

CASE BRIEF: CASE STUDY #2, DENNY CLIFFORD

1. What position, title and responsibilities do I hold? Who is/are the decision maker(s) in the case (you might be one of them) that I am supposed to identify with?
2. What appears to be the issue(s) (concern, problem, challenge or opportunity) and what is its significance to the organization? (There do not have to be both primary and secondary issues)
 - Primary issue(s)
 - Secondary issue(s)
3. Why has this issue(s) arisen and why am I involved now?
4. When do I have to decide, resolve, act or dispose of this issue(s)? Is there urgency?
5. Have I (or others) already taken any steps to resolve the issue(s)? If so, what are they? Have they been successful – why or why not?
6. How will you proceed from here? For each point, be sure that you provide the reasoning behind your thinking.
7. Specific to this case (Question #1, Page 30): Describe the communication barriers operating in this case. Suggest strategies for circumventing or eliminating those barriers.

I am an instructional design consultant, currently working on a project for Dr. Cynthia Oakes. She has hired me to develop instructional materials that will allow middle school science teachers – not all of whom have a science background – to deliver an innovative science curriculum based on a social constructivist philosophy. Cynthia has worked with 24 teachers locally to introduce the constructivist philosophy and provide an overview of the curriculum materials, which they are now using in their classroom practice. Even though Cynthia has moved on to other interests and is no longer interested in conducting these workshops, she has received a grant to expand the program to other districts, possibly on a national scale – which is where I come in.

Initially I thought that my science background would be an asset, but I realize now that what I really need is to immerse myself in a new epistemological framework. You see, Cynthia is a constructivist through and through, and while I'm an experienced instructional designer (I spent five years with a video production firm and several years before that with the Air Force), my usual instructional design vocabulary – objectives, criterion-referenced test items, directed instruction, and correct answers – doesn't seem to jibe with Cynthia's lexicon. It's become very clear that my usual instructional design process and practices are incompatible with Cynthia's expectations for this project.

Case Brief: Case Study #2, Denny Clifford

By the time we meet next week, Cynthia expects me to have a list of suggestions regarding proposed materials and delivery methods for the project. Cynthia's science curriculum consists of a set of science-related "problems" for students to solve. A typical lesson would begin with students working in pairs on a particular problem, then sharing problem-solving strategies and solutions with the whole class in a large-group discussion. In this curriculum, the "right answer" is not the goal – developing a problem-solving process is. She believes deeply in the effectiveness of this approach in helping students develop scientific reasoning.

Cynthia feels that teachers should develop their pedagogical knowledge of science teaching in a similar way, which seems to be consistent with her constructivist, relativist philosophy. I get the sense that much of her work with the middle school teachers was one-on-one, with her observing and providing feedback to the teachers. She also feels that the materials need to be delivered in a format that will allow teachers to work through them on their own time and to start applying the new approach in their classroom.

I have a lot of work to do before my meeting next week with Cynthia. My first step should be to gain a much better understanding of the constructivist philosophy and what Cynthia has been trying to achieve with her workshops so far. I won't be able to complete this project successfully unless I understand the instructional framework in which my client operates. Reading the two articles she wrote about her efforts would probably be a good place to start. If I can learn to speak Cynthia's language, we might overcome some of the communication barriers we've experienced so far.

I also need to develop (or perhaps discover) a design process that is consistent with this framework. Objectives and criterion-referenced assessment don't seem to be possible, but in my conversations with her so far she has expressed several learning goals, even if I didn't recognize them as such initially. For example, she has noted that these teachers need to be able to: generate multiple ideas from students about how to solve a problem; listen to and make sense of students' ideas about science; and know what to do with these ideas (i.e. respond in ways that value students' ideas and provide opportunities for them to explain their problem-solving strategies).

She has also noted that reflection – both of their own classroom practice and that of others – is a key component, and I can see this as a form of assessment.

I should also set up interviews with several of the 24 teachers she's worked with so far. I can get a clearer idea of both the content and format of Cynthia's workshops, as well as ideas about the kinds of support and community that might be needed or desired. I can also interview the teachers who've expressed interest in these workshops – they'll provide me with a starter list of

learner characteristics (which I would deem an important aspect of design regardless of the epistemological framework, and which will help me feel less like a fish out of water).

My next step is to develop suggestions to present to Cynthia when we meet. In reviewing my notes, I have a pretty good start on the list of materials or resources that may already exist or need to be developed:

- an overview of the constructivist philosophy;
- materials on facilitating effective, productive large-group discussions and providing constructive, valuing feedback to students – according to Cynthia, these elements are both critical in helping learners to construct a shared meaning of scientific ideas, develop their scientific reasoning, articulate their ideas, and reflect on their reasoning and the reasoning of others;
- “problems” or cases for teachers to work through – the curriculum itself employs problems for students to work through, and using these same methods with the teachers will give them strategies for supporting their students (perhaps we can get permission to use the videotapes Cynthia has made from observing teachers in their classrooms – they should provide some good material to help teachers discuss and develop classroom strategies and practices);
- peer mentors, or teachers who have classroom experience with the curriculum and who can provide guidance and feedback to teachers just beginning to implement this curriculum (the grant may be able to offer compensation); and
- a learning object repository, so that when teachers discover or develop ideas and materials that are successful, they can share with the rest of the community.

The delivery methods need to offer both a great deal of flexibility and a great deal of support. I won't be able to duplicate Cynthia's very hands-on and individual methods, but I do have some initial ideas. An online, asynchronous communication environment will allow teachers to participate on their own schedule (a self-paced environment would be nice, but not always possible given the use of problems) and to develop a sense of community. This environment should include a journaling or blogging feature to enable and encourage reflection of their own and others' practices, as well as a peer review/peer observation feature, where teachers employing the new curriculum in their classroom practice can share videos and receive constructive and focused feedback. A cohort model offers teachers the opportunity to work through the problems and/or cases online in pairs or small groups, followed by a large-group discussion. Cohorts consisting of teachers within geographic proximity will facilitate occasional face-to-face workshops or meetings and encourage the development of a supportive, local community of novice and experienced teachers.

Case Brief: Case Study #2, Denny Clifford

From Class Discussion:

In order to proceed, I need to conduct a front-end analysis:

- 1) Figure out Cynthia's perspective
- 2) Understand the goals of the project
- 3) Interview the 24 teachers:
 - a. What was useful and helpful in training?
 - b. What kind of follow-up did you find useful or wish you had?
 - c. What kinds of activities were included in the training?
 - d. What challenges have you encountered in implementing the curriculum? (fodder for problems to be used in the workshops)
- 4) Conduct a learner analysis

Front-end analysis:

- Needs analysis (problem solving vs innovation vs discrepancy)
- Context analysis (describing the learning environment)
- Learner analysis (learner characteristics)
- Learning goal analysis