Educational Framework: Developmental Curriculum

What is a developmental curriculum?

A developmental curriculum identifies the distal goal for participation in the learning environment and imagines a constructive pathway through which the learner progresses from being an instructor-dependent learner to a self-regulated, life long learner.

At the UA College of Medicine, the ultimate goal is to become a competent, reflective physician. We know this requires years of deliberate and concerted effort on the part of students and the clinical and basic science educators who guide them.

This section of the website provides an overview of the educational framework and theory underlying the teaching/learning relationship that is the foundation of curriculum at UA COM and faculty and resident instructional development.

# LCME Standards

Below are the revised, relevant LCME standards now in effect.

## Standard 4: Faculty Preparation, Productivity, Participation, and Policies

The faculty members of a medical school are qualified through their education, training, experience, and continuing professional development and provide the leadership and support necessary to attain the institution's educational, research, and service goals.

#### **4.5 - Faculty Professional Development**

A medical school and/or its sponsoring institution provides opportunities for professional development to each faculty member in the areas of discipline content, curricular design, program evaluation, student assessment methods, instructional methodology, and or research to enhance his or her skills and leadership abilities in these areas.

## Standard 9: Teaching, Supervision, Assessment, and Student and Patient Safety

A medical school ensures that its medical education program includes a comprehensive, fair, and uniform system of formative and summative medical student assessment and protects medical students’ and patients’ safety by ensuring that all persons who teach, supervise, and/or assess medical students are adequately prepared for those responsibilities.

#### **9.1 - Preparation of Resident and Non-Faculty Instructors**

In a medical school, residents, graduate students, postdoctoral fellows, and other non-faculty instructors in the medical education program who supervise or teach medical students are familiar with the learning objectives of the course or clerkship and are prepared for their roles in teaching and assessment. The medical school provides resources to enhance residents’ and non-faculty instructors’ teaching and assessment skills, with central monitoring of their participation in those opportunities provided. [Formerly, ED-24]

#### **9.3 - Clinical Supervision of Medical Students**

A medical school ensures that medical students in clinical learning situations involving patient care are appropriately supervised at all times in order to ensure patient and student safety, that the level of responsibility delegated to the student is appropriate to his or her level of training, and that the activities supervised are within the scope of practice of the supervising health professional.

#### **9.5 - Narrative Assessment**

A medical school ensures that a narrative description of a medical student’s performance, including his or her non-cognitive achievement, is included as a component of the assessment in each required course and clerkship of the medical education program whenever teacher-student interaction permits this form of assessment.

#### **9.6 - Setting Standards of Achievement**

A medical school ensures that faculty members with appropriate knowledge and expertise set standards of achievement in each required learning experience in the medical education program.

#### **9.7 - Formative Assessment and Feedback**

A medical school ensures that each medical student is assessed and provided with formal formative feedback early enough during each required course or clerkship four or more weeks in length to allow sufficient time for remediation. Formal feedback occurs at the midpoint of the course or clerkship. A course or clerkship less than four weeks in length provides alternate means by which a medical student can measure his or her progress in learning.

##### LCME Glossary|Formative Feedback

**Formative feedback**: Information communicated to a medical student in a timely manner that is intended to modify the student’s thinking or behavior in order to improve his or her subsequent learning and performance in the medical curriculum. (Element 9.7)

# Educational Program Objectives

As approved by the General Faculty, the Educational Policy Committee has established the educational program objectives for the program leading to the MD degree.

The Educational Program Objectives (EPOs) consist of measuable objectives for student peformance, and aligned with the six competencies generated by the ACGME (Accrediting Council on Graduate Medical Eduation).

The UA College of Medicine's EPOs may align as well with the AAMC Core EPAs (Entrustable Professional Activities) for Entering Residency. The Core EPAs indiate what students should be able to know or do upon entering residency, and, therefore, upon graduation from medical school. You can find the Core EPAs online and a guide to how these might be aligned with EPOs mentioned above.

