sources of information that students monitor to help them determine what is taking place academically and socially. In Cooper's study, the three most typical positions were by the screen, closer to the students, and at the chalkboard (See Figure 2).

When the instructor was *at the screen* he presented the basic course content. He made direct reference to the subject matter, selectively read and pointed to information on the screen, and asked the rhetorical questions. For example:

I'm going to show you just one period of it . . . OK . . . here's

delta . . . here (points to screen) . . . this time here . . . delta over two . . . alright . . .

The instructor said:

The transparency is a means of organizing and providing central points to talk around . . . it's the basic information . . .

While viewing videotapes, students made comments such as these while the instructor was at the screen:

He's pointing the way the lesson is going.

He's basically lecturing.

He's talking about the subject matter.

When the instructor *moved closer to*

the students he reflected on the logic of the subject matter, provided realistic examples, asked more questions which required and allowed time for answers, used colloquial phrases, put information into perspective, and went through problem solving steps as an experienced student might. In doing so, he directly looked at students, increased the frequency and intensity of his gestures, and varied the volume and rate of speech. Students were more likely to respond to questions. During videotape review sessions they were more likely to stop the tape and talk about what the instructor was doing.

It appeared that he was working harder to make a point or involve students in the instructional process in this position. For example:

(Moves from the screen closer to the students) OK . . . so we got a sine and a cosine that are offset from each other by 90° . . . right? . . . And they're of this frequency and I can add those things up and multiply them by the appropriate scalars in the front here . . . and (moves back to screen) boom . . . I get that original signal back.

The instructor commented:

I move closer to the students to increase their involvement in the lecture as well as to view the problem from their perspective . . . Walk through the logic step by step and to help students use their own intuitive logic . . . to say, "Wait a minute . . . what does this mean?" Often I'm preaching at them . . . making them think through a concept . . .

Students made comments such as:

There are large patterns of movement from the screen to the front of the room . . . at the front he's emphasizing a point . . . He gestures, elaborates, makes me believe this is important . . . "This is great . . . You can do this and this . . ." He's trying to get attention back by talking directly to the group without looking at the screen. He refers to past information . . . how we'll later use it . . . Attention is fading, he's using hands. He moves to the front when he wants our attention. He's asking questions and answering, or showing applications . . . When he gets a point across, there's

always a lag. I sit back and say . . . what's next. He gets our attention back right then. He might ask a few questions, then goes back to the analytical process at the screen. When he comes to the front he wants to get an important point across or he's starting something new . . . a new process.

When *at the chalkboard* the instructor generally developed a concept step-by-step, diagrammed, illustrated, elaborated and answered students' questions. For example:

(Moves from close to students to chalkboard.) I'll give you an example of a signal that's not periodic . . . it's gonna stop . . . it's gonna go along for a little way and then just stop . . . ah (writes on the board) . . . Ah . . . ah . . . there . . . Ok? There . . . that's zero

and zero over there . . . all right . . . and let me give you an example of another signal . . . (continues writing) with lots of sharper corners . . . something like that . . . ok? . . . now I want to be able to say that this is a lower frequency signal than this kind of signal is . . . Ok?

The instructor commented about the use of the chalkboard:

Here I use the board . . . I purposely left out the answer so they'll see the process . . . I build in reminders for myself on the transparency . . . "how?" or "why" or "i" . . . I use the board to develop ideas . . . to march through ideas . . . to give the steps . . . I walk through the logic step by step and try to help students use their own intuitive logic . . . to say

"Wait a minute . . . what does this mean?"

Students made comments such as these:

At the board he's explaining beyond the notes when the class is confused . . .

When at the board he emphasizes a point . . . cleans up details . . . answers questions . . .

When what is on the transparency is too big of a step he breaks it down so students can understand . . .

The instructor's behavioral patterns were interpreted by students as having special meaning. Salient patterns of behavior such as these can be further examined to locate those behaviors which convey relevant, consistent, and positive messages and those behaviors which convey inconsistent, confusing, or negative messages. It is the students' and instructor's interpretation of the behavior that counts in the final analysis. We can help them locate such patterns of behavior, provide them with this information, and together determine what to do to improve the quality of instruction.

