http://www.ucsfcme.com/MedEd21c/

Assessment of Learning Environments in Medical Education *Instruments and Best Practices*

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#UCSFMedEd21

Brief reflection

Using the card in front of you quickly jot down some thoughts about your goals for this workshop.

"At the end of this workshop, I hope to be able to…"

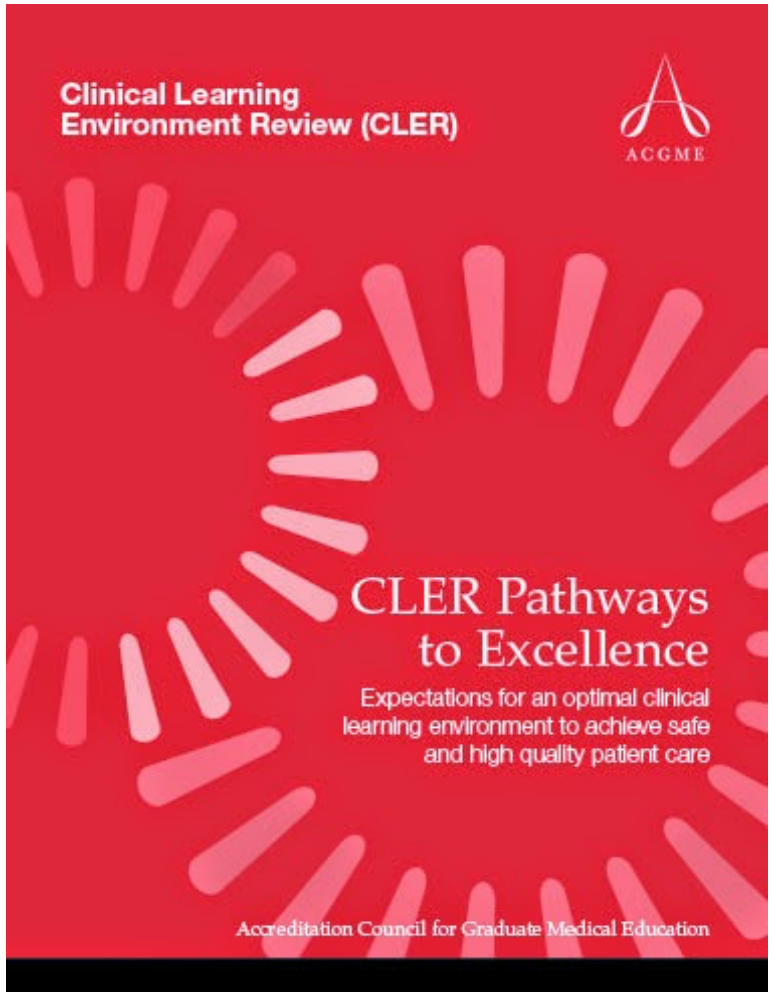
Objectives

1. Specify a focus for assessment of the learning environment
2. Identify qualitative and quantitative data and appropriate data collection instruments for assessment of the learning environment
3. Create a plan for assessment of the learning environment in your context
4. Identify strategies to address potential challenges

Outline

1. (Brief) recap of learning environments: definitions and frameworks
2. Reflection: what do you measure, and what would you like to measure?
3. Approaches to measurements and inventory of instruments
4. Draft a strategy for assessing the learning environment at your institution
5. Review of examples
6. Q&A and wrap up

Learning Environments for the Health Professions



AAMC Statement on the Learning Environment

Learning environment refers to the social interactions, organizational cultures and structures, and physical and virtual spaces that surround and shape participants' experiences, perceptions, and learning.

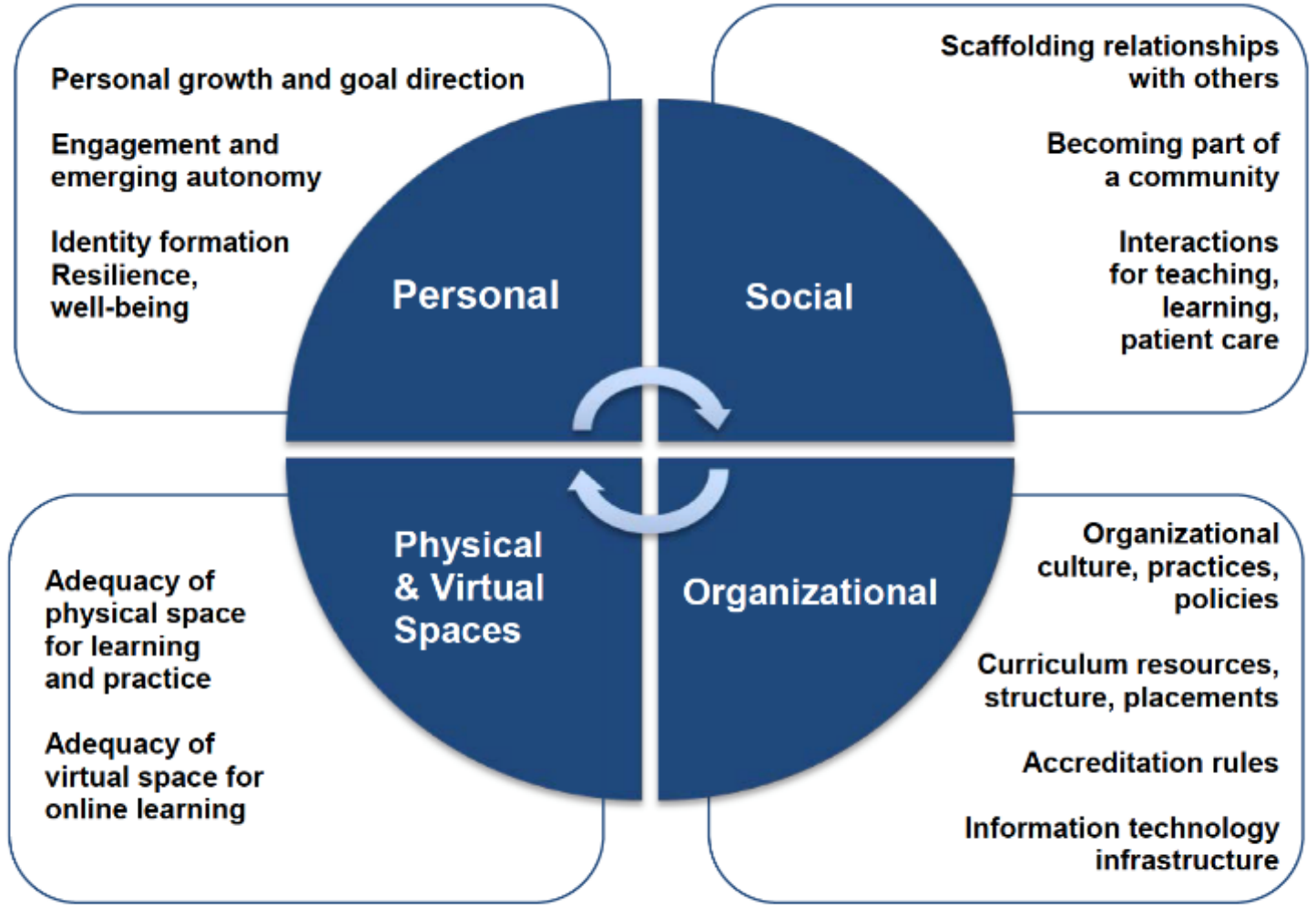


Figure 1. Four interactive components of the learning environment: personal, social, organizational, and physical & virtual.

Larry Gruppen, David Irby, Steven Durning, Lauren Maggio

Exemplary learning environments

VISION *Exemplary learning environments prepare, support, and inspire all involved in health professions education and health care to work toward optimal health of individuals, populations, and communities.*

Four pillars for exemplary learning environments

1. Shared goal of healthcare and health professional education: improving health
2. Learning is work and work is learning
3. Collaboration with integration of diverse perspectives
4. Focus on continuous improvement and innovation

Conference Recommendations

I: Engaging Academic and Health Care Organization Governance

Governance bodies and executive leadership of organizations responsible for health professions education and health care delivery should ensure positive learning and work environments and be held accountable for allocating the resources necessary to achieve this.

