DACUM

DACUM stands for *Developing a Curriculum*. The goal of DACUM is to identify the key tasks necessary for defining or carrying out a job Norton, in press). In the context of NA, DA CUM helps determine the target state or desired condition. The procedure originated in Canada in the 1970s as a way for community colleges, 2-year postsecondary Institutions, and postsecondary vocational schools to generate or improve their curricula. Since then, it has enjoyed wide acceptance in the United States for developing training programs in vocational education and in business and industry.

DACUM is a form of task analysis accomplished through a small group that uses group decision-making techniques and focus group interview (FGI) processes (see Chapter 7). In NA, it is particularly appropriate for setting up training programs for new or changing occupations (Level 2, service providers), but it can also be applied at level 1—for example, to determine the skills that students entering a vocational education program should eventually have.

DACUM assumes that successful job holders are the individuals most knowledgeable about tasks critical to that job. Therefore, the working group assembled for the purpose (about 8 to 10 people) includes successful workers and some supervisors. Participants are selected also for their willingness to take an active part in the group activity and freely express their opinions. The group process lasts for 1 or 2 days, depending on the complexity of the job under consideration.

The DACUM leader should have a thorough understanding of the pprocess but preferably have limited knowledge about or experience with the specific job under consideration. Training for the leader is recommended to reduce and, if possible, eliminate leader bias affecting DACUM outcomes.[1] Some desirable leadership qualities include good listening skills, an ability to draw out each person's ideas over an extended period of time, sensing the pace of the group allowing more time when needed or pressing ahead as dictated by the situation), and ensuring that the group completes DACUM tasks.

THE DACUM PROCESS

The process consists of the following steps; a brief overview is followed by detailed sections.

1.0 Plan for the meetings.

1.1 Select and invite the DACUM panel.

1.2 Consider logistics: select site, make room arrangements, set up schedules, provide for food, and so on.

2.0 Convene the panel for the DACUM process.

2.1 Introduce purpose, expected outcomes, and ground rules.

2.2 Explain the concept of *bands* for the DACUM chart.

2.3 Delineate task statements for each band.

2.4 Review the completed task statements.

2.5 Place tasks in order for each band.

2.6 Review and reexamine the final structure of the DACUM chart.

3.0 Have DACUM chart verified externally.

Step 1.0—Planning

Criteria for panel selection were given earlier. It should not be difficult to recruit members for the panel. Because DACUM is a task analysis procedure frequently used by business and industry to review current training programs or to develop new ones, corporations often participate by donating the time of their workers. Expert workers may consider it prestigious to be involved and may welcome the opportunity to really talk about their job in detail.

Step 2.0—Convening the Panel

2.1 Introduction to the DACUM Process. This first substep is particularly important for successful implementation. The leader gives a brief overview of the focus of the group deliberations, explains that the product will be a chart showing sequences of tasks or events required for the job or need area to be analyzed, and explains the ground rules governing the meeting. As with other types of discussion, all ideas are important, everyone will be called on to speak over the 2 days, and individuals should not be interrupted when they are speaking. The leader moderates the discussion, keeps the group focused on its

assignment, elicits the ideas of reluctant group members, and does not allow any individuals to dominate the meeting.

2.2 Identify Key Areas of Competence. This is where the group begins the substantive work of DACUM. In a round-robin process, group members describe and discuss key areas of competence required for the job under consideration. These become the organizing elements for *horizontal bands* on the DACUM chart. Each band is an analysis of the main tasks necessary to accomplish a duty or to achieve a competence (this will be explained in more detail in the discussion that fol-lows). The areas of competence are posted on the wall or blackboard; then the group delineates specific tasks for each horizontal row.

2.3 Delineate Task Statements for Each Band. Instructions to the group might be patterned on the following:

> What would you need to teach a new recruit to accomplish this main task? Assume that you are writing *short*, action-oriented statements (i.e., using action-oriented verbs such as "calculate," "estimate," "ad-just," and so forth). Explain what the person must be able to do. Further assume that each statement starts with the phrase, "the beginner must know or be able to . . ."