C. Patterns of behavior which can inform participants of "who they are" in relation to one another

The instructor and students interact in different ways during lessons, and they make reference to these different kinds of social relationship during videotape review sessions. Through closer examination of what one instructor said and did, Cooper (1979, 1981) documented some variations in his use of pronouns of address. Brown (1970) talks of pronouns of address as indicators of two dimensions of social relationship: power and solidarity.

Power is a nonreciprocal relationship in which one person has some form of control over another. *Solidarity* is a more reciprocal and symmetrical relationship.

Four instructor "roles," or different ways of fulfilling the responsibilities of a teacher, were located and examined by Cooper in terms of the instructor's use of pronouns of address and accompanying behaviors. These roles were based on the teacher-student relationships which were jointly produced and which varied across different parts of the class. Cicourel (1972) refers to this socially negotiated

Table 1.
The Instructor's "Roles"

The instructor's "roles" varied across the different parts of a class session. His "roles" and the instructor-student relationships, as indicated by the pronouns of address, are presented.

Role as Instructor	Instructor-Student Relationship as Indicated by Pronouns of Address	Example
<i>Manager:</i> responsible for course requirements	I am giving, assigning, returning something to you. I am the instructor—manager, (a position of power).	"I have a homework set for you." "I'm returning a set of papers to you." "I promised you a handout of tables you can use whenever you want."
<i>Person:</i> fellow human being	I am doing or did something that tells you something about me as a person. I am a person—(a position of solidarity).	(The instructor makes an error and students laugh.) "I owe you guys one. . . I'll get you next time. . ." (When passing out tables). "Well, I haven't decided, should I sell'em or give'em away?"
<i>Teacher-expert:</i> facilitator of student learning	I am doing something to or for you to help you learn. I am the possessor of knowledge—(a position of power). We are doing or did something together. We are people—(a position of solidarity).	"I'll show you intuitively how you get it. . ." "Let me ask you first. . ." "I'm going to lead you down the garden path and zap you. . ." "Let's look at the weighting sequence. . ." "Now let's look at a concrete example. . ." "Well, we're going to take some kind of signal. . ."
<i>Experienced learner:</i> modeler of the thinking process	I am modeling a way you could be thinking about this problem. I was at one time like you—(a position of solidarity).	"How can I do that?" "What can I expect?" "What do I assume?"

and situationally interpretative process of meeting social requirements as "rolemaking."

Two roles indicated a relationship of power: the teacher-as-manager and the teacher-as-teacher-expert. The other two roles indicated a relationship of solidarity: teacher-as-a-person and teacher-as-an-experienced-learner. Table 1 illustrates the instructor's roles as indicated by pronouns of address and the functions of the pronouns in syntactic context.

As a *manager*, an instructor orchestrates the business of the course, sets requirements, assigns, and evaluates. This is a form of status or administrative power. As a *teacher-expert* an instructor acts in ways to help students learn information or skills. The possessor of information has a form of power which is provided to others. An example from observational notes illustrated this relationship of a teacher-expert

expect? What do *I* assume? Let's see. . . . *I* can first write the sum of sines and cosines. . . .

By examining the pronouns of address and accompanying discourse, we can gain some insights into the possible social relationships in the class. The notes are further examined to explore the organization of a lesson, how transitions between different parts of the class are conducted, and to obtain a general idea of the frequency and kinds of examples, practice, instructor questions, student responses, student questions, and instructor comments. Some of this initial information would be shared with the instructor following the class or soon after. (Some instructors begin to feel anxious if the information is withheld too long. It is better to say something general, rather than nothing at all.)

3. Class Questionnaire

We might decide to administer a

"officially" over.

It is easiest to recruit student volunteers to review the videotape before class. We would temporarily stop the camera, explain the purpose of the study, stress the importance of the student role, and suggest times students might review the tape. A sign-up sheet and reminder slips can be circulated during class. A phone call as a reminder is essential!