II: Engaging Executive Leadership to Provide Organizational Support

Executive leaders of health professions education and health care organizations should create cultures in which resources, policies, and processes support optimal learning environments across the continuum of health professions education.

III: Creating Physical and Virtual Spaces for Learning

Those in positions of responsibility for learning environments in health professions education and health care organizations should ensure appropriate, flexible, and safe spaces (physical and virtual) for learning.

IV: Providing Faculty and Staff Development

Leaders of health professions education and health care organizations should ensure continuous learning and development opportunities for their faculty and staff to improve learning environments.

V: Promoting Research and Scholarship

Those in positions of responsibility for learning environments should be committed to continuously evaluating, improving, and conducting research on those learning environments.

VI: Setting Policy

Health professions education and health care organization leaders and accreditors should engage in policy advocacy for improvements in health professions learning environments.

Measuring outcomes: What do you do?

- What quality measures of the learning environment are already collected at your institution?
- What others could you add?

  - *Worksheet in handout; Exercise 1*

Approaches to Measurement

- National and Accrediting Organizations
- Internal Quality Improvement
- External Consultants
- Institutional Collaborations

Challenges and Opportunities

National and Accrediting Organizations

Association of American Medical Colleges

- Academic Medicine Aims to Foster More Supportive Learning Environment
- Graduation and Year Two Questionnaires
- Liaison Committee for Medical Education (AAMC + AMA)
- School-level data

Accreditation Council for Graduate Medical Education

- Expectations for an optimal clinical learning environment to achieve safe and high quality patient care
- Clinical Learning Environment Reviews (CLER)
- Annual Resident/Fellow and Faculty Surveys
- Program-level data

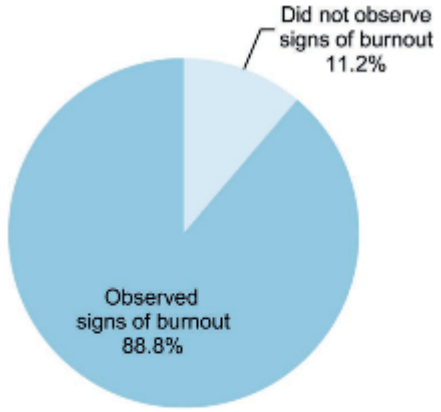


FIGURE 16
Percentage of Clinical Learning Environments Where Residents and Fellows Observed Some Signs of Burnout Among Faculty Members and Program Directors

Internal Quality Improvement

- Course Evaluations
- Curricular System Evaluations
- Educator Evaluations
- Learner Focus Groups
- Patient Satisfaction Surveys
- Employee Climate Surveys
- Performance Assessment
- Cross-Unit Peer Reviews
- Dashboards, Scorecards
- Review Committees

External Consultants

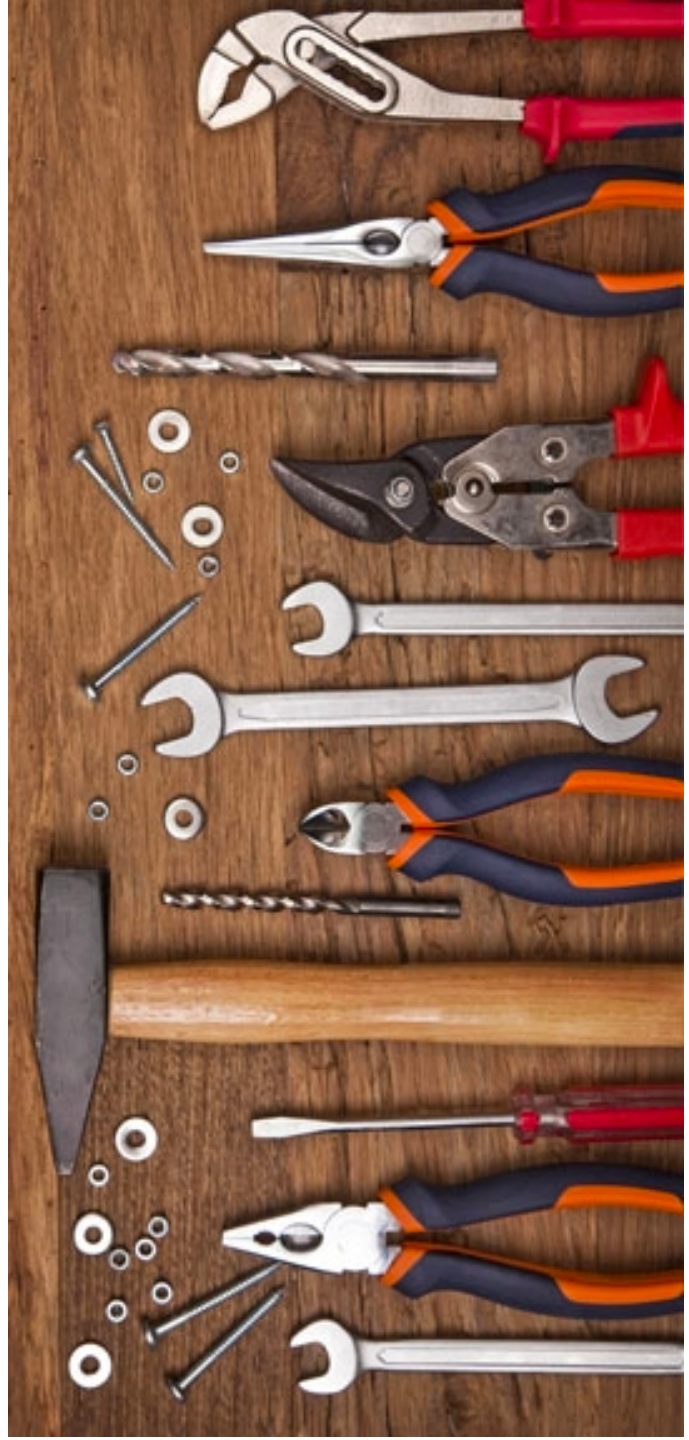
- High Performing Schools (AAMC identified)
- Culture Change (Psychiatry at Brandeis University)
- Peer Institutions

Institutional Collaborations

- American Medical Association
- Macy Foundation
- Kern Institute National Transformation Network
- Other?

Review of Existing Tools

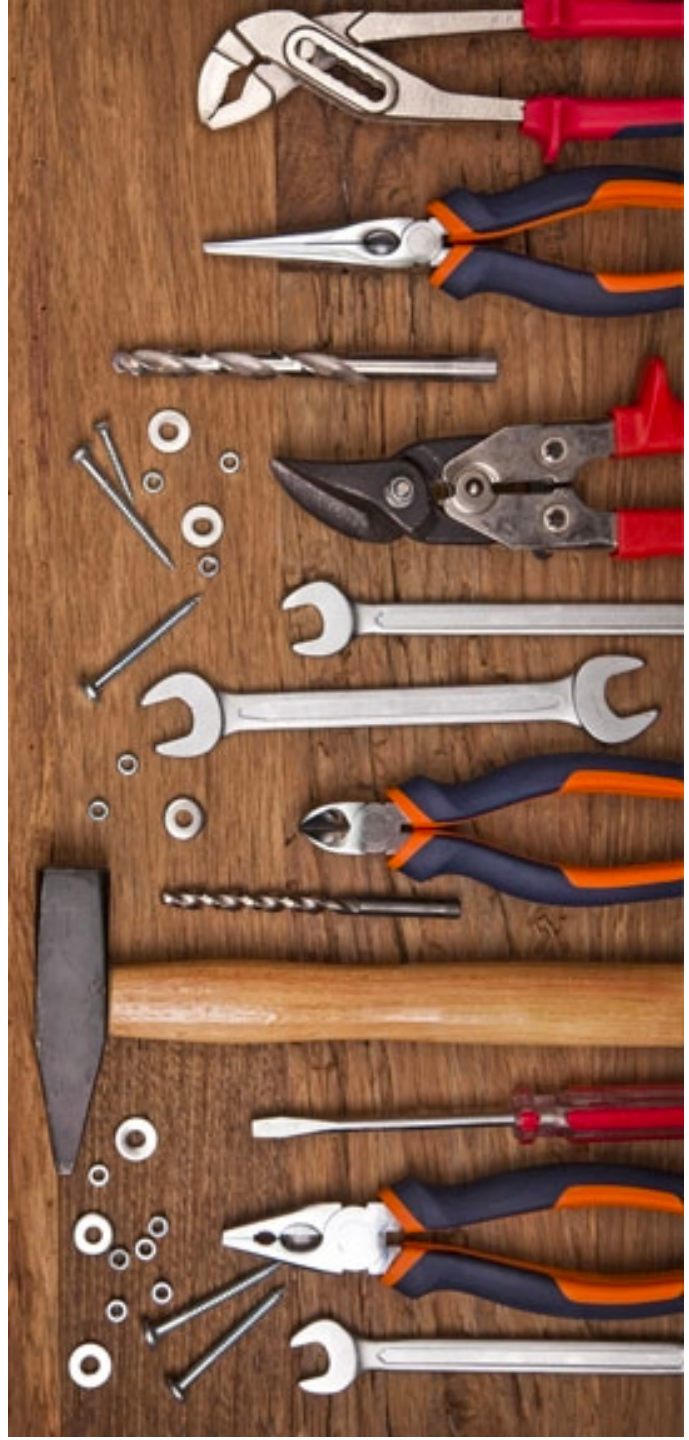
- Quantitative, Qualitative and Mixed Methods
- Item Consistency, Alignment, Triangulation
- Inventory of Existing Instruments (Leep)



