



CENTER FOR RESEARCH
AND EVALUATION

Lifelong Learning Group

Professional Learning Framework: DACUM Panels

Workshop Feedback

Prepared by:
Mary Ann Wojton, Ph.D.
Joe E. Heimlich, Ph.D.
May, 2016



*This project was completed with support
from the National Science Foundation (1514884)*

Introduction

DACUM (Developing A CURriculum) was developed in Canada in the 1980s as a tool for industry to improve training. It has been championed in the USA by the Center for Education for Employment at The Ohio State University where they have conducted thousands of DACUMs and trained scores of people to conduct them. As used today, DACUM is a unique, innovative, and very effective method of job, and/or occupational analysis. It is also very effective for conducting process and functional analyses.

The DACUM analysis workshop itself involves a trained DACUM facilitator and a committee of 5-12 expert workers from the position, occupation, or other area of analysis. The profile chart that results from the usual two-day workshop is a detailed and graphic portrayal of the duties and tasks performed by the workers involved. In addition to the development of precise duty and task statements, lists of the general knowledge and skills, worker behaviors, and optional lists including tools/equipment used, materials/supplies necessary to conduct the job, and future job trends/concerns are also identified.

DACUM is based on three logical premises:

1. Expert workers can describe and define their job/occupation more accurately than anyone else. Persons who are working full-time in their positions are the real experts on that job. Even though supervisors and managers usually know a lot about their subordinates' work, they usually lack the expertise needed for a high quality analysis.
2. An effective way to define a job/occupation is to precisely describe the tasks that expert workers perform. A successful worker performs a variety of tasks that either the customer or employer wants performed. Possessing positive attitudes and knowledge alone are not enough. Hence, finding out what the expert workers (top performers) do will give us the opportunity to prepare other experts.
3. All tasks, in order to be performed correctly demand the use of certain knowledge, skills, tools, and positive worker behaviors. While the knowledge, skills, tools, and worker behaviors are not tasks, they are enablers which make it possible for the worker to be successful. Because these four enablers are so important, considerable attention is given during the DACUM workshop to identifying lists of each. Because these attributes are different and distinct from the tasks, it is very important to keep them separate if a high quality analysis of job performance requirements is to be obtained.

DACUM has been used effectively to analyze occupations at the professional, managerial, technical, skilled, and semiskilled levels. It has also been used effectively to conceptualize future jobs, and to analyze portions (selected duties) of one's occupation and as a basis or foundation for analyzing various industrial systems and processes.

This project is asking the question: are there duties and tasks that are consistent across job descriptions of those who work with the publics in informal science learning institutions, and do those duties and tasks change during the course of a person's career? This is being done as a means to critically look at professional development for science and technology centers and think critically about the career path needs of people, rather than focusing on job specific skills.

Method

Three DACUM panels were conducted. The first was the "early stage" career panel which was held at the American Museum of Natural History with the years of the stages defined from the literature. The second was the mid-career stage conducted at the Lawrence Hall of Science. The final DACUM, the mature-career stage professional was facilitated at COSI. At each site, individuals were recruited through multiple institutions' leadership who the leadership would identify as "expert at being in the museum" for that career phase. The goal was to have 12 panelists at each DACUM with no more than 2 from any 1 institution.

The dates and locations for the panels dictated the ASTC member institutions that were able to be included in the process of selecting participants. In the end, there were 34 total panelists from 18 total museums.

At the end of each 2-day DACUM panel, participants were asked to complete a short feedback form to give insight about the flow of the workshop, the value of the process to the individuals involved, and the potential for additional work in this area.

The paper and pencil questionnaire included a 7-point scale asking about the elements of the process (satisfaction) plus open-ended questions about strengths and weaknesses of the workshop, perceptions of the process, and uses of the DACUM for the field.

Findings

The general questions asked on the feedback form reflected the flow of the DACUM process in each panel. The initial stage group was high-energy and had very positive feedback, especially around the use of time. The later career group was overall very positive and appreciative of the structure of the process. The mid-career group was the most critical, reflecting the difficulty the panel had in coming to consensus and the difficulty for identifying unifying tasks under the easily identified duties. Table 1 below shows the differences in the mean scores per group. It should be noted that overall, the means were very positive and that the workshop was well structure and managed.