5. Review Videotape With Instructor

Videotape review sessions provide a stimulus which jogs participants' memories and allows them to reflect upon and talk about their informal, but important operating knowledge of dynamics of the instructional process. They can locate patterns of behaviors that have meaning to them. The purpose of the instructor videotape review session is to gather information and gain insights into the instructor's perspective of the instructional process. While viewing the videotape the instructor would talk about what is taking place and what she was attempting to do.

We would attempt to locate the parts of the lesson (pre-class, warm-up, the lesson, the transitions), when things are going well, and when things are not going well. We would stop the videotape and review a segment of class again if necessary. During this initial viewing session the instructor does most of the talking. As the consultants, we keep comments to the minimum. We might ask "What are you doing here?" "What are you attempting to accomplish now?" "Did something take place which caused you to act differently?" We would also examine the pre- and post-class activities, as these are part of the total instructional event.

Throughout this review process we would record what the instructor says and at what point in the lesson it is said by recording the number on the counter of the playback unit. At the conclusion of the videotaped lesson we would ask and record any questions the instructor would like asked of students who will review the videotape. It is essential to not make suggestions or note possible problems. The instructor will likely become defensive. This is a fact finding stage, not a problem definition or solution finding stage.

6. Review Videotape with Students

The purpose of the student videotape

"The instructor's use of space can be a source of information that students monitor to help them determine what is taking place academically and socially."

facilitating the learning of students.

(I, implied, am forewarning you that) . . . this one will sneak up on you, so watch out for it Some of *you* will get confused Let's think it through

The use of the plural "Let's" indicates a relationship of solidarity, 'let's work it through together.'

As a *person*, an instructor is a fellow human being, a position of solidarity. He or she comments on him- or herself rather than doing something to or for students. For example:

I'm from a small farm in Tennessee, we enjoyed farming the rich soil the Mississippi brought us from Indiana and Illinois.

As an *experienced learner*, an instructor models the thinking process, a position of solidarity. The instructor demonstrates how to progress through the problem as if he or she was a learner. For example:

How do *I* do this? What can *I*

questionnaire to the class to gain additional information on what the instructor does to help or hinder learning and motivation. We might also ask the instructor to respond to the questionnaire as she anticipates students will respond. The student responses would be reviewed as another source of information and the instructor's comments could be compared to student responses (See Figure 3).

4. Videotape Class

Videotaping a lesson is a crucial step and provides a retrievable record we can review with the instructor and students. We would set up the equipment to the side of the room and focus it on the instructor and occasionally on the students. The camera would be turned on a few minutes prior to the "official" beginning of the class or when the instructor enters the room. The purpose is to record "pre-class" activities which can influence what takes place during class. We would shut off the camera a few minutes after class was

review session is to begin to understand what is meaningful to the students in the instructional process. The volunteer students would review the videotape following the procedures used with the instructor; however, the questions would be asked from the students' perspective. In addition, the parts of the lesson the instructor talked about are brought to the students' attention through questions such as: "What do you think the instructor is doing here?" "Is it working?" "Why or why not?"

After reviewing the videotape, we would ask the student the questions the instructor posed after completing her review session. We would then probe for additional information or for clarification. Students are typically very helpful and contribute constructive ideas on how the instructor might improve the instructional process.

7. Action Planning

Specific segments of the videotape that were referred to during the review

sessions are examined with the instructor in a follow-up session. We would report to the instructor the students' perspective of her behaviors by integrating information from various sources. With the behaviors identified, they can be examined and reflected upon. Our role is to facilitate this reflective process and to assist the instructor in clarifying the situation. At this stage we help the instructor define her instructional strengths and limitations. A key here is to build on strengths. What does the instructor do well that she should do more often? What does she not do so well that can be improved. This leads naturally to a reflection on instructional improvement goals.