Inventory of Instruments

Learning Environment Assessment Tools (Selected Examples) – compiled by Andrea Leep, MD, MHPE (leep.andrea@mayo.edu)

Instrument	Total items, n	Author, Year - Journal	Notes / Comments about Scale Development	Domains / Factors	Subscale Items, n	Cronbach alpha
Medical students						
Educational Climate Inventory (ECI)	20	Krupat, 2017 – Academic Medicine	Learning vs. Mastery-Oriented Climate	Centrality of learning and mutual respect	10	0.88
				Competitiveness and stress	6	0.80
				Passive learning and memorization	4	0.71
C-CHANGE Medical Student Survey (CMSS) *Strongest validity evidence in Colbert-Getz 2014 lit review published in Academic Medicine	46	Pololi, 2017 – Academic Psychiatry	Adapted from C-Change Faculty Survey (CFS), which was based on extensive qualitative interviews with faculty about the culture of academic medicine	Vitality	5	0.79
				Self-efficacy in career advancement	4	0.74
				Institutional support	5	0.82
				Relationships/inclusion/trust	6	0.85
				Values alignment	8	0.80
				Ethical/moral distress	8	0.76
				Work-life integration	3	0.77
				Gender equity	3	0.79
				Underrepresented in medicine minority equity	4	0.73
Johns Hopkins Learning Environment Scale (JHLES)	28	Shochet, 2015 – Academic Medicine	Emphasizes those aspects of the learning environment that have the biggest impact on students' professional development (based on an earlier study by the same group); informed by social and experiential learning theories	Community of peers	6	0.91
				Faculty relationships	6	0.80
				Academic climate	5	0.86
				Meaningful engagement	4	0.82
				Mentoring	2	0.74
				Inclusion and safety	3	0.58
				Physical space	2	0.66
				Atmosphere	5	0.75
				Organization	5	0.67
Medical Student Safety Attitudes and Professionalism Survey (MSSAPS)	28	Liao, 2014 – Academic Medicine	Includes previously published survey items, including the Safety Attitudes Questionnaire, AHRQ Safety Culture survey, others	Safety culture	8	0.89
				Teamwork culture	6	0.81
				Error disclosure culture	4	0.75
				Experiences with professionalism	7	0.87
				Comfort expressing professional concerns	3	0.83



Inventory of Existing Instruments

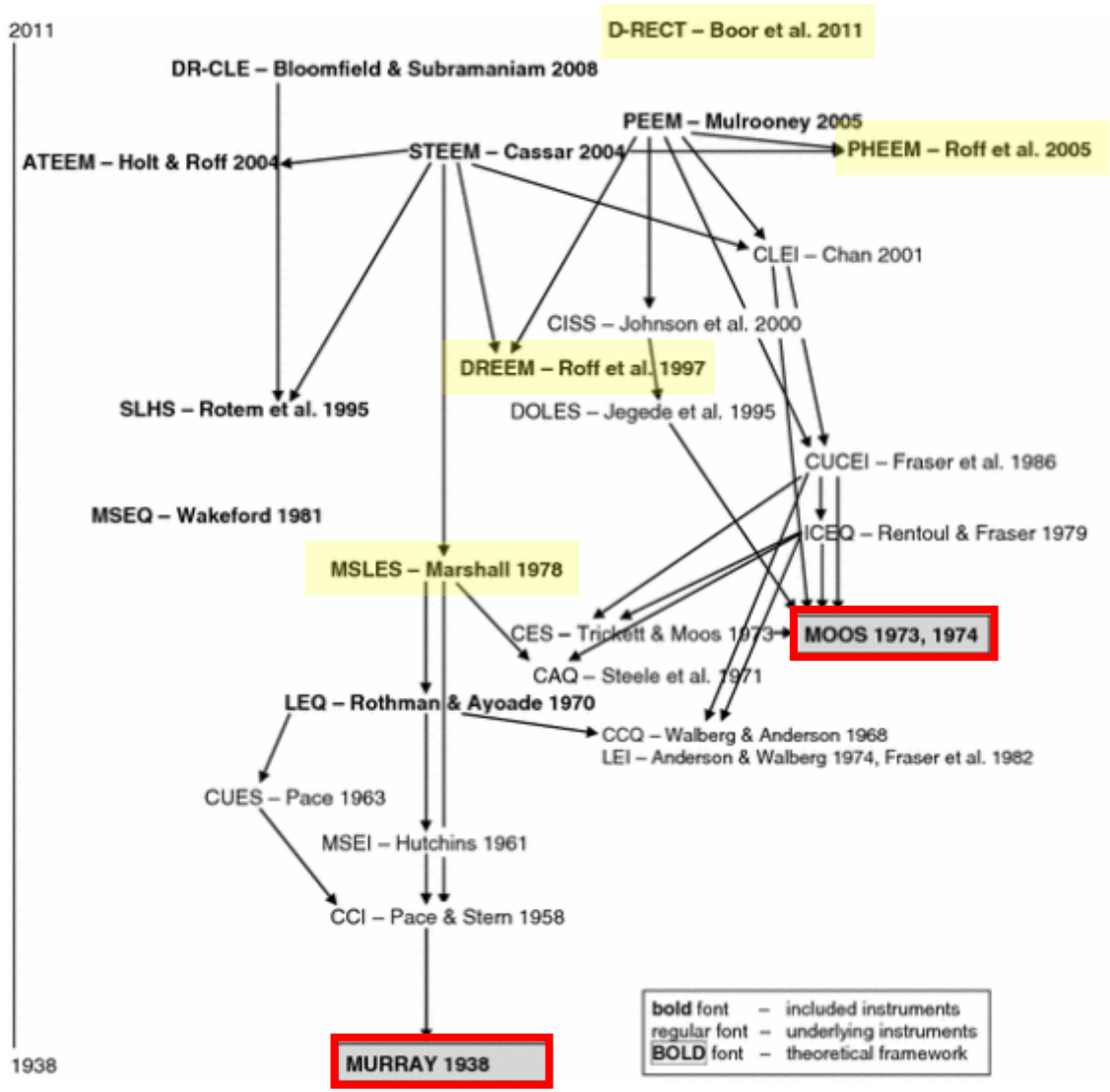
- Theory

  Schönrock-Adema, J., Bouwkamp-Timmer, T., van Hell, E.A. et al. Key elements in assessing the educational environment: where is the theory? Adv in Health Sci Educ. 2012;17: 727-742.

