

# Curriculum Inventory in Context

May 2018 Volume 5, Issue 4

## Formative Feedback: Using Feedback to Guide Student Learning

The Liaison Committee on Medical Education (LCME) requires mid clerkship and/or mid-course feedback for all students.<sup>1</sup> The purposes of this formative feedback are to monitor teaching and learning, provide feedback to the instructors and students, and allow for opportunities to improve. Feedback gained from formative assessments is used by faculty to inform teaching effectiveness and by the students to direct their learning. Formative assessments are usually low stakes with little or no point value attached. The purpose of summative assessments, primarily done at the end of a course or unit of study, is to evaluate learning and make a decision about a student’s performance, typically by assigning a grade to the student’s work. Summative assessments are usually high stakes with substantial point value attached.<sup>2,3</sup> The multiple methodologies used in formative and summative assessments are depicted in the Curriculum Inventory (CI) report entitled “Methods used for Formative and/or Summative Assessments in Clinical Clerkship experiences” (Figure 1). Each of these methods provides valuable learning opportunities for students. For the purposes of this publication, we will be focusing on formative feedback.

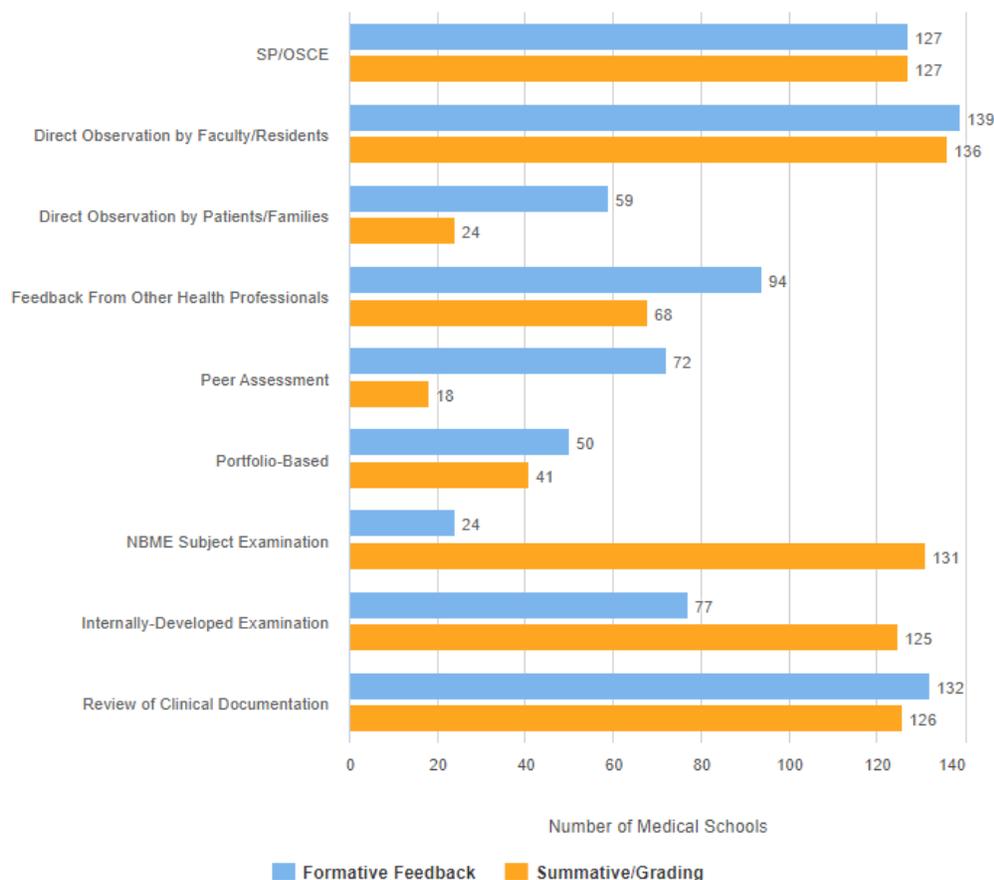


Figure. Methods Used for Formative Feedback and/or Summative Assessment in Clinical Clerkship Experiences in 2013-2014