Based on the identified goals we can begin to brainstorm possibilities of different instructional strategies and techniques. During this collaborative brainstorming session the instructor will begin to focus on some ideas that seem

plausible, considering her teaching style, the course, and the students. It is critical that the ideas be "owned" by the instructor to help insure implementation in the classroom. As the session draws to a close the instructor is asked to state what she has learned, what she feels about the process and what she plans to do with the information and ideas she has developed. An action plan is developed and will be part of the follow-up letter.

8. Follow-up Letter

A letter is sent to the instructor briefly reviewing the CAP process, summarizing her strengths and concerns (which are documented with student comments) and listing the steps in her action plan. Many faculty submit this letter to their chairpersons for their personnel files.

9. Follow-up Contacts

In the final step we would arrange follow-up contacts to help initiate and implement the instructor's action plan. After changes are in progress, information may be gathered to determine if the outcomes are positive and to help determine what to do next.

Results of The CAP Process

Twenty-six faculty members of Michigan State have participated in the CAP process. They represent different disciplines, degrees of teaching experience, course levels, and class size. They all responded to an open-ended questionnaire and follow-up phone interview about the CAP process. As a group they concurred that the CAP process had a significant impact on their teaching and interactions with students. Analysis of the comments revealed significant changes in their attitudes about themselves as teachers and their students. They also spoke of the specific strategies they had developed to improve their teaching practices and relationships with students. A measure of the instructors' satisfaction with the experience is their continual recommendation of the CAP process to other faculty members.

Summary

Faculty development consultants face a difficult task of gaining access to the internal dynamics of instructional systems. A collaborative diagnostic process has been discussed which allows us to gain insights into how a system is structured and how it functions. This

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Class Questionnaire
Major _____
How did you select this class? _____

Every instructor has relatively strong and weak points. I would like to find out what I do and what specific effects I have on you. Please give *examples* of what I do and how it affects you in the table below. (Use reverse side of this sheet if needed.)

What did I do:	Specific Examples	Specific Effects on You
to encourage you to <i>want to learn</i> ?		
to help you <i>learn and remember</i> ?		
to <i>decrease your desire to learn</i> ?		
to <i>get in the way of your ability to learn and remember</i> ?		

ARE YOU GENERALLY SATISFIED WITH THIS CLASS? PLEASE EXPLAIN. ANY OTHER COMMENTS ARE WELCOME. (Please use the other side of this sheet.)

Figure 3. Class Questionnaire.

analysis process focuses on patterns of behaviors that are produced, interpreted, and responded to by participants during a lesson. Because the instructor and students jointly produce the instructional lesson, both perspectives are needed to understand the lesson.

While participants continuously make

what instructional methods work, what doesn't work and why, and to avoid believing the flow of constructive information is one way—from the consultant to client.

6. to use information gathered on instructional methods with other clients;
7. to develop training programs using

“Videotape review sessions provide a stimulus which jogs participants’ memories and allows them to reflect upon and talk about their informal but important operating knowledge of dynamics of the instructional process.”

interpretations and respond in situationally appropriate ways during a lesson, much of their commonsense logic is not at their level of conscious awareness. The use of multiple corroborative methods provide means of bringing the logic of the moment to the forefront of their minds so behaviors can be reflected upon. Once patterns of behaviors are identified, they can be examined. The strengths and limitations of the system can be appropriately dealt with by the instructor, students, and consultant.

By using a collaborative, systematic and multimethod consultation process such as CAP, consultants are in the position:

1. to study the dynamics of an instructional process as they naturally occur and to avoid constructing or reconstructing events as they think they occur;
2. to see the system as a whole and to avoid isolating parts;
3. to examine events as the joint responsibility of the instructor and students and to avoid placing the sole responsibility on either;
4. to analyze what is working or not working based on how participants interpret and produce behaviors and to avoid prematurely defining problems based on superficial information or on information primarily from the outsider's perspective;
5. to learn from the instructor and the students and to gain new ideas of

excerpts of videotapes and the accompanying instructor and student comments as examples of instruction.

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