- Validity Evidence

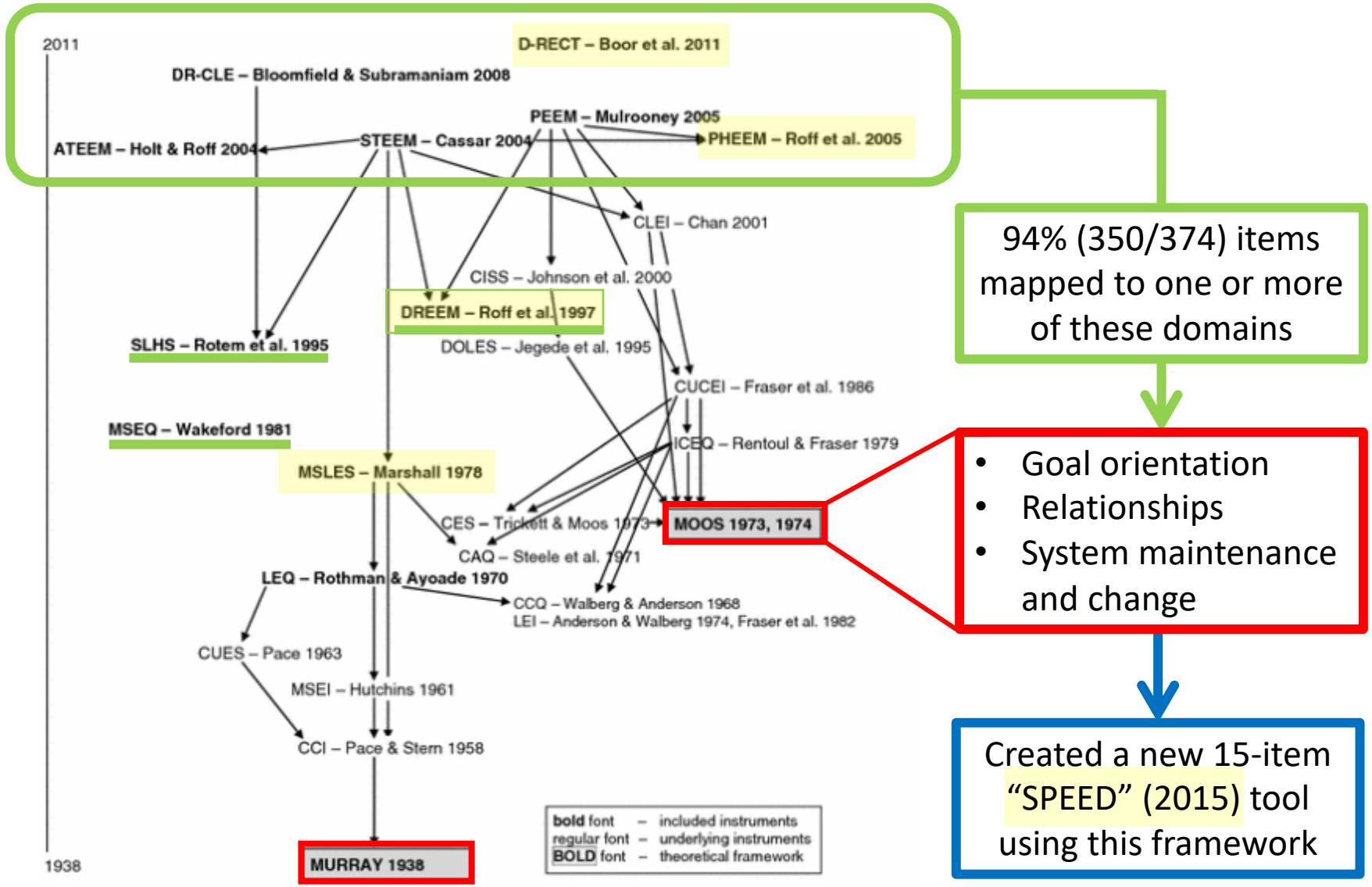
  Colbert-Getz JM, Kim S, Goode VH, Shochet RB, Wright SM. Assessing medical students' and residents' perceptions of the learning environment: Exploring validity evidence for the interpretation of scores from existing tools. Acad Med. 2014;89:1687–1693.

Theory



Schönrock-Adema, 2012

Theory



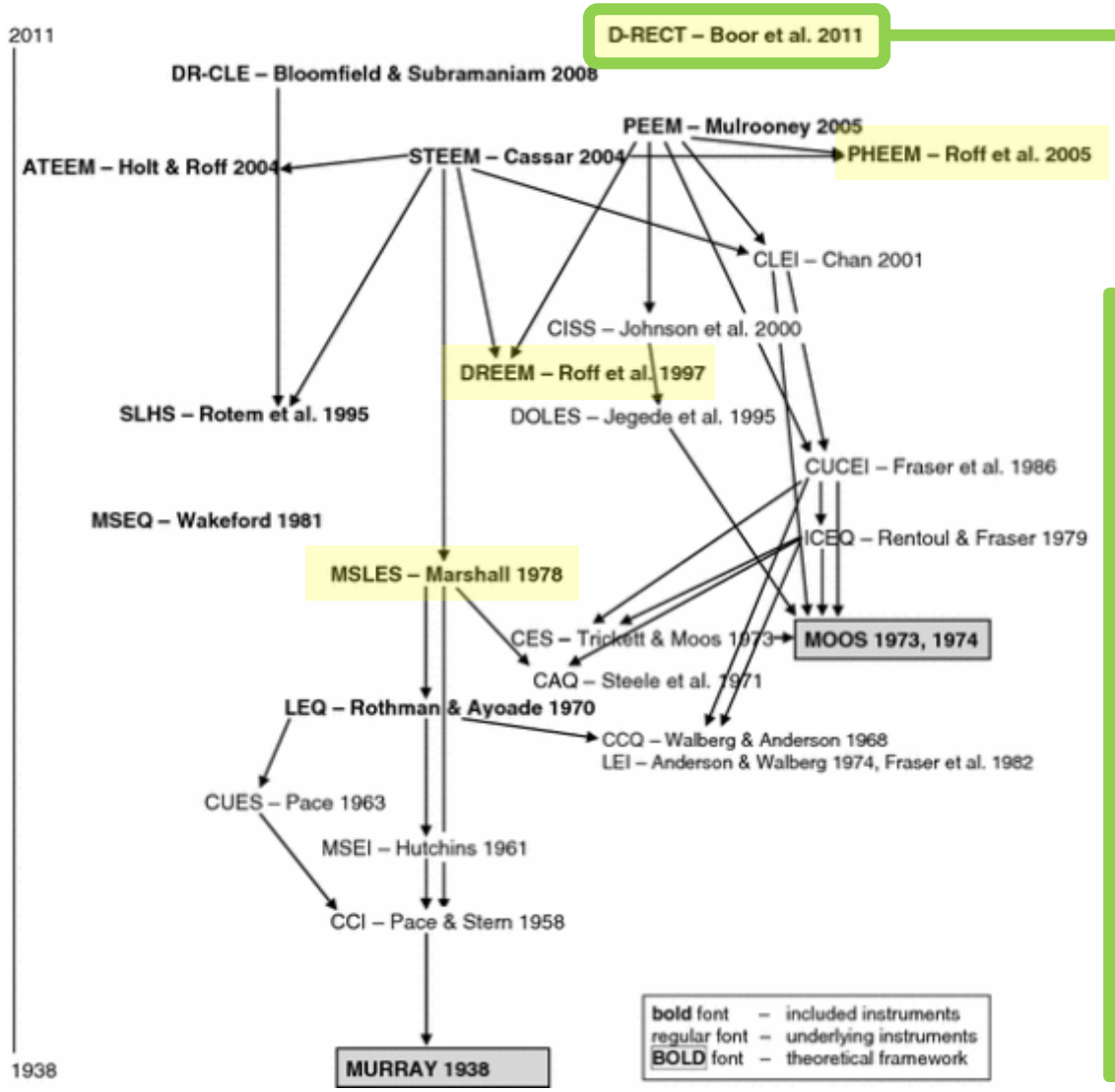
94% (350/374) items mapped to one or more of these domains

