■ *Aaron V. Cicourel*
UNIVERSITY OF CALIFORNIA, SAN DIEGO

Expert

Expertise can be described by reference to the differential way sources of potential information are perceived and understood by novices and experts, particularly in the way they use language to authenticate their status vis-à-vis one another. In clinical medicine, for example, despite using almost identical technical language, medical history and physical examination information can be interpreted and processed differently by novices and experts even when recognizing certain symptoms or measures (wheezing, blood pressure readings, pulse rate, heart murmur) as relevant markers of medical problems. A central issue is the language of questions and answers and their interpretation. The language of elicitation procedures directly affects the kind of memory representations that are likely to be accessed. The language of the medical record is essential for framing the patient's symptoms, medical history, physical examination and treatment plan.

Attributing minimal or mature expertise to someone assumes training and experience associated with a title and a prior credentialing process that usually includes official certification by a governmental agency and/or professional association. The designation of someone as a "novice" or "expert" can include ritualized activities or ceremonies and particular forms of address and clothing. Identifying symbols or outward appearances, therefore, can allow or restrict access to particular spaces and equipment or artifacts. Speech events often are the primary resource for understanding activities in task-oriented environments whose organizational constraints and expected oral and written representations become the basis for inferring and attributing expertise to someone. Language, therefore, is central to an understanding of novice and expert behavior.

Language use also plays a crucial role in activating a "hidden" but essential aspect of expertise: the ubiquitous constraints of memory and the ability to access a knowledge base that will be perceived as "authoritative." The content of a novice or expert's working memory, for example, includes

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the ability to access, delete, and restrict one's attention to locally available information in order to activate long-term memory representations that will be relatively uncluttered and contain relevant information. Novices' perception of the local task environment can produce information overload that compromises the activation of appropriate memory representations and the ability to use appropriate oral and written communication.

In professional settings, experts and novices are difficult to compare because the recipients of their functions are often not aware of how to distinguish one from another, and the actors so designated by organizational criteria do not always make their organizational status and knowledge backgrounds clear to clients or patients. Within an organizational setting, therefore, personnel may be keenly aware of status differences that signal variations in expertise, but recipients are often not aware of such differences and any potential consequences. Novices acquire early on the ability to simulate "expertise" to clients or patients despite not having the knowledge and experience to match their use of language.

Novices are often trained alongside the expert, as when a student pilot is first accompanied by an experienced instructor or a master plumber observes the apprentice attempt to repair or install the pipes of a water heater. Student lawyers perform before instructors in a mock court and are supervised when preparing a legal brief. In law firms, a novice lawyer will accompany an experienced member of the firm when the latter seeks and examines relevant documents, takes depositions, and represents a client in court. A third- or fourth-year medical student may interview a patient already seen by an attending but must explain her or his findings and recommendations (diagnosis and treatment plans) to an expert. A curious aspect of the training of residents is that they may not be observed directly by attendings, yet their oral presentation of the case to the expert is essential for revealing their acquisition and appropriate use of newly acquired expertise. The expert or attending, therefore, relies on the resident's language about the patient's symptoms or problems and a tentative diagnosis and treatment plan to assess the novice's competence.

Novices simulate expertise by projecting a sense of authority or control over information and motor skills and especially by the way they use particular words, asking questions while trying to achieve a poised demeanor and speech delivery to mask any anxiety or uncertainty about what is happening. In medicine, for example, first- and third-year residents can project the appearance of adequate knowledge background but can differ considerably in their ability to reach a viable differential diagnosis. The client or patient may feel they are being "dominated," but it can be difficult for the client or patient to be capable of challenging the authority of the person who assumes or is designated as the responsible person. The notion of domination, however, remains empirically illusive.

The empirical illusiveness of concepts like authority, power, and domination should make the reader wonder about the way research is conducted in medical settings. One source of data is to record novices and experts with clients or patients. Another strategy is to examine interaction between experts and novices, and with clients or patients in socially organized or institutional

settings, in order to contextualize the sources of data while studying the status and role relationships that exist therein.

I tried to understand aspects of the process of acquiring expertise by spending months observing and recording in a particular medical service. I then asked a few attendings to listen to recordings of their residents in order to pinpoint aspects of the experts' views about the novice's use of language and reasoning during the medical interview and physical examination. I was present during the novice's interview and during the account given to the attending after the novice's encounter with the patient. I also observed the attending if he or she accompanied the resident back to the patient, presumably because something did not seem appropriate to the expert or if the novice asked for help in understanding the case.

I also tried to understand the acquisition of expertise by attending the microbiology/infectious disease classes required of medical students to learn something about relevant concepts and about the laboratory exercises students were assigned. I also spent several months observing and recording the deliberations of attendings, residents, and occasionally medical students during microbiology rounds each morning at University Hospital. On such occasions I would try "appropriate" language use while participating in examining blood samples in small bottles, smelling petrie dishes, and sometimes looking at slide specimens that residents were asked to describe. I also spent many months over a period of several years observing Infectious Disease Grand Rounds each week, where special cases were discussed and where microbiological and clinical evidence were presented. Such occasions often involved asking a novice (resident) to step up to a microscope and identify the organism on a slide while the audience observed a video depicting the same organism.

(See also *acquisition, body, codes, competence, control, ideology, indexicality, healing, orality, performativity, power, register, socialization*)

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Department of Cognitive Science
9500 Gilman Drive, Dept. 0515
University of California, San Diego
La Jolla, CA 92093-0515
cicourel@cogsci.ucsd.edu