* [Core EPAs](https://www.aamc.org/initiatives/coreepas/)
* [Alignment with EPOs](https://fid.medicine.arizona.edu/sites/default/files/u4/appb_epos_coreepas_kse.pdf)\*

### Related References

# Policy on Instructional Development

The UA COM policy on faculty instructional development seeks to support preclinical and clinical educators in their development of teaching and assessment skills and practices. The policy states:

The UA COM takes an active approach to developing and improving teaching and assessment skills of its faculty. Therefore, the UA COM education philosophy defines remediation as faculty instructional development and support. ... All faculty who teach medical students will be offered and encouraged to participate in faculty instructional development ([Articles I & II, Instructional Development Policy](http://medicine.arizona.edu/form/policy-faculty-instructional-development-com)).

#### **Preclinical Years**

Basic science or clinical educators who teach in sessions using specialized instructional methods, such as team learning or Case-based instruction, must participate in training on educational strategies, instructional methods, and assessment of student performance. These sessions are conducted by the Office of Medical Student Education (OMSE) Faculty instructional development, [Karen Spear Ellinwood](http://fid.medicine.arizona.edu/about/director), PhD, JD, and [Susan Ellis](http://fid.medicine.arizona.edu/about/curriculum-assessment), EdS.

#### **Clinical Years**

Residents are required to participate in an orientation to teaching and assessing medical students, conducted immediately prior to starting their residencies. Residents are also required to participate in ongoing instructional development. OMSE's[RAE Program](http://fid.medicine.arizona.edu/clinical-educators/rae-program) offers instructional development support at the department and individual level to assist residents in acquiring the necessary skills and complying with UA COM policy.

Affiliate clinical educators may also participate in ongoing instructional development activities through OMSE's [ACE Program](http://fid.medicine.arizona.edu/clinical-educators/ace-program).

* View the [Guide to Residents as Educators policy](http://fid.medicine.arizona.edu/ed-framework/policy/rae) at UA CoM.

## Want More Info About LCME?

Please contact the Director of LCME Accreditation for the UA College of Medicine, [Raquel H. Givens, MS](http://medicine.arizona.edu/person/raquel-h-givens), for more information about LCME requirements and the accreditation review process.

## Would you like to schedule or plan for an FID session?

Please contact Karen Spear Ellinwood, PhD, JD, EdS, Director of Faculty Instructional Development, to request instructional support or training for a specific type of instruction.

# A Reflective Approach to Teaching & Learning

## Reflection as Awareness

In research on reflective engagement of emergency medicine teams, Duffy et al. (2014) found that, “ ...the team members and leader exhibited a great deal of metacognitive knowledge while reflecting upon the sources of their difficulties.” (Duffy et al. [2014](http://link.springer.com/article/10.1007/s11251-014-9333-6#page-1)).

"Medical emergencies (e.g., cardiac arrest) present a challenge for medical professionals because they are demanding in terms of both the medical knowledge needed to plan effective interventions and the regulatory skills required to effectively manage the team" (Duffy, et al. [2014](http://link.springer.com/article/10.1007/s11251-014-9333-6#page-1)).

Reflective practice begins with awareness of self and the dynamics between educator and learners in the context of the specific educational setting. The concept of effective reflection is that this awareness is accompanied by a willingness to examine practice for error as well as strengths before taking action to change or improve practice.

"Reflection is effective when it leads the teacher to make meaning from the situation in ways that enhance understanding so that she or he comes to see and understand the practice setting from a variety of viewpoints,"-Loughran ([2002](http://jte.sagepub.com/content/53/1/33), 36).

## Reflection as Metacognition

Metacognition has been associated with successful learning across many disciplines (Bransford, Brown, & Cocking, 1999), lifelong professional learning (Schön, 1983; also Plack & Santasier, 2004; Clouder, 2000) and in the practice of teaching (Lougran, 2002).

The process of development that Vygotsky (1978) refers to as internalization and self-regulation applies metacognitive strategies to focused awareness, attention and control. Such strategies help learners “to increase awareness of thinking processes” and assist them in examining practice for possible error, assumptions, biases as well as strengths (Thompson & Thompson, p. 249, citing Palinscar & Brown, 1987; also Bransford, Brown & Cocking, 1999).