- Goal orientation
- Relationships
- System maintenance and change

Created a new 15-item "SPEED" (2015) tool using this framework

Schönrock-Adema, 2012

Theory



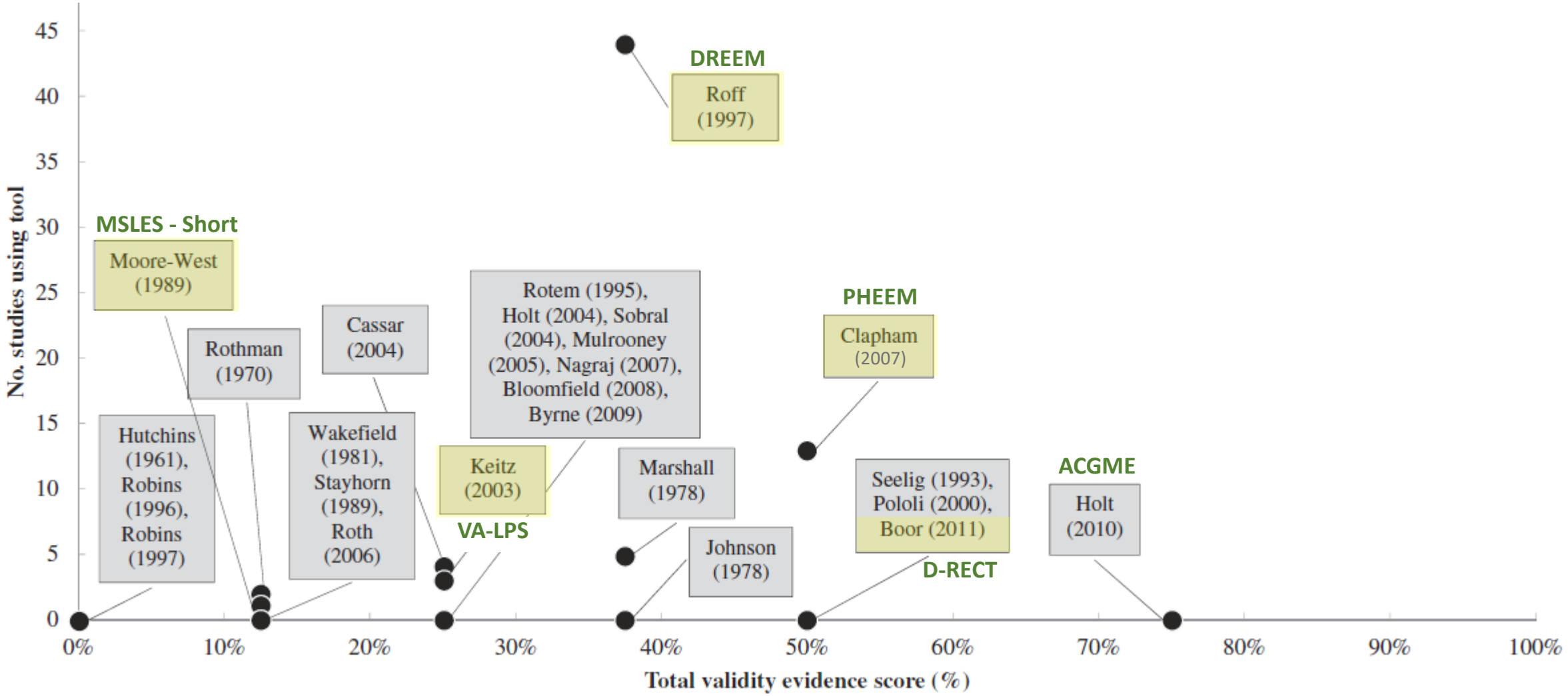
Mark of a new trend:

More recent LE assessment tools are informed by:

- Different conceptual frameworks
- Qualitative studies and surveys of stakeholders
- Instruments originally designed to assess the practice environment (e.g., safety culture, teamwork culture)

Schönrock-Adema, 2012

Validity Evidence for 28 learning environment tools published between 1961-2012



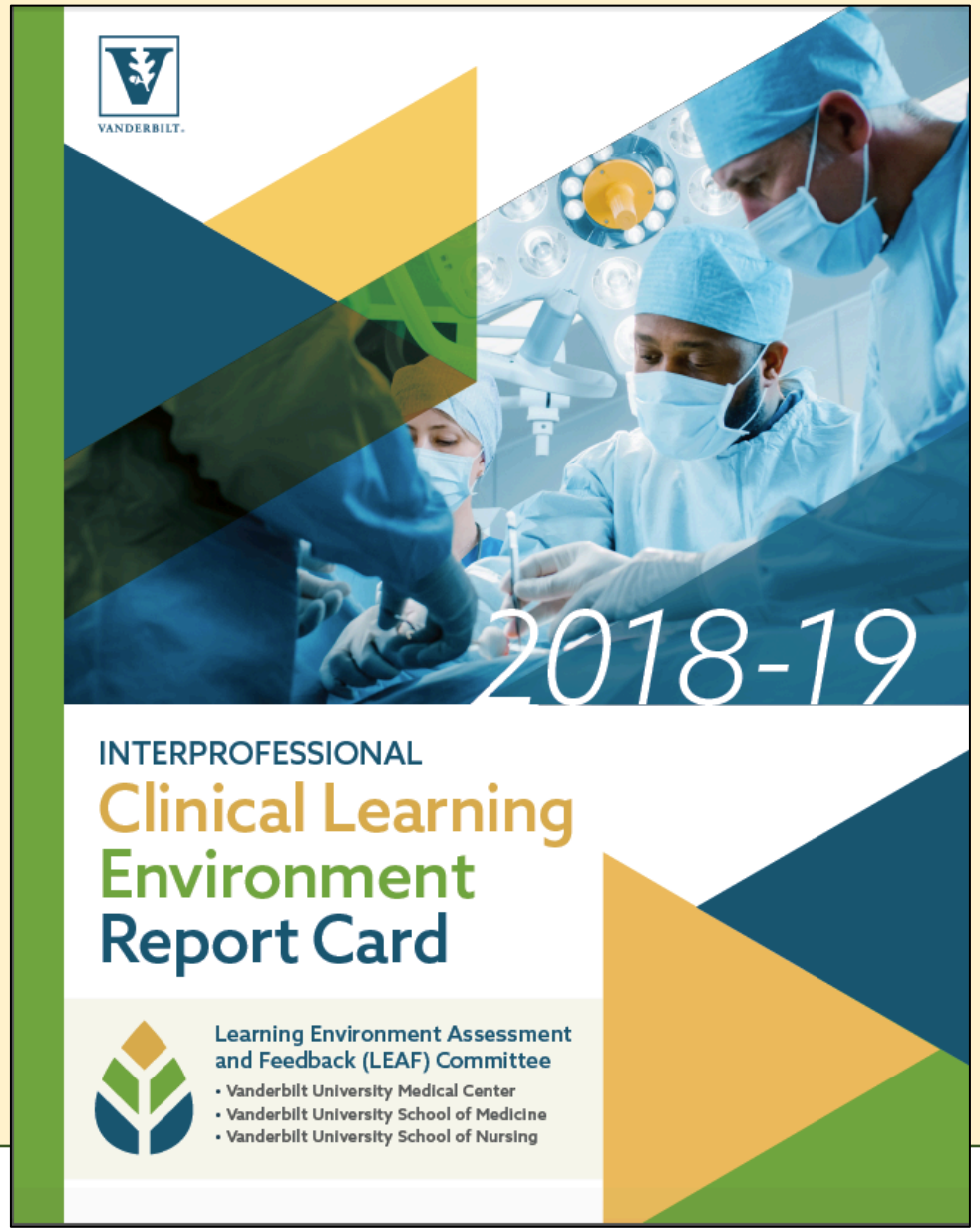
Colbert-Getz, 2014

Implementing a strategy for assessment

- For each outcome measure you previously identified, consider what instrument/data collection approach you could use, who can collect the data, and who are the stakeholders?