One observation of DACUM processes is that groups tend to wander across bands rather than staying focused in one until it is completed. This can dissipate energy and leads to frustration with getting DACUM work accomplished. The leader must monitor the process and, if straying is beyond tolerable limits, refocus the group on one band at a time. If an idea comes up that fits a different band, note it and indicate that it will be stored for incorporation into the appropriate band at a later time.

2.4 Review the Bands. Once the bands and task statements within them are completed, the group reviews them for clarity and appropriate fit with the general area of competence.

2.5 Order the Task Statements Within Bands. In regard to this step, DACUM recognizes that there could be multiple orders or sequences for organizing curricula, instruction, and instructional materials. There is no single right way to do it. Accordingly, the purpose of this

sequencing step is to provide a general indication of a possible sequence rather than a mandatory or definitive order.

2.6 Final Review. Now the group takes time for a final review and for making minor adjustments to the chart.

Step 3.0—External Verification

In this last step, the completed chart is externally verified by another DACUM panel or by external experts.

AN EXAMPLE OF DACUM

The outcome of the DACUM process is a single chart. Figure 8.1 shows three bands taken from different areas of a DACUM chart developed for case management for adolescents and young adults with chronic disease (Brink et al., 1989). In this figure, areas of competence are referred to as duties.

The original chart has 10 bands, some with as many as 11 entries. The bands not shown here are for such tasks as the following: provide an individualized health care team, provide disease management education and promote reasonable self-care, ensure appropriateness of medical equipment, address economic and social needs, foster community awareness, and maintain professional competency and awareness.

ADVANTAGES AND DISADVANTAGES OF DACUM

At first glance, DACUM may appear too costly in terms of the high investment of time and staff for an outcome that is simply a chart of general competencies and their associated tasks. Moreover, DACUM usually requires the hiring of a leader specially trained to conduct the process. On the other hand, it results in an easily understood, visual description of "what should be" for a job and is produced relatively quickly compared with other in-depth task analysis procedures (e.g., traditional task analyses or time-motion studies). Because the chart represents the work of one group, the results should be verified (Step 3.0) either by convening another panel or by having the chart reviewed by an outside group familiar with the job. As we mentioned, a DACUM chart is appropriate not only for developing a curriculum but for specifying the target state for either a Level 1 or a Level 2 NA.

Duties	Tasks							
Establish and maintain contact	A-1 Identify target population	A-2 Teach patients about the benefits of health supervision	A-3 Teach patient/ family how to use the team	A-4 Help patient/ family deal with financial barriers	A-5 Establish follow-up methods	A-6 Address barriers to establishing/ maintaining contact		
Improve patients health status	D-1 Evaluate and improve metabolic control	D-2 Encourage optimal emotional growth	D-3 Assess physical growth and develop-ment	D-4 Promote physical fitness	D-5 Promote healthy dietary practices	D-6 Evaluate for disease-related complications	D-7 Treat chronic disease complications	D-8 Address risk factors of tobacco alcohol, drug abuse, and sexual activity
Keep office clinical records	J-1 Obtain graphs and plot blood pressure, height and weight	J-2 Set up and maintain flow sheets	J-3 Set up and maintain up-to-date problems list	J-4 Maintain medical, educational, and psycho-social status	J-5 Collate records from team and consultants	J-6 Ensure adequacy of records for providing rapid review of patient history and status		

Figure 8.1. Example of Three Bars of a DACUM Chart: Case Management for the Adolescent or Young Adult With Chronic Disease

SOURCE: Brink et al., *Competency Profile of Case Management for the Adolescent/Young Adult With Chronic Disease*. Columbus: Center on Education and Training for Employment, The Ohio State University. Copyright © 1989. Used with permission.

DACUM manuals provide excellent guidelines for the development of specific statements for manipulative, procedural, analytical, interpretative, problem solving, organizing, and managerial tasks. One caveat is in order, however. DACUM identifies general areas of competence and approximately 10 to 15 tasks for each area. It does not specify the details of tasks and their sequences that may be essential for certain types of jobs (e.g., diesel mechanics, surgery, or dentistry). Other procedures (e.g., time-motion studies, observations by skilled observers) may be more appropriate in those instances.