



Background/Purpose

- Programmatic assessment emerging in medical education: learner’s competence and progress continually collected and analyzed in multiple assessments over time -> competency-based framework¹

- Continuous feedback to learner
- Identification of “at risk” learners
- High stakes decision-making

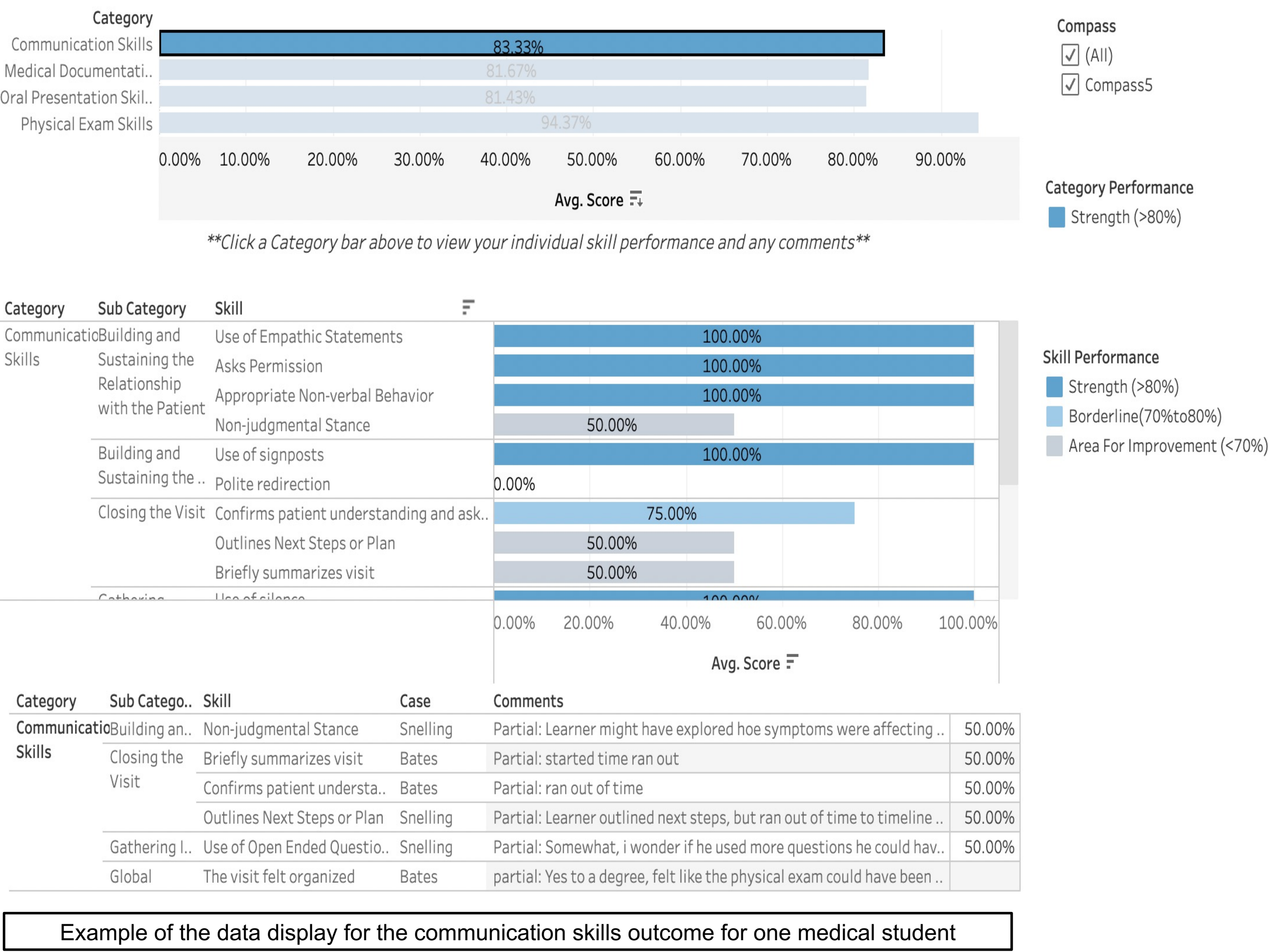
- Need clear and accessible data (i.e., central repository) on a learner’s performance and growth
- Promotion of assessment *OF* learning and assessment *FOR* learning

Approach/Methods

- Study Population: First-year medical students (MS-1), faculty working with students tasked with assessment at the University of Colorado School of Medicine (CUSOM)
- Intervention: Creation of learner performance dashboard using principles of user-centered design to track clinical skills progress in MS-1 students²
 - Assessment team at the CUSOM, instructional designer and two clinician-educators

- Creation of dashboard:
 - Low-fidelity prototypes:
 - Small group sessions with students and faculty (5 people/group) -> input on design and feasibility
 - Two sessions with iterative design
 - ”Think aloud” sessions:
 - Individual sessions with students and faculty (9 total) -> each person navigated dashboard individually and provided feedback

Dashboard: Snapshot



Planned Evaluation

- Focus groups with faculty (coaches who teach clinical skills to MS-1 students)
- Individual interviews with MS-1 students
- End-of-year survey for all MS-1 students
- Comparison of clinical skills performance between class of 2025 and 2026

Lessons Learned:

Process

Process required significant instructional design support and time (longer than anticipated)

Needed to reorganize assessment data structure in order to integrate with server

Identification of assessment gaps (need for standard setting, inter-rater reliability assessment)

Design

Students and faculty wanted to view assessment data over time as well as areas of strength and weakness

Students and faculty wanted ability to navigate from broad overview down to item-level specifics

Differences between students and faculty about display of mean/standard deviation

Conclusions and Next Steps:

- Creation of learner performance dashboard is a promising approach for programmatic assessment and can maximize assessment *OF* learning and assessment *FOR* learning

Next steps:

- Addition of MS-1 assessment data for class of 2026 and beyond, MS-2 clinical skills data
- Standard setting and inter-rater reliability for clinical skills assessments
- Evaluation of utility and effectiveness of dashboard

References

1. van der Vleuten C, Lindemann I, Schmidt L. Programmatic assessment: the process, rationale and evidence for modern evaluation approaches in medical education. Med J Aust. 2018 Nov 5;209(9):386-388. doi: 10.5694/mja17.00926. PMID: 30376659.
2. Chokshi SK, Mann DM. Innovating From Within: A Process Model for User-Centered Digital Development in Academic Medical Centers. JMIR Hum Factors. 2018 Dec 19;5(4):e11048. doi: 10.2196/11048. PMID: 30567688; PMCID: PMC6315266.