- Then, decide on how often you would collect and report data, who you would report the data to, and how you envision this would translate into quality improvement for your institution’s learning environment.

Examples / Models



https://www.vumc.org/ohse/learning-environment-assessment-and-feedback

WHAT ARE THE KEY DOMAINS?

LEARNER DEVELOPMENT

- Learner Feedback
- Educator Quality
- Learning Support

PATIENT CARE

- Transitions in Care
- Patient Safety
- Quality Improvement

PROFESSIONALISM

- Addressing Concerns
- Diversity and Inclusion
- Wellness

2019 LEAF COMMITTEE

Kyle Cassling, MD	Surgical Resident
Briana Halle	Medical Student
Saif Hamdan	Medical Student
Celeste Hemingway, MD	Assistant Professor of Obstetrics and Gynecology
Katie Houghton, MBA	Project Manager, Office of Health Sciences Education (VUSM)
Kianna Jackson	Medical Student
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Karampreet Kaur	Medical Student
LeAnn Lam	Medical Student
Will Martinez, MD, MS	Assistant Professor of Medicine
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Kendra Osborn	Nursing Student
Shaunna Parker, MSN, WHNP-BC	Instructor in Nursing
Kate Payne, JD, RN, NC-BC	Associate Professor, Center for Biomedical Ethics and Society
Daniel Pereira	Medical Student
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Rebecca Swan, MD	Assistant Dean, Graduate Medical Education
Kim Vinson, MD	Assistant Dean, Diversity Affairs (VUSM)
Lynn Webb, PhD, MBA	Assistant Dean, Faculty Development (VUSM)
Chris Wilson, MSN, RN-BC	Director, VUMC Nursing Education and Professional Development
Olivia Wreford	Nursing Student
Michelle York	Medical Student
Eli Zimmerman, MD	Assistant Professor of Neurology

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PROGRESS REPORTS

VUMC convened a Learning Environment Task Force of students, residents, faculty and organizational leaders to review feedback and recommend action steps. Priorities are addressing bias, improving approaches to reporting concerns, bystander intervention training and more communication about improving learning environments. Recent actions include:

- Moving the reporting and oversight of gender-based concerns to Human Resources
- Delivering unconscious bias workshops to clinical departments through the Office of Diversity and Inclusion
- Developing a policy to prevent and respond to disrespectful and violent behavior by patients/visitors
- Planning for a system-wide roll-out of bystander intervention training

School of Medicine and Medical Center collaborative efforts include:

- Targeted department-based interventions based on learner feedback
- Joining national educational consortium to address gender bias
- Launching a new feedback system for medical students with options for both accolades and incidents
- Providing bystander intervention training for all phases of the MD program and the OB/GYN department
- LEAF Committee student-led focus groups to better understand humiliation in clinical learning settings

The School of Nursing continues to evolve a survey instrument to measure learning environments for nursing students: the Vanderbilt Annual Learning Environment Survey (VALES). Items are aligned with national medical student and resident surveys to provide corollary data for the interprofessional report card. Faculty are pursuing collaborations with other nursing schools to generate national comparative data.

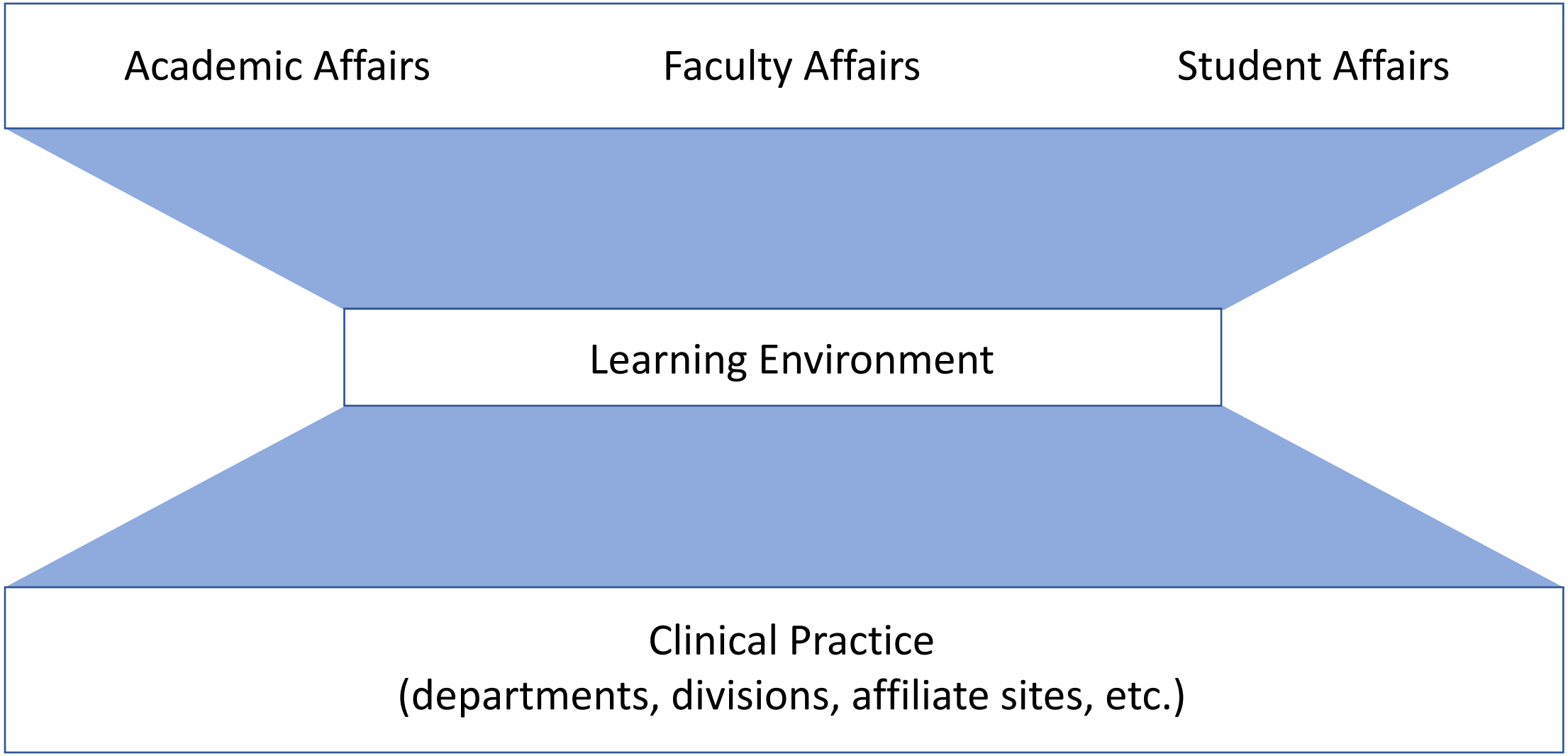
The Kern National Network for Caring and Character in Medicine continues to provide support for the LEAF Committee and clinical learning environment improvement efforts. This consortium of seven medical schools has a priority focus on learner well-being and is working together to generate and share improvement resources for clinical learning environments in the spring of 2020.

