

Training the Instructional Development Specialist to Work in Unfamiliar Content Areas

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EDITOR'S NOTE

This article deals with only one general approach (the interview). We recognize that sometimes the ID must rely only on printed sources of information. Readers are asked to submit articles that explore how best to train ID students to learn new disciplines from printed materials.

Abstract. Most ID practitioners face the challenge of designing instruction in a content area about which they have little personal knowledge. To obtain a rudimentary understanding of the content, some peruse texts and journals and others interview experts in the field. But little is known (or at least published) about the specific techniques developers employ to gain an understanding of unfamiliar content or ways to teach such skills to ID graduate students. This article explores the ID skill of comprehending unfamiliar, specialized, and sophisticated subject matter by first noting the nature and characteristics of disciplines and knowledge. Second, self-reports of experienced developers are presented, particularly from those who employ the interview approach to gather information. Finally, the relatively new field of ethnography is examined for heuristics that may be helpful to developers who interview clients for information about content areas.

An instructional development specialist (IDS) engages in several intellectual tasks. During the first several meetings with the subject-matter expert (SME) or client, the IDS may be trying to (a) understand the nature of the instructional/training situation being presented, (b) establish and maintain a professional consultation relationship with the SME, and (c) grasp some understanding of the subject matter if the content area is unfamiliar.

In a recent national presentation, Silber (Note 1) delineated these three broad activities into six specific "thinking processes" that developers use:

1. The developer is presented with some problem related to learning and/or performance.

2. The developer must gather information about the problem, analyze it, synthesize it into a coherent statement, and evaluate the statement in terms of reality.

3. The developer is presented with a body of content to learn.

4. The developer must analyze the body of content and restructure (or synthesize) it into a form that takes into account both the integrity of the content and the learning and instructional principles to be applied to it.

5. The developer must evaluate the accuracy and adequacy of this restructuring and restructure again if the original attempt is not successful.

6. The developer must translate the verbal written form of the content into other communication formats, such as visual and oral media.

Note that Silber's third point relates to the ability of a trained IDS to comprehend the content with which he or she is working.

It is generally assumed that a competent IDS is capable of working with the content of any discipline or profession. Brien and Towle (1979) believe the developer's effectiveness rests in part on familiarity with the subject matter:

It is the experience of the authors that much time is required at the beginning of any instructional development project for the instructional designer to become familiar with, and well enough versed in, the subject matter to be taught in order to be an effective participant in the instructional development effort. The requirement of being expert in the subject matter is slightly tempered when an instructional development team is developing materials for the K-12 curriculum. In this case, the instructional designer already has an idea of the subject matter that is taught in these grades because he has, more than likely, studied the subject matter in public school. It is in the design of highly specialized subject matter in post-secondary education where the lack of sophistication in that subject matter inhibits the contributions of the instructional designer. (p. 13)

It is the author's experience, as a teacher and as a developer, that working with unfamiliar subject matter is a real concern to ID students and to practitioners. Graduate students question their ability to work in content areas other than those with which they are familiar, and practicing developers note the added effort required when they must learn a new content area in order to help a client.

The purpose of this paper is twofold: to attempt to describe how practicing developers might grasp unfamiliar subject matter from content experts and to suggest some implications for the training of students for the ID profession.

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When a cursory review of prominent ID texts and periodicals produced no information about how developers grasp an understanding of unknown content or how to prepare ID graduate students for the task, three different approaches were taken to uncover clues that might be helpful in understanding the situation. One examined the nature of disciplines and organized knowledge. The second investigated how experienced developers deal with the task. And the third looked at another professional role that faces a similar problem.

Two questions were posed for the research on disciplines and knowledge: Are all disciplines structured to permit logical ordering and analysis of the subject matter regardless of the particular content area? Is there a master structure or general theme across the various fields of knowledge that, if mastered by an IDS, would enable him/her to quickly understand the subject?

Unfortunately, a review of the literature (Brodbeck, 1962; Elam, 1964; Ford and Pugno, 1964; King and Brownell, 1966; Lewis, 1972; Phenix, 1962; Schwab, 1962; Tyler, 1964) produced negative responses to the questions. Bruner (1955) put it succinctly: "Disciplines do not lend themselves to simple classification. There is no single organizational principle" (p. 56). There appears to be little information here that will help prepare ID trainees for the problem at hand (Note 2).

The second avenue of investigation asked, "How do experienced developers work in unfamiliar fields?" This question was put to ID practitioners at six higher education institutions in the United States (Alabama, Indiana, Iowa, Kansas, and New York). The impromptu telephone inquiry surprised some of them; they acknowledged the importance of the question and the issue behind it but admitted that they had not given it serious consideration in terms of their own ID work. Most suggested that when embarking on a new project in an unknown area they read texts and/or discussed the content area with the SME. The most frequently cited approach was to interview the SME in order to learn about an unfamiliar topic.

The IDS practitioners who were more introspective about their style of work suggested that the *interviewing strategy* was a critical factor in learning about a

new field from the SME. They reported interviewing the client with specific goals in mind; they used inductive, deductive, and inferential questioning strategies. They offered analogies and presented tentative conclusions to the SME during the discussion as a means of clarifying their own understanding of the content.

These same insightful practitioners noted they were not specifically trained during their professional preparation for this task. Opinions varied on how best to provide such training, but role modeling was most often suggested; that is, allowing for trainees to observe practitioners in interviews with clients.