When preparing learners to problem-solve in situations with unpredictable outcomes, a process integral to medical education, educators should capitalize on reflective teaching to promote reflective learning. One way to promote reflective learning is to provide opportunities for learners for “clarifying the potential goals” and “choosing or inventing an effective metacognitive strategy to achieve a selected goal” (Lin, Schwartz, & Hatano, 2005, p. 253). In other words, asking students to deliberate on HOW they should approach a problem or situation, not only as to WHAT they think of the situation or problem.

# Faculty Support

The Director of Instructional Development\* will provide support for Block Directors and faculty for learning how to incorporate [active learning strategies](http://fid.medicine.arizona.edu/preclinical/als)and[integrating technology](http://fid.medicine.arizona.edu/technology/home) to enhance the teaching/learning experience.

This site has a wide variety of internal and external resources for self-managed instructional development. The Director of Instructional Development, upon request, can engage in faculty coaching one-on-one or in small groups, conduct grand rounds or other workshops on teaching, feedback and assessment.

\* Karen Spear Ellinwood, PhD, JD, EdS, Director, Instructional Development

## For Block Directors

#### [**Planning Tool**](http://uarizona.co1.qualtrics.com/jfe/form/SV_6llfQm9I6a2wEzr)

* **Qualtrics survey tool** can help block directors document observations throughout the block. Upon completing the survey for a single session, the block director will receive an immediate report of their observations and can generate an end of block report for all sessions in the block.
* [Teaching Goals Inventory](https://fid.medicine.arizona.edu/sites/default/files/u4/cats-tgi-guide_kspearellinwood.pdf) -  This tool by Angelo & Cross (2005)\*\* is designed to evaluate the fit between block goals and course learning objectives.
* **Notes that help us tag the curriculum**- Curricular Affairs has piloted a template for faculty to identify the connections between their sessions and the 6 ACGME competencies, educational program objectives, threads, disciplines and learning objectives. Contact the block director or coordinator for the blocks in which you teach for the most recent version of this template.

## Formative Assessment for Teaching

* [Classroom Assessment Techniques (CATs) as Active Learning Strategies - An Overview](https://fid.medicine.arizona.edu/sites/default/files/u4/activelearning-cats-overview_kspearellinwood.pdf)
* [CAT Samples](https://fid.medicine.arizona.edu/sites/default/files/u4/cat_samples_kspearellinwood.pdf)
* [Active Learning Strategies](http://fid.medicine.arizona.edu/preclinical/als)- a Haiku Deck
* [Flipping the Session!](http://fid.medicine.arizona.edu/technology/flip)

### References

Thomas A. Angelo and K. Patricia Cross. Classroom Assessment Techniques: A Handbook for College Teachers, Jossey-Bass Publishers:San Francisco, CA; 2005.

Jensen, Kummer and Godoy (2015) Improvements from a flipped classroom may simply be the fruits of active learning. [CBE-Life Sciences Education 14:1-12](http://www.lifescied.org/content/14/1/ar5.full).

[Emory (2014)](http://fid.medicine.arizona.edu/ed-framework/design/cdmodels)and described in detail in Wiggins & McTighe (2005).

* Wiggins G & McTighe J. Understanding by Design, Expanded 2nd Edition. Merrill Education/ASCD College Textbook Series. Pearson:NJ; 2006.
* Kulatunga GG, Marasinghe RB, Karunathilake IM, Dissanayake VH. Development and implementation of a web-based continuing professional development (CPD) programme on medical genetics.  *J Telemed Telecare*. [2013](http://ejournals.ebsco.com/direct.asp?ArticleID=47F08238939A3FD6D143) Oct;19(7):388-92. doi: 10.1177/1357633X13506525.\*
* Nothnagle M, Goldman R, Quirk M, Reis S.  Promoting self-directed learning skills in residency: a case study in program development. *Acad Med.* [2010](http://ejournals.ebsco.com/direct.asp?ArticleID=47F08238939A3FD6D143) Dec;85(12):1874-9. doi: 10.1097/ACM.0b013e3181fa02a4.\*
* Lynn, J. Curriculum Development in 6 easy steps for busy Med-Ed types. [[link](http://medicine.osu.edu/education/Documents/curriculum_design_2010.pdf)]\*

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