MAYO CLINIC

Learning Environment and Educational Culture Committee

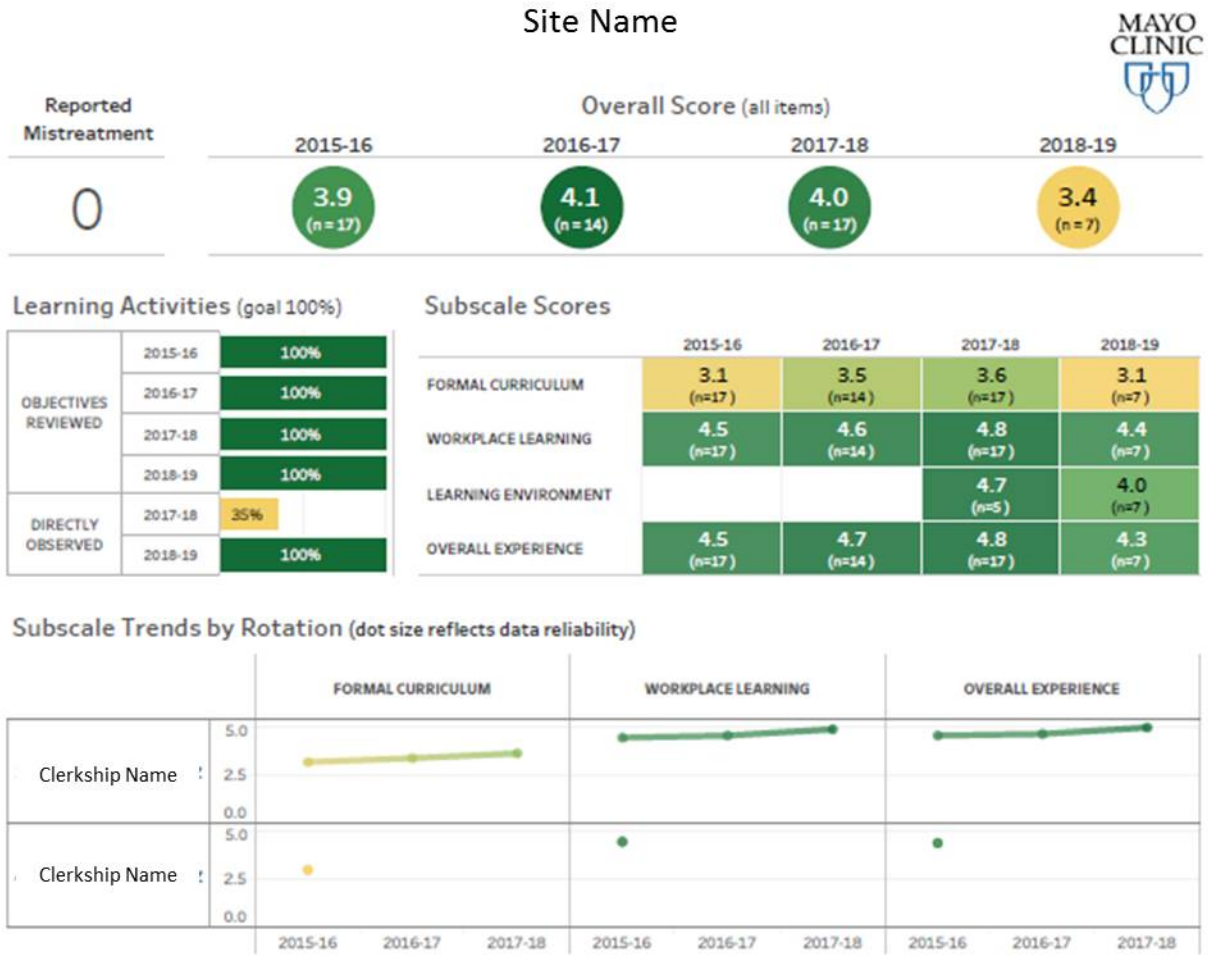
Vision:

To support faculty, team members, students, and leaders in creating environments that reflect our values-driven culture, promote learning, and serve patients.


Academic Affairs
Faculty Affairs
Student Affairs
Learning Environment
Clinical Practice
(departments, divisions, affiliate sites, etc.)

Compiling existing data into dashboards that are understandable, meaningful, and actionable:

- Clear graphics
- Relevant benchmarking
  - Across clerkships or sites
  - Varies by stakeholder
- Trend lines
- Different levels of data
  - Overall (high-level view)
  - Subscales
  - Item level
- Redacted if <5 student responses



Academic Year	Rotation Type	Site	Specialty/Department	Sub Scale Category	Redacted Filter
(Multiple values)	(Multiple values)	(Multiple values)	(Multiple values)	(Multiple values)	Show only Non-Redacted Responses (n>=5)

CAMPUS

	2015-16	2016-17	2017-18	2018-19
ARZ	4.0 (n=82)	4.2 (n=57)	4.1 (n=44)	4.2 (n=31)
FLA	4.2 (n=58)	4.2 (n=27)	4.3 (n=43)	4.4 (n=33)
RST	4.1 (n=765)	4.2 (n=598)	4.3 (n=672)	4.4 (n=336)

Rotation Type

	2015-16	2016-17	2017-18	2018-19
CLERKSHIP	4.1 (n=449)	4.2 (n=387)	4.3 (n=364)	4.3 (n=209)
CLINICAL ELECTIVE - MAYO	4.1 (n=375)	4.3 (n=244)	4.3 (n=335)	4.4 (n=163)
SUB INTERNSHIP	4.1 (n=81)	4.2 (n=51)	4.3 (n=60)	4.5 (n=28)

Faculty Sub Scales

	2015-16	2016-17	2017-18	2018-19
Feedback	4.5 (n=2,819)	4.6 (n=3,181)	4.8 (n=3,082)	4.8 (n=2,850)
Learning environment	4.6 (n=3,104)	4.7 (n=3,362)	4.8 (n=3,340)	4.8 (n=3,199)
Supervision/availability	4.6 (n=2,898)	4.6 (n=3,232)	4.8 (n=3,127)	4.8 (n=2,886)
Teaching	4.5 (n=2,931)	4.6 (n=3,263)	4.8 (n=3,323)	4.8 (n=3,191)

Specialty / Department

	2015-16	2016-17	2017-18	2018-19
Emergency Medicine	4.2 (n=70)	4.3 (n=39)	4.3 (n=53)	4.5 (n=24)
Family Medicine	3.9 (n=68)	4.1 (n=50)	4.3 (n=43)	4.3 (n=29)
Internal Medicine	4.1 (n=109)	4.2 (n=85)	4.3 (n=87)	4.4 (n=43)
Medical subspecialties	4.0 (n=88)	4.2 (n=43)	4.4 (n=81)	4.4 (n=29)
Neurology	4.2 (n=63)	4.2 (n=57)	4.3 (n=55)	4.5 (n=34)
Ob/Gyn	4.1 (n=65)	4.2 (n=52)	4.2 (n=49)	4.3 (n=32)
Other direct patient care	4.1 (n=52)	4.3 (n=47)	4.3 (n=61)	4.5 (n=19)
Other non-direct patient care	4.3 (n=70)	4.5 (n=49)	4.4 (n=62)	4.8 (n=45)
Pediatrics	4.1 (n=104)	4.2 (n=87)	4.3 (n=101)	4.4 (n=56)
Psychiatry	4.1 (n=81)	4.2 (n=70)	4.3 (n=62)	4.2 (n=36)
Surgery	3.9 (n=67)	4.2 (n=57)	4.2 (n=57)	4.3 (n=27)
Surgical subspecialties	4.2 (n=68)	4.2 (n=46)	4.3 (n=48)	4.4 (n=26)

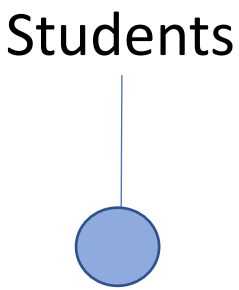
Sub Scale Category

	2015-16	2016-17	2017-18	2018-19
FORMAL CURRICULUM	3.6 (n=901)	3.7 (n=678)	3.7 (n=757)	3.7 (n=400)
LEARNING ENVIRONMENT	4.4 (n=65)	4.6 (n=49)	4.7 (n=332)	4.7 (n=375)
OVERALL EXPERIENCE	4.6 (n=833)	4.8 (n=631)	4.8 (n=690)	4.8 (n=350)
WORKPLACE LEARNING	4.5 (n=902)	4.6 (n=680)	4.7 (n=755)	4.7 (n=381)