Is there another profession in which the practitioners must learn about a content area through interactions with clients? Several similarities exist between the developer's task to comprehend unfamiliar subject matter and the ethnographer's attempt to understand an unfamiliar human culture. Ethnography, the study of human cultures, often involves fieldwork within the culture being examined; as a "participant-observer" the ethnographer tries to uncover explicit and tacit knowledge about the culture from its members. Both developers and ethnographers are "outsiders" to the area of interest—the IDS seldom is an expert or scholar in the specific content area to be developed, and the ethnographer usually is not a member of the society or culture under study. Both rely on personal interviews as a primary means of gaining understanding. These interviews include two distinct but complementary processes: establishing rapport and eliciting information.

Spradley's (1979) description of ethnographic interviewing techniques may be useful to instructional developers. He describes in detail three major types of questions for eliciting ethnographic information: descriptive, structured, and contrast.

Descriptive questions are global in nature and are designed to encourage the respondent to talk about a particular topic. They are open-ended and used by the interviewer to discover relevant follow-up questions. Asking a descriptive question, in Spradley's words, "is like offering the person a frame and a canvas and asking him to paint a word-picture" (p. 85). An example of a descriptive question asked by an IDS might be, "Can you (the SME) describe the major topics in your course?" An

important heuristic for ethnographic interviewers is that expanding the length of the question tends to expand the length of the response. The example above might be expanded to the following: "Your field is new to me, and it sounds very interesting. Can you describe the major points you cover in this course? If I were a student what would I learn?" Spradley says expanded questions not only give clients time to think but also communicate your interest in learning as much as possible from them.

Structural questions are more specific than descriptive ones and are used to gather detailed information about a particular topic. Spradley gives this example from an ethnographic interview, but it could have occurred in an IDS-SME discussion:

Interviewer: We've been talking about your ballet classes and you've mentioned some of the different exercises you do in class. Now, I want to ask you a slightly different kind of question. I'm interested in getting a list of all the different kinds of exercises done in class. . . . This might take a little time, but I'd like to know all the different types, what you call them. (p. 122)

Structural questions also can be used to confirm the interviewer's understanding of the content. Two forms of structural questions relevant for developers are inquiries with yes/no answers ("Is a sodium-restricted diet used only with renal patients?") and with examples ("Let me see if I understand—a movement to down center left on stage puts the actor in a more powerful position?").

The contrast question is a still more specific type of interview question. It is directed at discovering the meaning of discrete facts and concepts and the relationship among them. Spradley warns that it usually is fruitless to ask an interviewer to give a definition of a fact or concept; the response probably will be filled with more deeply embedded facts and phrases! Instead, the interviewer should ask how a concept is related to another or how it is different from another or ask the interviewee to provide an example. For example, the IDS might suggest that a volleyball instructor explain and demonstrate the difference between a "bump" and a "dig" rather than ask for a definition of the terms.

While the ethnographic inquiry sequence appears to move from opening descriptive questions to structural questions to contrast questions, Spradley indicates that actual interviews seldom follow this pattern; in reality, descriptive and structural questions are asked early and throughout the interview, and contrast questions are eventually interspersed. The goal of the interview is to elicit as much relevant information as possible without boring or grilling the client with repetitious questions.

The following ideas are presented for the training of instructional developers who will come in contact with unfamiliar, specialized, and sophisticated subject matter. They are offered to spur further discussion and inquiry on this topic.

Factors taken into consideration for the initial admission of applicants into ID professional preparation programs should include their experiences and intellectual capabilities. For example, applicants with a strong liberal arts undergraduate degree or with work experience in several fields may be familiar with the structure and content of a number of disciplines and subject areas. Applicants, too, might be screened for their intellectual capability, i.e., the perspicacity to retain, understand, and relate abstract concepts and principles—an ability often required of the developer in the early stages of an ID project.

Once admitted to the training program, the students might be exposed to the following training opportunities:

1. Formal study in academic fields outside the area of ID and the College of Education. This study will provide the student with a firsthand opportunity to observe how different fields conduct inquiry, hold values, communicate internally, and view the teaching/learning process. (ID doctoral students at the University of Iowa, as well as at several other major higher education institutions, are required to pursue a minor area of specialization outside the College of Education.)

2. Formal study and discussion of the task of working with unfamiliar content. A class that included selected read-

ings focusing on interviewing techniques, reviews, and critiques of recorded examples of actual ID-SME interviews and discussions led by an experienced ID practitioner might at least reduce student anxiety. A class in ethnographic interviewing offered by the anthropology department could prove useful.

3. Formal practice in questioning and interviewing, first in highly structured simulated settings with SMEs representing various disciplines and later in more realistic complex situations. In all instances, students should receive feedback about their performance. Courses and practicums in counseling on consulting, particularly ones employing interpersonal process recall techniques, would be helpful.

4. Internship experiences to observe ID practitioners on the job in SME interviews followed by meetings where the student and the developer discuss the interaction and interview techniques employed by the IDS. Later, students should carry out SME interviews in the presence of an experienced IDS followed by a debriefing and feedback session.

In the area of continuing professional education, practicing developers continually should seek opportunities to improve their skills by attending professional meetings, sharing their experiences and successful techniques with colleagues, and engaging in self-diagnosis and self-initiated study.

Reference Notes

1. Silber, K.H. *Applying Piaget's stages of intellectual development and Guilford's structure of intellect model to training instructional developers*. Paper presented at the annual meeting of the American Educational Research Association, Boston, April 1980.
2. The disciplines, however, do seem to share some interesting common characteristics. Each has its objects of study and unique processes of investigation. Each possesses schools of thought, particularly about the nature of man, the nature of

knowledge, and how one becomes a member of the scholarly community. Teachers and scholars in a particular discipline use common jargon and modes of communication, and they typically share similar attitudes about how best to present the field to students and how students learn. Interested readers are referred to Elam (1964) and King and Brownell (1966).

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