1. Elements of the workshop

	Initial	Mid	Mature	ALL
	N=9	N= 10	N=12	N=31
The logistics for the meeting were appropriate	6.222	5.900	6.417	6.194
The DACUM process moved in a smooth manner	6.222	5.300	6.000	5.839
Meals and breaks were sufficient	6.778	6.900	6.917	6.871
I felt there was sufficient time for completing each of the DACUM activities	6.556	5.400	6.250	6.065
I found the time spent was interesting	6.889	5.400	5.833	6.000
I found the time spent was informative	6.889	5.200	6.250	6.097
It was good to be in a museum to do this thinking	5.889	5.100	6.000	5.677
I feel my contribution will be useful for the field	6.222	5.600	6.500	6.129
My participation in this workshop was a worth the time spent	6.778	5.400	6.667	6.290
I would recommend participation in similar workshops to fellow workers	6.556	5.200	6.250	6.000

7 point scale, 1= Strongly Disagree to 7= Strongly Agree

Perceptions of the DACUM process

When asked to describe the DACUM process, 14 participants (almost half of all participants) described the DACUM as a process to identify job responsibilities (duties, tasks), a greater percentage of Initial-

Stage participants (67% or 6 of 9) used this description than Mature-Stage participants (25% or 3 of 12).

Initial-Stage participants shared:

- “It was very clear about being specific in describing duties/tasks/and steps. It took a lot of thought and allowed us to step out of our job and reflect on what we actually do. It turns out we do A LOT!”
- “We explained the duties, tasks, and steps an initial stage museum professional would follow in order to succeed”
- “An iterative process to produce a generalize description of a specific job or job set.”

Mid-Stage participants shared:

- “It is the process of identifying/naming the essential duties, tasks of a particular role/job and the characteristics, skills, and knowledge required of that role”
- “Exhaustive discussion of role, responsibility and goals of general employers in this field; facilitated breakdown and identified of a precise and unique description for essential traits, duties and tasks”

Mature-Stage participants shared:

- “A great way to get people task and job descriptions together and how they tie together to support the mission of the institution.”
- “The DACUM process is a collaborative effort to identify commonalities across museum roles and the knowledge, characteristics, and skills required to fulfill these roles.”

12 participants found the process, or some element of the process challenging. This was most evident among participants in the Mid-Stage DACUM, where 50% (5 of the 10 participants) of the participants noted a challenging aspect of the process, reflecting the unusual challenge of coming together around tasks once duties were defined. Those who participated in the initial (22 % or 2 of 9 participants) and mature (42% or 5 of 12 participants) stages were less likely to find the process challenging. Words used that identified the process as challenging include:

- “Brain racking, but fun.” (Initial-Stage participant)
- “Tiring and challenging” (Mid-Stage participant)
- “Mentally exhausting” (Mid-Stage participant)
- “A little overwhelming at first” (Mature-Stage participant)
- “A bit confusing at first” (Mature-Stage participant)
- “Tough” (Mature-Stage participant)

9 participants focused their comments on the process, describing the process as iterative or sharing there were very clear steps to follow. Mid-Stage participants were most aware of the process (60% or 6 of 10 participants), while mature (17% or 2 of 12 participants) or initial (11% or 1 of 9 participants) were less focused on the process. Statements made by participants that identified their awareness of the process include:

- “An iterative process” (Initial-Stage participant)
- “It was fulfilling to be a part of the process. You really learn how to proceed the more you participate.” (Mid-Stage participant)

- “A highly-structured process for arriving upon agreement/consensus.” (Mid-Stage participant)
- “Structured well for what data was generated, was a good process to get the needed data.” (Mature-Stage participant)
- “Intense, structured method to develop group consensus about a complex topic.” (Mature-Stage participant)

7 participants described the DACUM as useful/beneficial. A measure of immediate reactions taken immediately following the DACUM found Initial-Stage participants (44% of 4 of 9) were more likely to find the DACUM useful and/or beneficial, than mid (20% or 2 of 10) and mature (8% or 1 of 12) stage professionals. Comments include:

- “It was hard, but very useful distilling our job responsibilities into large categories.” (Initial-Stage participant)
- “It took a lot of thought and allowed us to step out of our job and reflect on what we actually do. It turns out we do A LOT!” (Initial-Stage participant)
- “It was fulfilling to be a part of the process. You really learn how to proceed the more you participate.” (Mid-Stage participant)
- “Interesting, informative, tough, insightful.” (Mature-Stage participant)

7 participants mentioned the process promoted an element of introspective or reflective thought. These comments, equally distributed among the three DACUMs, include:

- “An enlightening and introspective exercise :-)” (Initial-Stage participant)
- “Thought provoking” (Mid-Stage participant)
- “Insightful” (Mature-Stage participant)

4 participants, in the Mid- and Mature-Stage DACUMs, focused on the group consensus necessary to create a Competency Profile. Participants stated:

- “Promotes a collaborative atmosphere and open communication. While there were moments we didn't agree, it was comfortable to argue/promote your train of thought.” (Mid-Stage participant)
- “A highly structured process for arriving upon agreement/consensus” (Mid-Stage participant)
- “The DACUM process is a collaborative effort to identify commonalities across museum roles and the knowledge, characteristics, and skills required to fulfill these roles.” (Mature-Stage participant)

Strengths and weaknesses of this process

Respondents were asked to identify both strengths and weaknesses in the DACUM process. Overall, participants saw strengths in the process, and the weaknesses were in the demands of the process and in the interpersonal challenges of such an intense process.

Strengths:

16 participants (half of all participants) believe the biggest strength of the process was inclusivity, as different jobs, museums, and individuals all participated in creating the Competency Profile. Those in the Mid-Stage DACUM were most likely to value inclusivity (70% or 7 of 10 Mid-Stage

participants), followed by Initial-Stage participants (55% or 5 of 9 Initial-Stage participants) and 33% (4 of 12) of mature stage participants. Participants shared the following comments:

- “I like that it allowed the process to be inclusive of museum professionals overall and what we do, but I missed being able to present my job specific duties.” (Initial-Stage participant)
- “Collaboration among institutions, result consisting of concise job description, better understanding of how to be successful in my role.” (Initial-Stage participant)
- “I liked that there was a lot of sharing, engaging, debating, and everyone was able to have a voice, if they chose.” (Mid-Stage participant)
- “Encouraged open discussion, allowed for individual and small group and large group discussion (good for those who don't learn/convey info in a traditional way).” (Mid-Stage participant)
- “It brought together a diverse group of museum professionals.” (Mature-Stage participant)

12 participants (39%), equally distributed throughout the three DACUMs, mentioned the process in creating a Competency Profile as a strength. This included

- “Guidelines for participation were consistently used to keep all ideas in the game. Multiple chances to review and refine same information--each part got a 2nd and 3rd exposure.” (Mature-Stage participant)
- “Very clear steps to be followed, desired end-product was easy to understand. Process was simple but surprisingly time consuming for what the end product was” (Mid-Stage participant)

8 participants, primarily the Mature-Stage participants (63% or 5 participants) found the facilitator helpful. Participants shared:

- “Facilitator was great (Helped us through tough conversations without giving us the answers)” (Initial-Stage participant)
- “Joe was patient and knowledgeable in guiding us through the DACUM process. He challenged us to change our way of viewing what we do to create a more cohesive and succinct description of what we do.” (Mature-Stage participant)
- “It was good to have an advisor to moderate and keep people on task.” (Mature-Stage participant)

3 participants (all from Initial-Stage Workshop) found an increased awareness of their job responsibilities and career path. They shared:

- “Helps you to think outside of your own involvement in your job--ideal for what your next steps could be.”
- “Result consisting of concise job description, better understanding of how to be successful in my role.”
- “Great process where I can use this to adjust my resume. Wrote out things I do, but haven't realized.”

