In partnership with their clinical affiliates, medical schools assume the responsibility for creating and maintaining "appropriate" learning environments. In the language of the LCME, this means that they are required to maintain professional standards and ensure that all individuals are treated with respect.¹-² The modern expansion of medical school capacity, partly characterized by increases in clinical affiliations to accommodate increased enrollments, challenges medical educators to evaluate the numerous and diverse environments through which our learners navigate. The number of physical sites required to accommodate medical students is displayed in the CI Report titled "Average Number of Inpatient and Outpatient Sites...for [Clerkship] per Medical School." Each of these sites offers a unique environment for learners.
Recognition that environments contribute to human behavior can be traced back to ecological psychologists from the late 1930’s. Over time, social scientists identified program environment as a critical factor to a program’s success. By the 1980s, comprehensive program evaluations included measures of the program inhabitant’s common experience.

Original program environment evaluations consisted of both low and high inference observational and ethnographic approaches. During the 1980’s, inexpensive alternatives, including paper-pencil instruments were developed, many of which were specifically designed for evaluating environments for learning. Early learning environment instruments were developed on the basis of three underlying theoretical dimensions believed to be critical to characterizing the complex psychosocial climates of human environments. These included interpersonal relationships, personal development and the dynamics affecting system maintenance-system change.

The Ohio State University College of Medicine initiated an effort during the mid-1990s to evaluate clinical learning environments across seven core clerkships, five hospital affiliates, and numerous ambulatory clinical sites. We developed our own Hospital Learning Environment (HLE) Survey based on the same three dimensions of early learning environment instruments. Our HLE preceded the Dundee Ready Educational Environment Measure (DREEM) by almost four years. The DREEM has become the most widely used published instrument for assessing clinical learning environments.

When using the HLE to evaluate learning environment of medical services (clinic or ward) across our entire system, we found that highly structured services, defined as those with health care teams (ward-based services in internal medicine and pediatrics) were considered superior learning environments when compared to less structured services. These learning environments were characterized by well-defined roles for medical students, which were clearly communicated to the entire team. We found the same theme to be true of ambulatory care sites in which our students worked with non-faculty preceptors. Preceptors who offered a structured educational plan with clearly delineated student roles in patient care were considered superior to those who did not.

About six years ago, we used a combination of items from the DREEM and HLE to compare learning environments across five OB/GYN clerkship, labor and delivery rotation sites. Exploratory factor analysis of the combined instruments yielded three primary subscales or environment domains and five secondary subscales:

1) Educational Climate- These items assessed the extent to which learning was emphasized, purposeful and planned.
   a) Support for attendance at formal education activities
   b) Quality of didactic education
2) Relationships- These items evaluated the relationships between the learner and others in the learning environment. They also evaluated whether the learner’s roles and responsibilities were clear to both the learner and those around the learner.
   a) Student-attending relationships
   b) Student-resident relationships
   c) Student-nurse relationships
3) Facilities/Resources- These items evaluated whether resources supported or hindered student learning.
Comparisons of the factor scores across the five learning environments provided insights into the learning environments of labor and delivery that we would not have gotten from other program evaluation efforts. The most important finding was that the relationship between medical students and residents contributed heavily to measuring the quality of the learning environment. Our explanation for this finding was that residents were an important contributor to the labor and delivery learning environment, and any effort to improve that environment required an investment in developing residents as teachers. We also discovered that the educational climate was higher for those services in which all service personnel were enlisted to support student learning. On these services, the students were perceived primarily as learners and secondarily as service providers. Finally, we discovered that differences in facilities and resources contributed to differences in the students’ perceptions about the learning environment. Those sites that offered: a place for students to go when not busy, computer resources and comfortable sleeping facilities for overnight call were thought of as being superior learning environments.

Measuring clinical learning environments is critical to comprehensive program evaluation. Conducting such measurement is a challenge not only because of the diversity of settings in which learners are taught, but also because medical schools are compelled to use numerous clinical settings to accommodate all of their learners. While difficult, the return on investment for measuring learning environments is substantial. Good measurement with quality instruments not only contributes to meeting accreditation standards, but also provides valuable guidance for program improvement.

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