

# Unveiling Clarity: The DACUM Job Analysis Process Demystified

Sajid Iqbal

Editor-in-Chief IEEEEP Journal & GIZ certified DACUM Facilitator

chiefeditor@ieeepnhrij.org

This editorial aims to convey the author's firsthand encounter with the German Agency for International Cooperation (or GIZ)-sponsored DACUM Facilitator's training and active involvement in crafting the National Vocational and Technical Training Commission (NAVTTTC) curriculum for wind energy, employing the DACUM methodology.

The DACUM (Developing A Curriculum) process has proven highly effective in identifying the crucial skills and knowledge necessary for proficient job performance. Particularly prominent in the Technical and Vocational Education and Training (TVET) sector worldwide, it has facilitated the development of technical curricula.

Hasalz and Reid defined the meaning of DACUM as, "DACUM is a quick yet highly valid job analysis technique. The DACUM process is used to determine the competencies that should be addressed in a training curriculum for a specific occupation. DACUMs are used to develop job profiles for all types of occupations, including top-level managers and specialized jobs. This cost-effective and efficient technique has been validated through research and compares very positively with other job analysis methods" [1].

This method holds a significant role within the curriculum development journey, often commencing with the occupational analysis phase. After establishing the curriculum, subsequent stages encompass a validation workshop, management review, task analysis, and the ultimate refinement of the training curriculum for dissemination. Figure 1 illustrates the crucial stages of the DACUM process for its successful implementation[2].

The origins of DACUM date back to the mid-1970s when Ohio State University pioneered its use in the United States. At its core, DACUM relies on expert panels to identify and validate specific tasks, knowledge, skills, and attributes essential for proficient job performance. Key principles guiding this process include facilitation, consensus-building, and a competency-

based education (CBE) framework. CBE is an approach to teaching, learning and assessment which focuses on learners demonstrating the knowledge, skills and attitudes in highly specific units regardless of time, place, or pace of learning, usually in authentic contexts[3].

DACUM's collaborative approach proves particularly valuable for conducting both system and process analyses. The process involves a trained DACUM facilitator and a committee of five to twelve expert workers. The outcome is a comprehensive profile chart that details the tasks and responsibilities undertaken by the involved workers. Built on three core principles, DACUM underscores that[4]:

1. expert workers are best suited to define their job accurately,
2. task articulation by proficient workers effectively defines a job, and
3. each task requires specific knowledge, skills, tools, and behaviors.

These principles drive DACUM's purpose: generating adaptable occupational profiles for diverse curriculum development endeavors. A completed DACUM session yields an occupational profile delineating learning objectives and competencies needed for a specific occupation. This profile encompasses duties, worker attributes, skills, knowledge, and tools, graphically represented in Figure 2[4].

DACUM workshops typically span 1 to 2 days, with a facilitator guiding discussions among expert occupational participants. After initial profile drafting, validation by additional committees ensures accuracy and balance. This profile guides curriculum developers in assessing the requirements of the target role[5].

DACUM excels in precise task and duty articulation, encompassing knowledge, skills, worker behaviors, tools, and



Fig. 1. Steps in the DACUM Process [2]

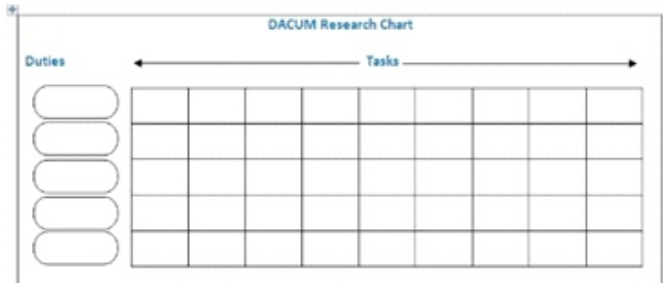


Fig.2. Occupational Profile [4]

future job trends. Its effectiveness spans professional, managerial, technical, skilled, and semi-skilled levels, aiding in job anticipation and task dissection. The methodology's application extends to scrutinizing industrial systems underpinning quality movements like TQM, ISO 9000, and QS 9000[4].

DACUM's adoption stems from various motivations, with organizational success closely linked to workforce quality. To nurture a skilled workforce, educational institutions and companies must provide top-tier education and training, equipping employees to face challenges proficiently.

The author expresses gratitude to Mr. Shahzad Ahmad from NAVTTC and Mr. Naeem Akhtar from GIZ for providing the opportunity to attend the DACUM Facilitator training and participate in the development of the NAVTTC wind energy curriculum.

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### Introduction of Chief-editor, IEEEEP Journal

Dr. Sajid Iqbal, a CICOPS fellow, IEP fellow, & IEEEEP fellow, has over two decades of experience in teaching, research, and training. His expertise is evident from an extensive publication history, comprising twelve peer-reviewed journal articles, twenty-seven conference proceedings, and six books. Noteworthy honors include a Gold Medal in FSc Pre-engineering and *Young Investigators Award* at the 2018 Sage Assembly (USA).

Furthermore, Dr. Sajid holds international certifications as a *Level-1 Instructor* and *Level-2 Practitioner* in TRIZ from Malaysia. He serves as a registered Resource Person of PEC and holds the title of Master Trainer at PITAC & TEVTA. His expertise has been channeled into conducting impactful training sessions on subjects such as Innovation and Creativity, Critical Thinking & Problem Solving, Work Ethics, Time Management, and Writing Skills. These sessions have left an indelible mark on national institutions including PASSCO, NESPAK, KINPOE, PITAC, PHEC, MPDD, TEVTA, GEAP, NUST, UET Lahore, UET Taxila, GCUF, UET Peshawar, IEEEEP, IEP, PEC, and NTDC. Notably, his influence extends globally to esteemed international institutions like UNIPV (Italy), UNIMORE (Italy), Universiti Malaya (Malaysia), and ICTP (Italy).

The 10 Best Books on Scientific Writing: A Guide for Scientists, Students, and Anyone Who Wants to Communicate Science Effectively\*

- [1] Sir Ernest Gowers. *Plain Words*. Penguin. 2015. pp. 289
- [2] William Strunk Jr. and E. B. White. *The Elements of Style*. Longman. 1999. pp. 105
- [3] Barbara Gastel and Robert A. Day. *How to Write and Publish a Scientific Paper*. 2016, pp. 326
- [4] Margaret Cargill and Patrick O'Connor. *Writing scientific research articles: Strategy and Steps*. Wiley-Blackwell. 2013. pp. 236
- [5] Michael Alley. *The Craft of Scientific Writing*. Springer-Verlag. 1996. 3<sup>rd</sup> edition. pp. 282
- [6] Richard A. Lanham. *Revising Prose*. Pearson. 2006. 5<sup>th</sup> edition. pp. 176
- [7] John M. Swales. Christine B. Feak. *Academic Writing for Graduate Students: Essential Tasks and Skills*. University of Michigan Press ELT. 2012. 3<sup>rd</sup> edition. pp. 432
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- [10] Joseph M. Williams and Joseph Bizup. *Style: Ten Lessons in Clarity and Grace*. Pearson. 2016. 12<sup>th</sup> edition. pp. 256

\*A study on foremost scientific writing books for graduate students and faculty members by Sajid Iqbal, Muhammad Ijaz Mairaj, Maliha Saleem, Muhammad Majid Gulzar. <https://ojs.aiou.edu.pk/index.php/jlis/article/view/848>