Weaknesses:

9 participants mentioned the process was exhausting, with 56%, or 5 of the 9 comments, coming from Mid-Stage participants. Comments included:

- “The days were very long for those of us who don't have a good relationship with words.” (Initial-Stage participant)
- “Sometimes I didn't know if I agreed or was just worn out.” (Mid-Stage participant)
- “Sometimes conversations were rehashed, points were belabored and extended beyond what I thought necessary. Certain individuals dominated the conversation. The sessions were at times too long. More frequent, but shorter breaks, would be appreciated.” (Mid-Stage participant)
- “It was hard but worth every minute.” (Mature-Stage participant)

7 participants found it challenging to work with the group to reach consensus. Five of those comments, or 71%, came from those in the Mid-Stage DACUM. Comments included:

- “Semantic discussions were time consuming and at times unnecessary when apparent that a consensus would not be reached, I wish the facilitator would have intervened to move along earlier.” (Mid-Stage participant)
- “Mid-Stage has a very wide range, so coming to agreement on certain points was challenging. Also not a good balance of different departments/functions in the museum (too ed. program heavy).” (Mid-Stage participant)
- “A lot of people had different ideas and it was sometimes hard to reach an agreement. It was good to have an advisor to moderate and keep people on task.” (Mature-Stage participant)
-

5 participants found it confusing, especially at first, with the majority of those (3 of the 5) coming from the Mid-Stage DACUM.

5 participants, three from the Initial-Stage DACUM, believed the lack of job specificity was challenging. One Initial-Stage participant shared, “I missed being able to present my job specific duties.”

4 participants (3 from the Mid-Stage DACUM) believed some individuals dominated the conversations.

3 participants (2 from the Initial-Stage DACUM) would have liked more time.

Use of the DACUM in the field

An open-ended question was asked related to if and how the DACUM process and the competency profile would be valuable for the field.

14 participants, with the majority of these comments coming from those who attended the Initial-Stage DACUM (43% or 6 of 14 comments), felt the DACUM would be helpful in developing job descriptions. Comments include:

- “Give structure to the process of identifying positions and job descriptions in the museum field.” (Initial-Stage participant)
- “Help hiring staff/museum managers clearly understand what they're looking for and how to advertise. Help mid-career professionals create their own job descriptions, resumes, etc. in greater context of museum work.” (Mid-Stage participant)
- “Give a common language/understanding of our work, Ensure sustainability of the field.” (Mature-Stage participant)

11 participants (64% or 7 of 11 comments came from the Mature-Stage DACUM) believe the DACUM could improve professional development. Their comments include:

- “It could help a lot with the design of professional development for those entering the field.” (Initial-Stage participant)
- “Seeing the big picture (how the data will fit in with the study) makes sense, not just to standardize, but to create professional development.” (Mature-Stage participant)

7 participants, mostly from the Mid- and Mature-Stage DACUMs, believe the DACUM could assist individuals plot their career path. Participants shared:

- “It will also help to establish a pattern of growth and progression in the career path.” (Initial-Stage participant)
- “I believe that people coming up to the mid-level manager position will benefit by knowing where to focus their career development. It will also help senior management know how to assist the mid-level manager to the next level.” (Mid-Stage participant)
- “To create models for future museum staff, offer clearer paths for successful careers, possibilities to train others in the processes.” (Mature-Stage participant)

7 participants, from the Mid- and Mature-Stage DACUMs, feel that the DACUM contributes to the field’s best practices. Participants stated:

- “Could be used as a tool for advocating for the importance/value of these positions.” (Mid-Stage participant)
- The info generated placed our work on a shared field, uniting diverse types of program professionals through a shared understanding of the work we do- useful for generating best practices and facilitating connection.” (Mid-Stage participant)
- “This could help current and next-generation employers find opportunities and niches that seem too far from many museum studies curriculums and pathways into the field.” (Mature-Stage participant)

5 participants, from the Initial-and Mid-Stage DACUMS, believe the information generated at the DACUM could improve their ability to work with others. Their comments include:

- “I think this gives a completely different prospective of one's job and could improve the way we all work together.” (Initial-Stage participant)
- “How you might relate to your team members better when thinking about word definitions and phrases.” (Mid-Stage participant)

Conclusions

Overall, the DACUM panelists were very positive about the process, the logistics, and the work. The frustrations expressed, especially by the mid-career panel, are expected with a process such as the DACUM, and do not suggest negative perceptions of the experience, but reflect the honest challenge of experts coming together to try to determine common tasks across very disparate jobs.