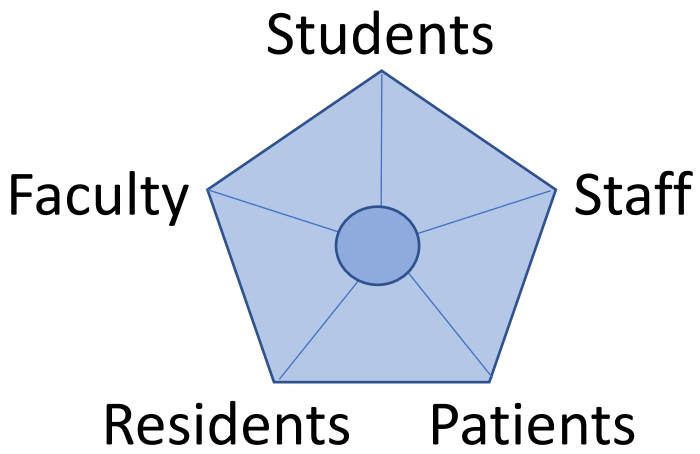
Example for illustration

Current State → Future State

- Strong performance per existing data
- Primarily within education
- Varying measures
- Data from student perspective
- Focus on professionalism



- More nuanced and multi-faceted view
- Robust interface with practice
- Aligned measures
- Data from multiple perspectives
- Expanded focus (QI, patient safety, wellbeing, diversity & inclusion)



MCW CLINICAL LEARNING ENVIRONMENT COMMITTEE

MEDICAL COLLEGE OF WISCONSIN

KERN INSTITUTE
FOR THE TRANSFORMATION OF MEDICAL EDUCATION

Formed October 2018

- Charged by the medical school curriculum committee – ad hoc committee
- Purpose: needs assessment for optimization of the CLE to promote education, wellness, collegiality, and professionalism for students, residents, faculty, staff, and patients
- Membership:
  - Students (across classes and campuses)
  - Faculty (across clinical sites/campuses/specialties, include UME and GME leaders as well as other trusted & well-respected faculty
  - Other members of the multidisciplinary team

Initial Recommendations

- Transparent periodic report to include qualitative and quantitative data – dashboard & benchmarking
- Reporting mechanism for challenging and positive events is a key barrier to our understanding and subsequent improvement of the CLE – recommend reform
- Increase collaboration/integration with GME and Clinical Partners

Initial Recommendations

- Transparent periodic report to include qualitative and quantitative data – dashboard & benchmarking

- **Reporting mechanism for challenging and positive events is a key barrier to our understanding and subsequent improvement of the CLE – recommend reform**

- Increase collaboration/integration with GME and Clinical Partners

Reporting Mechanism

- Goals:
  - Minimize barriers to report
  - Better understand the “climate” of our CLEs – events “roll up” into a periodic CLE Report, serve as needs assessment for potential interventions
  - Develop a mechanism to address & follow-up these events
- Desired characteristics:
  - Electronic, asynchronous (available 24-7, easy access)
  - Reporter control over level of anonymity – with clear protection of reporters
  - Clear procedure for review and action plan
  - Transparency with regards to action plans (to some degree…not “naming names,” but…)
  - Student input throughout

Decisions

- Which platform?
- Who reviews?
  - Individuals vs Group?
  - Deans' Office? Clerkship/Program Directors? Potential evaluators/decision-makers?
- What is done after review?
  - Compile, analyze?
  - Triage to others?
  - Empowered to act?
- How are students involved?
- How is this marketed?
  - Students
  - Faculty, administration

LACE = Learning and Caring Environment

Vision

Support clinical faculty to co-create learning environments that optimize learning and wellbeing for all involved

UCSF

LACE

- Data driven
- Team-oriented
- Innovation focused
- Diverse, Inclusive, Equitable

LACE Assessment: Multisource Data Collection

- Routine evaluations (Clerkship evaluations, GME surveys, Faculty surveys)
- Ad-hoc surveys and reports (wellbeing, rounding project, SAFE reporting)
- Direct observations
- Focus groups and interviews

And: data on diversity, evaluation and assessment processes, learner participation in QI projects

UCSF

Learning and Caring Environment Report

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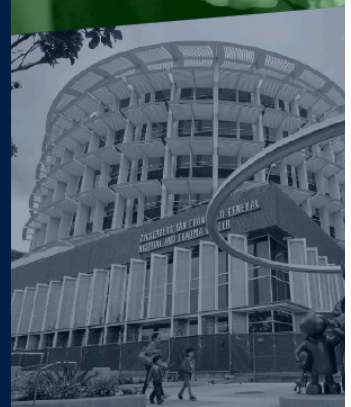
Pediatrics

Created by:
UCSF Center for Faculty Educators
LACE Pediatric Assessment Team
with funding from
The Kern Institute for Transformation of Medical Education

Date:
April 2019



UCSF

Learning and Caring Environment Report

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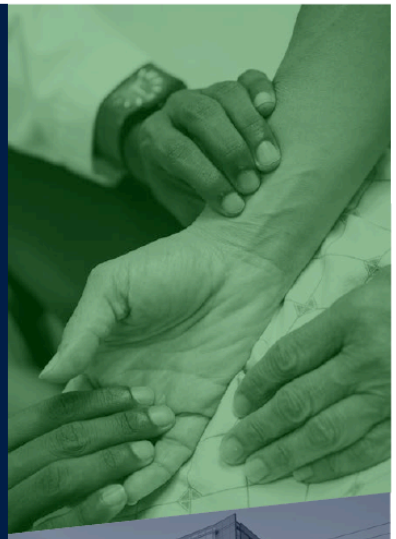
Internal Medicine

Created by:
UCSF Center for Faculty Educators
LACE Internal Medicine Assessment Team
with funding from
The Kern Institute for Transformation of Medical Education

Date:
September 2019



Example LACE observations & recommendations

A. Work and learning climate: We found ample evidence that the department has outstanding clinicia
dedicated to creati
learning that is incl
respectful. Yet, we
unprofessional beh
ineffective commu
are not uncommor

Main Recommendations

1) Enhance diversity, equity and inclusion through recruitment strategies and training of all faculty in DEI
2) Expand reporting mechanisms for learners to report professionalism lapses
3) Create mechanisms to effectively deal with unprofessional behaviors

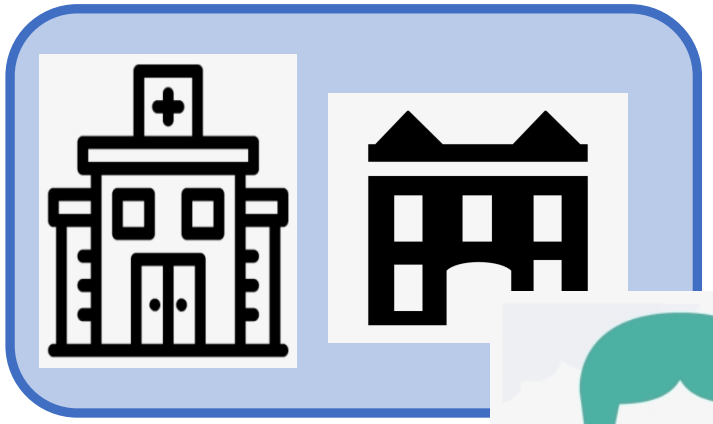
LACE observations & recommendations

C. A culture of continuous improvement for learners and systems: Many educators in the department show commitment to skill in coaching learners towards perfor improvement. Yet many also struggled v meaningful and effective feedback in the clinical workplace, with workload, space and culture as contributing factors. Syst improvement receives limited attention a of daily work and learning.

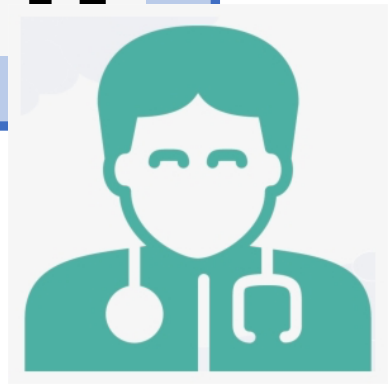
Main Recommendations

1) Provide faculty development AND learner development about effective and efficient feedback discussions to promote a growth mindset
2) Improve evaluation processes for faculty to collect their input on education and identify faculty development needs
3) Ensure greater integration of learners in quality improvement processes and projects and promote attention to, and learning about, systems improvements as part of every-day care

LACE as a Catalyst for Change



Dialogue between health system and educators



Attention to learner workload, work content and workflow

Innovative approaches to learning *and* practice

Questions? Suggestions? Ideas?

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