The use of technology can facilitate the feedback process. Many schools in a variety of disciplines use audience response systems (ARS) during large group lectures to gauge student learning and to engage participants.<sup>4</sup> This use of technology provides just in time information for the students regarding their gaps in knowledge. It can also help faculty gauge the effectiveness of their presentations. It is unclear if there is a significant difference in learning outcomes with ARS but students perceive a learning benefit.<sup>5</sup> Others are using gaming to foster active engagement and collaboration.<sup>6</sup> Many apps such as Kahoot<sup>7</sup> and Plickers<sup>8</sup> provide this functionality and support the creation of teams, allowing the students to work together to gain knowledge in a fun and engaging manner.

On the clinical side there are many barriers to providing trainees with timely feedback, including faculty apprehension and time constraints.<sup>9</sup> One of the challenges with formative feedback is ensuring that students recognize when they are receiving feedback. Unless made explicitly clear, students often do not recognize when feedback is occurring. Mobile technology can be used to assure students recognize formative feedback is occurring; an example of mobile technology is the Mini CEX app<sup>10</sup> which facilitates direct observation of a student's skills, provides a record of their performance, and fosters a clear understanding of the competencies required.<sup>11</sup>

The facilitation of feedback, as it relates to formative assessments, is a process that is organized and integrated over time. Feedback is most valuable when it is ongoing and informs students about their overall performance.<sup>12</sup> Multiple faculty assessing student performance and providing feedback give the student a rich repository of information to aid their learning process. It is most useful if this feedback leads to the development of specific learning goals and is subject to follow through. Konopasek et al. have likened this to the Plan-Do-Study-Act cycle of quality improvement.<sup>12</sup> Alternatively, another method of assuring longitudinal formative assessment is collaborative coaching for medical students over the course of their curriculum. Longitudinal coaching can provide the kind of support that ultimately benefits students, physicians, and patients. Feedback from a collaborative partner (coach), delivered and sustained over time, and resulting from low-stakes, formative assessment activities, positively impacts learning and performance improvement when the coach-student relationship is perceived as supportive, in the student's best academic interest, and delivered longitudinally over the course of the curriculum.<sup>13</sup> At UMMC, we are looking at developing a student coaching program to complement our faculty mentoring and house programs for student support. Our efforts to optimize substantive formative feedback across the span of the M1-M4 curriculum experience are ongoing.

Formative feedback, at the core of its definition, provides information upon which good decisions are made better and better decisions are made best. Best practices for teaching and learning demand opportunities for the student to make corrections and instructors to recalibrate teaching before summative, high-stakes assessments are administered. For the student to maximize formative feedback, education on how to receive feedback is warranted. Faculty development with deliberate practice is also required to assure faculty are comfortable facilitating feedback.<sup>14</sup> Using Curriculum Inventory data, we see that 139 schools report using direct observation by faculty and residents as a method for providing formative feedback to students (Figure 1). With such widespread use of faculty and residents to provide feedback, professional development on the facilitation of feedback is warranted. In addition, based on Curriculum Inventory data, we see that 127 schools report using standardized/simulated patients (SPs) and Objective Structured Clinical Examinations (OSCEs) to facilitate formative feedback to students. In a survey to pre-clerkship undergraduate medical education programs regarding resources used to teach clinical skills, 67% (n=80) of schools reported that faculty observe their students practicing with SPs at

least part of the time during their pre-clerkship curriculum.<sup>15</sup> Professional development for faculty to prepare them for their roles as feedback facilitators is essential; such education helps promote student success and faculty vitality, so that schools can continue the very integral process of providing formative feedback to students.

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