Optimizing the Physical Clinical Learning Environment for Teaching

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The Challenge

The physical features of the clinical learning environment (CLE) have critical effects on trainees and educators, including acquisition and application of knowledge, skills, and values. Though dynamic and mutable, the physical CLE is often viewed as static and unchanging. Interpersonal factors (eg, social dynamics, personnel roles, and positioning in space) affect how learners and educators experience and utilize the physical environment. There is limited dedicated literature regarding how educators and trainees can use spaces in the clinical setting for optimal education during active patient care in feasible and effective ways.

Rip Out Action Items

Educators should:

1. Approach the optimization of the physical clinical learning environment (CLE) like any other structured educational activity or clinical procedure, through delineating clinical tasks/goals and realistic educational objectives. Plan ahead and then reflect afterward for continuous improvement.
2. Conceptualize the CLE as a classroom: carry teaching tools and use available surfaces and informal spaces.
3. Query trainees and educators about their experiences and preferences within existing learning environments for potential low-cost, short-term solutions.
4. Create written briefs to consolidate a vision for the educational goals of new clinical spaces and to help guide administrators and design planners.

What Is Known

The CLE can influence learners' perceptions on a broad range of topics, from supervision and feedback to role autonomy and psychological safety.[1] Physical spaces within the CLE include formal classrooms, conference rooms, and informal spaces (eg, corridors and lounges), with the majority of spaces dedicated to patient care. These spaces can be situated within the larger settings of a clinical unit, building, and institution. Buildings are meant to last 50 years or more, while the layout of clinical units may change over years to decades, and furnishings and equipment within those units can change frequently. How we choose to utilize furnishings, equipment, and spaces to optimize learning can change daily.[2]

How You Can Start TODAY

- **Set expectations with learners about how the physical environment will be utilized.** Communicate clearly with learners about where you want them positioned during rounds, at the bedside, or in clinic, while taking into account lines of sight, acoustics, ambient light and noise, positioning of chairs, team size, available space, patient orientation within hospital or clinic rooms, and computer availability.
- **Conceptualize the physical CLE as a classroom, although it is not built as such.** Adding dry-erase markers and small, portable white boards or large sticky notes can allow for on-the-fly visual demonstrations. Glass surfaces such as windows, sliding doors, or bulletin boards can also be used as impromptu "sketch boards" in otherwise informal spaces such as corridors.
- **Approach the optimization of the immediate physical CLE like a procedure or any other structured educational activity.** Conceptualize what you and your learners' clinical and educational needs will be (eg, shared screen, sketch pad, access to curated literature) and adjust your surrounding environment accordingly. For example, if precepting a resident in a busy clinic work area, arrange seating to minimize interruption and facilitate dialogue, even if a round table is not available.
- **When rounding in a hospital CLE, identify locations appropriate for discussion of patient information that facilitate interdisciplinary discussions and teaching.** In situations in which patients are distributed nongeographically, map out the most expeditious rounding route through the hospital, through prioritization of the sickest patients and those slated for discharge first. If rounding at the bedside, be mindful of where team members will be positioned around the bed in order to maximize open communication as well as patient privacy and comfort.
- **Designate and optimize existing physical spaces for specific teaching tasks.** If scheduling feedback sessions with the team in a hospital or clinic conference room, prepare the setting before the

DOI: http://dx.doi.org/10.4300/JGME-D-20-00071.1

session by clearing clutter and preventing interruptions.

- **Use the framework of participatory ergonomics,** in which all stakeholders participate in designing a shared activity,[3] when revising clinic or hospital team workflows and processes.
- **Reflect** collectively and individually on the current status and future opportunities for CLE redesign or augmentation.

What You Can Do LONG TERM

- **Identify spatial design priorities within annual division or departmental budgets, such as furniture, mobile computers, or even artwork.** Querying trainees and educators about their educational experiences within existing physical CLEs, and performing periodic formal reviews of clinical teaching spaces with local instructional design experts, can inform this process.
- **Build consensus among stakeholders for how clinical spaces will be used in the future.** Create a written brief to help consolidate and guide a vision for how new or remodeled CLEs achieve institutional educational goals. The process of briefing can help educational leaders align CLEs with curricular priorities and set concrete educational objectives for new clinical spaces. Briefs also can provide administrators and design planners with specific recommendations about how new clinical spaces can be optimized for educational purposes.[2]
- **Be present at the "design table" when new clinical spaces are built or remodeled.** There will be multiple meetings at each project design phase. Be active: request to be included in meetings with design planners or task forces in order to address educational influences and requirements.

Resources

1. Bines BE, Jamieson P. Designing new collaborative learning spaces in clinical environments: experiences from a children's hospital in Australia. *J Interprof Care*. 2013;27(2 suppl):63–68. doi:10.3109/13561820.2013.795933.
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3. Xie A, Carayon P, Cox ED, Cartmill R, Li Y, Wetterneck TB, et al. Application of participatory ergonomics to the redesign of the family-centered rounds process. *Ergonomics*. 2015;58(10):1726–1744. doi:10.1080/00140139.2015.1029534.

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